Cumulus Working Papers

Shanghai

26/10

A! **Aalto University**
School of Art and Design

Contents

Cumulus conference Shanghai
Young Creators for Better City & Better Life
6–10 September 2010
Tongji University
Shanghai, China

FOREWORD Lou Yongqi

Designing the Young Creators for Better City & Better life

Lou Yongqi, Vice Dean of College of Design and Innovation, Tongji University, Cumulus Executive Board Member, Secretary General of CUMULUS 2010 Shanghai Conference

The Changing of Design and Design Education

In China, one of the biggest issues of the past few decades is the large-scale urbanization that has been taking place all over the country. In this context, "Better City, Better Life", the theme of the 2010 Shanghai Expo, represents the common wish that humans share for better living conditions in future urban environments. Diversity of culture, prosperity of urban economy, innovations, remodeling of communities and interaction between urban and rural areas have been identified as the main topics of this Expo. It is clear that all of these topics directly relate to the problems and challenges associated with the process of global sustainable development.

Where there are the problems, there is the need for design. For the design discipline, the socioeconomic changes and new societal needs likewise urge a change within the discipline. During these years, traditional aesthetics and function based design definitions have already changed significantly. These changes can be listed in brief as follows:

- from objective to strategy
- from disciplinary to interdisciplinary
- from design to design thinking
- from creation to innovation

These expanded roles enable design to become a unique way of thinking and an engine for generating innovation. Furthermore, these roles enable design to "think big". In this sense, design is becoming increasingly important.

Design education MUST change accordingly. Design schools should participate in the process of using design as a tool to meet current challenges through proactive methods. This transformation also presents a unique opportunity to further the development of design as a discipline.

The New Task For Design Education

New modes of innovation require breaking through the walls that separate technology, design and business, and applying innovation to the research and development process for the entire life cycle of a product. An innovative society not only needs designers who can be thorough problem solvers in their own discipline, but also needs those who are capable of interacting with, and understanding specialists from a wide range of disciplines and functional areas.

Given that the trends of design and design education are clear, the transition cannot be finished overnight. There are two general topics of new tasks for design education: one – how to educate these "T" shape young creators; two – in which ways design schools themselves can be a force to generate sustainable innovation.

The Theme of the Conference

University has two missions: one is creating and transferring knowledge and skills, and the second is shaping the vision of the future for society at large. How design can fit the new needs and lead society's sustainable innovation is the biggest mission for the discipline. The CUMULUS conference 2010 organized by Tongji University during the world Expo 2010 in Shanghai provided a platform to discuss and rethink the design discipline and the world in which we are now living.

The theme for CUMULUS Shanghai Conference 2010, "Young Creators for Better City and Better Life", aims to explore how the young generation of designers can be involved in shaping and improving our lives creatively in a global context. The emerging trends, missions and visions of future design education, research and practice, together with the economic, political and social impacts of the era, will also be reevaluated during the conference.

The conference has set up four subthemes:

- Sustainability & social innovation
- Local wisdom & globalization
- Socio-economics & design
- Old & young

All of these topics are crucial issues in our current society. Hopefully the discussion of the future of design and wellbeing can be integrated with national, regional and even global economies, societies, and cultures.

Outline of the Sub-themes

Sustainability & social innovation
Ezio Manzini *

The transition towards sustainability asks for the most careful use of all the available resources. On a small, densely populated, highly connected Planet, *social resources* are the most abundant ones. Their valorization is therefore the most effective strategy towards sustainability.

Today, looking at the complexity of contemporary society, we can observe that people's creativity, entrepreneurship, knowledge and skills are generating new and sustainable ways of living and producing. This represents a large *social innovation* process where solutions are conceived and developed by actors directly involved in the problems to be solved.

Facing social innovation, the *design community* must use its specific design knowledge to support it. That is: to trigger new ideas, to orient the resulting innovations and to conceive enabling solutions. In this framework, a particularly important role can be played by the *design schools*. In fact, in the knowledge society, schools should be the living laboratories where diffuse creativity can be catalyzed and social innovation enhanced.

* Academic Coordinator of Sub-theme Sustainability & social innovation, Professor of DIS-INDACO, Politecnico di Milano, Italy

Local wisdom & globalization
Lorraine Justice *

Very often we believe the ways of another culture are better than our own. Americans look longingly toward the luxury goods and relaxed lifestyle of the Europeans. The Americans and Europeans embrace the preventive medicine of the East. American Indian cultures look seven generations into the future to help make major decisions that affect their society. The obsession with quality of machinery of the Germans can match the obsession with quality of food of the French, and so on. We all can benefit from these local cultural practices.

Sometimes we find and that certain products, practices and services in one culture would help another. Refrigeration units in one country can help keep snake bite antidotes in a remote village in India. Wind power developed in the Netherlands is helping local communities on small islands generate power. So local wisdom and globalization can go hand in hand to make the world a better place through matching need to existing solution.

The rich knowledge that exists at the local level, combined with the global telecommunications, manufacturing and distribution, and worldwide economy sets the world stage for a huge leap in assistive products and services of all kinds. The design field can help through their approaches to local, ethnographic design research, which studies indigenous peoples and then the application on a worldwide scale.

* Academic Coordinator of Sub-theme *Local wisdom & globalization,* Director and Professor of School of Design, Hong Kong Polytechnic University.

Social-economic & design
Yrjö Sotamaa *

Human-centred design thinking, when rooted in universal and sustainable principles, has the power to fundamentally improve our world. It can deliver economic, ecological, social and cultural benefits to our societies and to all people, improve our quality of life, and create optimism about the future and individual and shared happiness.

Design is a unifying force for creative thinking, something that forms a link between individual dreams and the future. Technology is no longer the sole driver for development. Development springs from a profound understanding of people's needs and hopes and new applications made possible by technology.

We have become aware of the importance of design innovation in building sustainable, human centred, creative societies. The paradigm shift currently underway has expanded the applicable scope of design to all activities of society, cities, companies, education and individuals. Design is becoming embedded in all planning processes. Embedded Design aptly describes this shift, which is testing the boundaries of design and is powered by openness, hope in the future, and the courage to change and renew. Embedded Design also describes a systematic approach to applying design.

The conference will discuss this paradigm shift, the new opportunities it opens to applications of design and the challenges it is presenting to the design profession, education and research.

* Academic Coordinator of Sub-theme *Social-economic & design,* Professor of TAIK, Finland, Guest Professor of Tongji University and Nottingham Trent University.

Old & young
Jeremy Myerson*

Design stands today on the fault line between old and young in societies around the world. In the drive to improve our cities and create a better quality of life in urban areas, designers will increasingly find themselves acting as mediators between the old world and

the new – between institutions, ways of thinking, educational models and practical methods that belong to the 20th century and those that are fast emerging in this, the new century.

Tensions between old and young are most visible in the impact of changing demographics on design, as the proportion of older people in the world population grows and the proportion of younger people shrinks. The implications of this profound shift for design are enormous. Population ageing presents challenges in every design discipline from transport, furniture and communication to fashion, architecture and urban planning. This is now well understood by a great many design educators and practitioners. What is less well understood is how design must negotiate between the different ends of the age range – between old and young.

However, the trade-offs between old and young extend beyond demographic change – to technology, where new networks and systems afford new opportunities, to organisations, which are casting off the old hierarchies to become more flexible and democratic, and to industrial practice itself as new forms of design thinking challenge established models of production and consumption.

In a world in which the welfare costs of the elderly will fall on a shrinking working population of younger people, in which many institutions and organisations require reform, and in which new technologies must be put to genuine social purpose, the urgent need to mediate between old and young requires designers to develop new skills, new tools and new approaches, many of them cross-disciplinary in character.

As a Cumulus Shanghai theme, Old & Young will seek speakers and papers that explore this theme of transition and transformation between the old world and the new.

* Academic Coordinator of Sub-theme Old & Young, Chair Professor of the Helen Hamlyn Centre at the Royal College of Art, London

OPENING SPEECH   Christian Guellerin

"Better cities, better life"

Cumulus has brought together in Shanghai the most eminent international experts in design and architecture in order to reflect upon the theme of "better city, better life." This theme is at the heart of designers' concerns, and is central to most of our curriculum and research activities.

How and where will we live tomorrow?

In the 20th century, the city affirmed itself as a model for land occupation. This development brought along with it new social, economic and ecological issues such as mobility, security, pollution, waste management, energy and food autonomy, access to water, information and culture. These issues and more will be discussed during the Cumulus conference, in an effort to guarantee tomorrow's society peace, social well-being and success.

Have certain cities become megalopolises with sufficient economic power to become significant enough to compete with regions or even States? How will these cities be managed in the future to guarantee the balance between territories and powers? Where is the median between the metropolises, which will continue to grow and concentrate, and the middle-sized cities whose issues are much different? Is the concentration of cities inevitable, as part of the economic and social reality, or is it a cycle of population flux, which will experience a reflux in a few years towards deserted territories?

New information technologies, new materials, and new vegetal materials will remodel cities considerably in the near future. The 'intelligent materials' will allow a new building architecture, just as re-forestation, agriculture and urban farming will be at the heart of urban issues. City dwellers will seek to reorganize spaces and recreate the countryside in the city, thus creating a form of energy and food self-sufficiency.

Cities will change their organization, aspect, colors, soul and sense.

Global competition also applies to cities, which will have to continue to work on their identity in order to gain worldwide recognition and renown in order to attract new inhabitants and tourists. The quality of design schools and universities whose way of teaching is different from one country and one school to another – will be a key factor in attracting the best students and the best researchers.

Finally, what are the new demands from urban citizens confronted with problems such as the access and difficulty of transportation and safety? Will they be sedentary townsmen attached to their house and their quarter, or will they be nomads inclined to move from one dwelling to another? What will the new demands be when it becomes possible to work from home? If people are no longer linked to their workplaces, will it still be necessary to organize their lives around a fixed territory, or will the inhabitants – and thus the cities they live in – become mobile? If the city becomes a network, what would the pertinence of its territory be?

And I want to finish with the words of the poet about Utopia.

'If you are tired of Utopia, you are tired of life, because Utopia can offer you all what life can offer.'

I wish all the designers to work for Utopia today, tomorrow and for the rest of their life.

Christian Guellerin
President of Cumulus
General Director L'ecole de
Design Nantes Atlantique, France
c.guellerin@lecolededesign.com

KEYNOTE   Ezio Manzini

Social innovation and design

How designers can trigger and support sustainable changes

Ezio Manizni, Politecnico di Milano – DIS; DESIS Network**1** (http://www.desis-network.org)

The transition towards sustainability requires optimum use of all the existing resources. In a small, densely populated, highly connected Planet, social resources are by far the most abundant ones. In other words, people's sensitivity, knowledge, creativity and entrepreneurial capabilities are potentially the most powerful drivers for sustainable changes. Therefore, one of the most promising strategies towards sustainability is to create the conditions that catalyse these diffuse social resources, transforming these potentialities into concrete initiatives capable of generating large systemic changes. This is what design for social innovation is about and what this paper will introduce and articulate in lines of action.

Social innovation is a form of innovation driven by social demands rather than by the market and/or autonomous techno-scientific research, and generated more by the actors involved than by professional researchers. Given this very rough initial definition, we can easily observe that social innovation has always been and will continue to be a normal component of every possible society. Nevertheless, though social innovation has always existed, there are two good reasons to focus on it today. The first one is that social innovation initiatives are multiplying and will become even more common in the near future, in answer to the growing challenges of sustainability. The second one is that, as contemporary societies change, the nature of social innovation itself is also changing, opening new and until now unthinkable possibilities.

An attentive observation of the past indicates that social innovation flourishes and evolves when two contemporary conditions are present: when society is facing difficult problems and when new widely-used technologies open new and only partially explored possibilities. Both these conditions are particularly evident today (Mulgan, 2006).

In fact, as far as the *quantity and dimension of problems to be faced* is concerned, the present economic crisis alone would be more than sufficient to lead us to forecast a larger future role for social innovation (Murray, 2009). However, as well as this, other deep and growing problems can be considered as social innovation triggers: the living conditions of hundreds of millions of people (those moving- and being moved – from villages to urban contexts) force them to invent new ways of living and producing. At the same time, as the limits of the Planet become clearer, people are beginning to perceive them in a different way (both in economic and health related terms) and ask for new, less resources-intensive systems. The list of "big problems" and associated motivations for social innovation could continue (Vezzoli, Manzini, 2008; Kling, Schulz, 2009).

At the same time it is clear that the second condition, the *quantity and quality of widely-used technologies,* is more than satisfied too (Castells,1996; Benkler, 2006). Over recent decades our societies have been invested worldwide by several waves of technological innovation: from distributed computing, to the Internet and to mobile phones. Although these technologies have very quickly become normal (for instance, nobody today would say that the use of mobile phones is per se a technologically advanced solution), they still present potentialities that users experiment in their everyday lives and transform into new, viable solutions based on the unprecedented forms of organization, business models and economy that the new networks make possible. (Bauwens, 2006; Tapscott, Williams, 2007; Leadbeater, 2008).

Given that these two conditions are satisfied, we can reasonably predict that new solutions to old and new problems will appear in contemporary society (Mulgan, 2006; Green, 2009).

---

1   DESIS-*Design for Social Innovation for Sustainability* is a network of *design labs* based in design schools (or in other design-oriented universities) promoting social innovation towards sustainability. These *DESIS Labs* are teams of professors, researchers and students who orient their didactic and research activities towards starting and/or facilitating social innovation processes. Each lab develops projects and research on the basis of its own resources and possibilities and, at the same time, acts as the node of a wider network of similar labs, the *DESIS Network*, which enables them to exchange experiences and collaboratively develop larger design and research programs.

Mapping social innovation.

A very concise definition of social innovation is: "a new idea that works in meeting social goals" (Mulgan, 2006). A more articulate one could be the following: social innovation is a process of change emerging from the creative re-combination of existing assets (from social capital to historical heritage, from traditional craftsmanship to accessible advanced technology), which aims to achieve socially recognized goals in a new way.

Such a definition suggests that a very wide range of events can be considered social innovation. We would do well to draw up a well-defined map of their different typologies but this task is far beyond the limits of this paper. Here we will limit ourselves to indicating some possible polarities, on the basis of which a first draft could be outlined.

A first, simple, polarity is between *incremental v. radical* innovation. Here the adjectives incremental and radical are used as in the field of technological innovation: they refer to changes that lie within the range of existing ways of thinking and doing (incremental innovation), or outside them (radical innovation). In our case, given the intention to promote sustainable changes, the innovation that we are going to consider must by definition be radical (Vezzoli, Manzini, 2008). That is, the goal itself and the way to achieve it must be different from the mainstream ones.

A second polarity is *top-down v. bottom-up*. This relates to where the change starts and, therefore, who its original drivers are. If they are experts, decision makers or political activists, the innovation will be largely top-down. If they are (mainly) the people and communities directly involved, then it will be (mainly) bottom-up. In this paper we will mainly consider bottom-up innovations conceived, implemented and managed by the people involved or, more precisely, by groups of active and collaborative people who we will refer to here as new forms of communities (Bernard, 1973; Benkler, 2006). We will therefore refer to these bottom-up innovations as: *community-based innovations*. In fact, as people's attitudes and capabilities change with the increasing diffusion of creativity, entrepreneurship and design approach (Ray, Anderson, 2000; Landry, 2000; Meroni, 2007) and considering how internet-based organization could support them (Wellman, Haase, Witte, Hampton, 2001; Mulgan, Steinberg, Salem, 2005; Leadbeater, 2008) these *community-based innovations* offer the highest potential as effective and diffuse drivers of sustainable changes.

Social problems and sustainable changes.

A third polarity is *social problems v. sustainable changes*. This derives from two different possible meanings of the adjective "social". Until now, "social" has very often been used to signify urgent, acute problems generated by extreme poverty, particular diseases, fragile social groups, and so on (*e.g.* need of fresh water in a shanty town; medical care in an isolated village; working opportunities for marginalized young people; and so on). In these cases, what motivates innovation is the need for *urgent* solutions. To reach them all forms of innovation are possible and welcome: technological and social, incremental and radical, top-down and bottom-up. Frequently, the design process that triggers and supports these innovations is called *social design*: a design activity that is not motivated by market demands but by this kind of socially recognized problem (Margolin, 2003; Brown, Wyatt, 2010). However, the adjective "social" can also be used with a different meaning. It can be used to describe the changes in society that are needed in order to move towards sustainability. These *sustainable changes* depend on major trends that are investing society as a whole: demographic evolution, urbanization, increasing connectivity and, more in general, the transition towards a sustainable society (*e.g.* food networks and new city/countryside relationships; cohousings and collaborative services; alternative mobility and sharing and pooling of cars and bikes; and so on). In these cases what motivates innovations is both the search for solutions to short and long terms problems and the hope of discovering emerging opportunities. This means that different actors can drive this kind of social innovation: local, national or international public entities, foundations and non-profit organisations, but also different kinds of innovative businesses; poor and marginalized people but also the new middle class in emerging countries. The design processes operating on this field are defined as *design for sustainable change*: a design activity (mostly) triggered by concerns for social and economical sustainability and, therefore, oriented towards solutions and business ideas capable of enhancing radical changes in the mainstream models of living and producing (Manzini, Jegou, 2003).

We should also add that although these two fields of innovation have been discussed in different arenas and with different motivations, in recent times they have tended to converge. In fact, on one side, it appears clearer and clearer that the majority of social problems can be solved only in the framework of larger sustainable changes. At the same time, when confronted with the crisis and the need to move towards sustainable ways of living, the growing middle classes can be found looking to the inventions of the poorest social groups and to the traditions of those still living in a phase of pre-modernisation.

In discussing the potentialities of social innovation for sustainability, this paper mainly focuses on *sustainable changes;* in particular we shall concentrate on a specific kind of social innovation: community based innovations that generate sustainable changes.

Community-based innovation.

For a more practical introduction to community-based innovation, we can refer to a variety of real life initiatives in our contemporary world. We can look for example at "zero-mile food", where not only a new way of eating but also a new relationship between production and consumption and between the city and the countryside are established, or collaborative services where elderly people organize themselves to exchange mutual help and, at the same time, promote a new idea of welfare. Further examples are neighborhood gardens set-up and managed by citizens who in this way improve the quality of the city and its social fabric, or groups of families who decide to share some services to reduce the economic and environmental costs, but also to create new forms of neighborhood.

Once we start to observe society and look for this kind of initiative, a variety of other interesting cases appear: new forms of social interchange and mutual help (such as the local exchange trading systems and time banks); systems of mobility that present alternatives to the use of individual cars (from car sharing and car pooling to the rediscovery of the possibilities offered by bicycles); the development of productive activities based on local resources and skills which are linked into wider global networks (as is the case of certain products typical of a specific place, or of the fair and direct trade networks between producers and consumers established around the globe). The list could continue, touching on every area of daily life and emerging all over the world (to read more about them, see: Sustainable Everyday Project http://www.sustainable-everyday.net).

Looking at such cases of social innovation we can observe that they challenge traditional ways of doing things and introduce new, different and more sustainable behaviour. Of course, each one of them should be analysed in detail (to assess their effective environmental and social sustainability more accurately). However, at a first glance we can recognise their coherence with some of the fundamental guidelines for sustainability.

First of all, many of them have an unprecedented capacity to bring individual interests into line with social and environmental ones (for example one side effect is that they reinforce the social fabric) and they generate new and more sustainable ideas of wellbeing, a wellbeing where greater value is given to the quality of the social and physical context, to a caring attitude, to a slower pace in life, to collaborative actions, to new forms of community and to new ideas of locality (Manzini, Jegou, 2003).

Furthermore, achieving this wellbeing appears to be coherent with major guidelines for environmental sustainability, such as: positive attitudes towards sharing spaces and goods; a preference for biological, regional and seasonal food; a tendency toward the regeneration of local networks and finally, and most importantly, coherence with an economic model that could be less transport intensive and more capable of integrating renewable energies and eco-efficient systems (Vezzoli, Manzini, 2008).

Precisely because these cases suggest solutions that merge personal interests with social and environmental ones, they should be considered as *promising cases:* initiatives where, in different ways and for different reasons, people have been able to steer their expectations and their individual behaviour towards more sustainable ways of living and producing.

Creative communities.

Behind each of these promising cases of social innovation there are groups of people who have been able to imagine, develop and manage them. A first glance shows that they have some fundamental traits in common: they are all groups of people who cooperatively invent, enhance and manage innovative solutions for new ways of living. And they do so recombining what already exists, without waiting for a general change in the system (in the economy, in the institutions, in the large infrastructures). For this reason, these groups of people can be defined as *creative communities*: people who cooperatively invent, enhance and manage innovative solutions for new ways of living (Meroni, 2007).

A second characteristic, common to these promising cases, is that they have grown out of problems posed by contemporary everyday life such as: how can we overcome the isolation that an exasperated individualism has brought and brings in its wake? How can we organise daily functions if the family and neighbourhood no longer provide the support they traditionally offered? How can we respond to the demand for natural food and healthy living conditions when living in a global metropolis? How can we support local production without being trampled on by the power of the mighty apparatus of global trade?

Creative communities generate solutions able to answer all these questions. Questions that are as day-to-day as they are radical. Questions to which the dominant production and consumption system, in spite of its overwhelming offer of products and services, is unable to give an answer and, above all, is unable to give an adequate answer from the point of view of sustainability.

In conclusion to this point, we can state that creative communities apply their creativity to break with given mainstream models of thinking and doing and in doing so, consciously or unconsciously, they generate the local discontinuities we mentioned before.

A third common denominator is that creative communities result from an original combination of *demands* and *opportunities* where the demands, as we have seen, are always posed by problems of contemporary every-

day life, and the opportunities arise from different combinations of two basic elements: the existence (or at least the memory) of *traditions* and the possibility of using (in an appropriate way) an existing *set of technologies* (in the form of *products, services* and *infrastructures*).

In relation to the last point, a convergence between creative communities and social networks (and other forms of internet-based organisations) can be observed. Even though they emerge in different contexts, driven by different motivations, creative communities and social networks present interesting similarities: they both more commonly originate from user needs rather than in specialized laboratories and in both cases service deliverer and user roles blur, generating the profiles of new social actors who are both producers and consumers at the same time. Finally, and most importantly, a certain complementariness can be observed: social networks find in creative community initiatives the possibility to link themselves to the concrete reality of everyday life, while on the other hand, creative communities can find in social network the enabling tools they need to move towards more effective, lasting, replicable organisations (Granovetter, 1983; Baek, 2010).

On this basis, it can be stated that the convergence between *community-based innovations* (of creative communities) and *internet-based innovations* (of social networks) is an on-going trend: a powerful trend with the potentiality to strongly support existing social innovations and, at the same time, generate new and until now unforeseeable ones (Rheingold, 1993, 2002).

At the end of this short overview of the features of creative communities we can attempt a definition of community-based innovation (against the background of other forms of social innovation): *community based innovation* is the result of a co-design process between a variety of actors (final users, grassroots technicians and entrepreneurs, local institutions and civil society organizations) seeking to find a shared solution for a common issue.

Collaborative organisations.

Creative communities are living entities that evolve over time. A closer observation shows that the promising cases they generate can be seen as organisations at different stages of development. In fact, when they consolidate into mature organisations, creative communities become a new kind of organisation: *collaborative organisations* that, in practical terms, can operate as social services, responsible enterprises or users' associations (Jegou, Manzini, 2008).

Collaborative services are social services where final users are actively involved and assume the role of service co-designer and co-producers. Some examples are: houses where elderly people of different ages live in a resource-sharing community suited to their diverse needs and lifestyles; services that facilitate house sharing between elderly and young people, where students find cheap, family-style accommodation, while giving lonely but independent elderly people help, companionship and financial support; self-organised nurseries for small groups of infants, making best use of such existing resources as parents' capabilities (social resource) and houses (physical resource).

Collaborative enterprises are entrepreneurial production and service initiatives that enhance new models of locally-based activities by encouraging direct relationships with users and consumers who, in this case too, become co-producers. Examples are: farms that help clients to experience the value of biodiversity in the food chain; local enterprises that teach people how to reuse old and used materials; shops where people exchange used sporting goods; housing companies that renovate houses for more collaborative ways of living.

Collaborative associations are groups of people who collaboratively solve problems or open new possibilities (and who, again, become co-producers of the results). Some examples of this category are: groups of residents who transform an abandoned plot into a shared neighbourhood garden; groups of people who love cooking and who use their skills to cook for a larger group, dining together in one of the members' houses; groups of people who exchange mutual help in terms of time and skills: groups of elderly people and teachers who organise vegetable gardens for children in elementary schools.

Bottom-up, top-down, peer-to-peer interactions.

Creative communities and collaborative organisations have always been described as *bottom-up* initiatives: actions "from the bottom" that give rise to promising cases of social innovations. However, a closer observation of their evolution from initial idea towards more mature forms of organization indicates that their possibility of long-term existence, and often even of their start-up, depends on complex mechanisms, and that the initiative taken directly by the people concerned (bottom-up interaction) is often supported by information exchanges with other similar organisations (peer-to-peer interaction) and by different kinds of intervention from institutions, civic organizations or companies (top-down interaction).

For instance, a micro-nursery exists thanks to the active participation of the mothers and fathers involved. However, it may have been started looking to the experiences of other groups (and eventually interacting with some of them) and it may be backed up by specific top-down initiatives and enabling tools, e.g. a guidebook indicating, step by step, the procedure to be fol-

lowed in starting up and managing it; local authority support in assessment (to guarantee its conformity to established standards); the support of a centralized service (in case of educational or medical problems that cannot be solved within the nursery itself).

These examples, like many other similar ones, tell us that *creative communities and collaborative services should be considered as bottom-up initiatives not because everything happens at grassroots level, but because the precondition for their existence is the active involvement of people directly interested.*

Consequently their starting up, their daily life and their possible improvement usually emerge out of a complex interplay between bottom-up, top-down and peer-to peer interactions (which differs from case to case). It is exactly on this basis that we can assume that even if the creativity and collaborative actions that are the necessary building materials of every creative community and collaborative organisations cannot be planned, something can be done to make their existence more probable and their diffusion potentialities higher.

Design for social innovation.

Having said this, it appears that social innovations are *design-led processes* with a particular characteristic: those who "design" are very diverse social actors who, consciously or not, adopt ways of thinking and competences that are in all respects forms of "design thinking" and "design knowledge" (Bruns, Cottam, Vanstone, Winhall, 2006).

The notion of *design for social innovation* we refer to here is therefore quite large. In practice, it is an "umbrella concept" that includes "*whatever design can do to trigger and support social innovation (DESIS 2010)*. Similarly, we can say that designers for social innovation are whoever is actively involved in conceiving and developing social innovations: the *design experts*, who have been trained as designers, but also all those who, consciously or not, adopt a design approach and use design competences.

In practical terms, what design experts do to trigger and support social innovation can be articulated in four lines of work:

- To feed the social conversations with *scenarios* and *proposals,* doing so at different scales: from the smallest (considering specific local problems), to the largest (aiming at building shared visions of the future).
- To empower existing cases of social innovation by working with creative communities and, thanks to dedicated tools and *specifically conceived products and services*, help them to last in time and to become more effective, accessible and pleasurable.
- To act as *agent of social innovation* ("temporary hero") replicating good ideas and starting up new ones,

initiating new communities and using design thinking and knowledge.
- To promote large systemic changes, synergizing a variety of local initiatives, thanks to the development of specifically conceived *framework strategies*.

These four lines of work entail very practical activities and require specific design knowledge developed through research and training. Design schools could make a major contribution in this.

DESIS Network.

Thanks to the students' enthusiasm and the teachers' experience, design schools are – or at least, they could be – active laboratories where complex problems are tackled, new visions generated, new tools defined and tested, but unfortunately, until now this potential has been under-valued (or even not valued at all). However, if an appropriate framework and a supporting platform were given, these potential resources could be catalysed, and results shared and communicated. In other words, all these schools, or part of them, could become design laboratories which openly and freely produce meaningful contributions. In turn, by connecting these design labs, it would be possible to create a large distributed design agency: an open design agency where social innovation projects could be started and supported locally, and experience could be shared and discussed at local, regional and global level. The DESIS Network has been launched internationally in just this spirit, and with this aim.

DESIS stands for *Design for Social Innovation and Sustainability*. It is a network of *design labs* based in design schools (or in other design-oriented universities) promoting social innovation towards sustainability.

As we said before, these *DESIS Labs* are teams of professors, researchers and students who orient their didactic and research activities in order to start and/or facilitate social innovation processes. Each lab develops projects and researches on a local scale but at the same time functions as a node of a wider network of similar labs, the *DESIS Network*, which enables them to exchange experiences and collaboratively develop larger design and research programs.

The DESIS Network, therefore, operates as a highly innovative design agency: an open agency, where complex, socially relevant topics can be tackled, scenarios built and solutions found and offered as contributions to the social conversation. A distributed agency, where many design teams work in parallel, mutually connected and sensitive to cultural, social and economic diversity.

In conclusion, the DESIS Network itself can be seen as an example of social innovation: an original highly distributed organization where the existing (but previously under-valued) social resource of students' en-

thusiasm and teachers' experience is catalyzed. Where scenarios and solutions, conceptual frameworks and practical tools are generated and offered as an open contribution to the transition towards sustainability.

References

Baek, J.S. (2010), *A socio-technical framework for collaborative services*, Phd thesis, to be published, Milano

Bauwens, M. (2006), *The Political Economy of Peer Production*. Post-autistic economics review

Bauwens, M. (2007), *Peer to Peer and Human Evolution,* Foundation for P2P Alternatives, p2pfoundation.net

Biggs, C., Ryan, C. Wisman, J. (2010), *Distributed Systems. A design model for sustainable and resilient infrastructure*, VEIL Distributed Systems Briefing Paper N3, University of Melbourne, Melbourne.

Brown, T., Wyatt, J. (2010) Design Thinking for Social Innovation, Stanford Social Innovation review, Winter, 2010

Bruns, C., Cottam, H., Vanstone, C., Winhall, J (2006), *Transformation Design*, RED Paper 02, Design Council, London

Benkler, Y. (2006). *The wealth of networks: How social production transforms markets and freedom*, Yale University Press, New Haven and London.

Bernard, J. (1973). *The sociology of community*. Glenview, IL: Scott Foresman.

Castells M. (1996). *The Rise of the Network Society. The Information Age: Economy, Society and Culture*, vol. 1. Oxford: Blackwell

Dryton, B., Budinich, V. (2010), *A New Alliance for Global Change,* Harvard Business Review, September 2010

Granovetter, M. (1983), The strength of weak ties: A network theory revisited *Sociological Theory,* Vol.1.

Green, J, (2009) *Democratizing the future. Towards a new era of creativity and growth*, Philips, Eindhoven

Halen, C., Vezzoli, C., & Wimmer, R. (2005). *Methodology for product service system innovation*. The Netherlands: Koninklijke Van Gorcum.

Manzini, E., Jegou, F. (2008), *Collaborative services Socia Innovation and design for sustainability*, Polidesign. Milano

Kling, A. Schulz, N. (2009), *From Poverty to Prosperity,* Encounter Books, New York

Landry, C. (2000), *The Creative city. A toolkit for Urban Innovators*, Earthscan Publications LTD, London, UK.

Leadbeater, C. (2008), We-Think, Profile Books, London

Manzini, E. (2010), "Small, Local, Open and Connected: Design Research Topics in the Age of Networks and Sustainability," in *Journal of Design Strategies*, Volume 4, No. 1, Spring.

Manzini, E., Collina, L, Evans, S, (Eds.) (2004) , *Solution oriented partnership. How to design industrialised sustainable solutions,* UK

Manzini, E., Jegou, F.(2003), *Sustainable Everyday*, Edizioni Ambiente, Milano

Manzini,E. (2009), *New Design Knowledge,* Design Studies, 301

Margolin, V. (2003), *Healing the World: a Challenge for designers*, Archeworks, New York.

Meroni A.(2007) *Creative communities. People inventing sustainable ways of living*, Polidesign, Milano

Meroni, A. (2008). *Strategic Design to take care of the territory. Networking Creative Communities to link people and places in a scenario of sustainable development.* Paper presented at the P&D Design 2008, São Paulo, Brazil.

Mulgan, J. (2006), *Social innovation. What it is, why it matters, how it can be accelerated*, Basingsotke Press. London

Mulgan, G., Steinberg, T., Salem, O. (2005). Wide Open: Open source methods and their future potential, Demos (Ed.). London.

Murray, R. (2009), *Danger and opportunity. Crisis and the social economy*, NESTA Provocation 09, London

Murray, R., Caulier-Grice, J., Mulgan, G. (2010), *The Open Book of Social Innovation*, NESTA Innovating Public Services, London

Ray, P.H., Anderson, S.R. (2000), *The Cultural Creatives, How 50 Million People Are Changing the World*, Three Rivers Press, New York, USA.

Rheingold, H. (1993). *The Virtual Community: Homesteading on the Electronic Frontier*. Reading, MA: Addison-Wesley Publishing Company.

Rheingold, H. (2002). *Smart Mobs: The Next Social Revolution*. New York: Basic Books.

Rifkin, J. (2010) *The age of empathy*, Penguin Group inc, USA

Tapscott, D., Williams, A.D. (2007), *Wikinomics. How Mass Collaborations Changes Everything,* Portfolio, New York

Thackara, J. (2005), *In the bubble, Designing in a complex world,* The MIT Press, London, UK

Thomson, J.D., MacMillan, J.C.(2010), *Making Social Venture Work,* Harvard Business Review, September 2010

Vezzoli, C., Manzini, E. (2008) *Design for environmental sustainability*. Patronised United Nation Decade Education for Sustainable Development, Springer, London

von Hippel, E. (2004), *The Democratization of Innovation*, MIT Press, Cambridge, MA

Wellman, B., Haase, A. Q., Witte, J., & Hampton, K. (2001). Does the Internet Increase, Decrease, or Supplement Social Capital?: Social Networks, Participation, and Community Commitment. *American Behavioral Scientist, 45* (436).

Website

DESIS, 2010, http://www.desis-network.org
SEP 2010, http://www.sustainable-everyday.net
SIX 2010, http://www.socialinnovationexchange.org

Design for a new restorative economy

John Thackara is founder and Director of The Doors of Perception (Doors).

In my short talk this morning I will talk about three things.

My first point is a challenge: that we face up to 'True Cost' cost of design actions of things our 'Doomsday Machine Economy' takes for granted.

Second, I propose **five principles** to guide us as we **de-commission and replace** this doomsday machine economy. And I'll mention some of the ways in which these principles are being applied.

I conclude, thirdly, with suggestions of **practical actions that can be started immediately the conference is over**. These actions connect with our central theme in Shanghai: what the young generation of designers can do to improve our environment and life in creative ways.

A]

My first point concerns the **dangerous kind of economy** we have now, and why it needs to be replaced.

In his book *Collapse*, Jarred Diamond explains that societies often fail when their elites are insulated from the **negative impact of their own actions**.

Diamond focuses on Easter Island, where the overuse of wood products eventually destroyed its inhabitants' survival prospects.

The lesson applies equally to us, today.

We are addicted, as a culture, to a high energy and resource intensive concept of quality and performance. To feed our addiction, we consume astronomical amounts of energy and resources.

And I must be blunt about this: **Design has been feeding this addiction**.

Most of the outcomes of our design work – products, websites, media, buildings, cities – involve the *unsustainable waste* of energy, water, and natural resources.

Design plays a key role in the creation of high-entropy products, services and infrastructures – and the resource flows and emissions that accompany them.

None of this productivity, none of this innovation, would happen without input from us: the creative industries, especially designers.

We've been doing our work without regard for a dreadful consequence, which is to degrade the biosphere upon which all life, including our own, depends.

This is why *Adbusters* calls our economy a "doomsday machine". Today's economy **can only survive if it grows to infinity** in a world whose **carrying capacity is finite.**

The better the economy performs – faster growth, higher GDP – the **faster we degrade the biosphere** that is the basis of life and our only home.

It's madness.

B]

This brings me to my second point: how are we to decommission and replace this **doomsday machine economy**?

For me, the best way to tackle this challenge is to describe *where we want to be* – and work backwards from there.

Where we want to be is in a new kind of economy with the following qualities:

- An economy that is not just centered on what humans need, but one that is *centered on all forms of life, and the conditions that support life;*
- An economy whose lifeblood is not the crazed extraction of finite resources, but the *restoration of ecologies and ecosystems;*
- a **restorative economy** is based on s*ervices, for the most part services carried out by people* – not on the endless production of hard things;
- An economy that values not only the salaried jobs that people do in offices and factories – but an economy in which *livelihoods are it its centre.*

*A restorative economy, in other words, is also **a social economy, or solidarity economy***. In a social economy, **the work people do** without pay is given equal respect and support: caring for children and elders, growing food, teaching each other. And so on.

You may argue, at this point, that I am sating the obvious: That of course you respect life, and the conditions that support life.

But I stress the word **unconditional.** If a commitment is unconditional, it does not mean "take account of," or "pay due respect to," or "move steadily toward."

A restorative economy does not mean "minimize adverse effects on nature." It means *no* adverse effects.

> *"A thief who tells a judge he is stealing less than before will receive no leniency. So why do companies get environmental awards for polluting less – even though they are still polluting?"*

The biomimicry entrepreneur Gunter Pauli, who I'm quoting here, is scornful of the **"do less bad" school of environmentalism – and design**.

Pauli demands that we commit to *Net Positive Impact* – that's to say, "economic activity where the demands placed upon the environment are met without reducing the capacity of the environment to provide for future generations." Otherwise stated: Leave the world better than you found it.

Now you may well also be thinking at this point: its **easy for John Thackara to talk** about a utopian new economy – but it's impossible to make such a thing happen in reality.

But do you know something: this alternative economy is **already happening**! **An restorative, solidarity** economy is already being created!

For a growing worldwide movement **life – not money (and not technology) – is the ultimate value**.

Sensible to the value of natural and social ecologies, they are searching for ways to preserve, steward and restore assets that already exist – so-called *net present assets*. *They are* not thinking first about the extraction of raw materials to make new consumables from scratch.

The movement includes people who are restoring **ecosystems and watersheds**. Their number includes dam removers, wetland restorers and rainwater rescuers.

This movement is evident wherever people are **growing food in cities**, opening **seed banks**, or turning school backyards into **edible gardens**.

Many people in this movement are **recycling buildings** in downtowns and suburbs, favelas and rural areas. So-called *"slack space activists"* are working with computer recyclers and **hardware bricoleurs**, to design new social uses for abandoned office-blocks, and shopping malls.

You'll find the movement wherever people are **launching local currencies**. **Non-money-trading models** are cropping up like crazy: nine thousand examples at last count.

In their own version of a social economy, **70 million Africans exchange airtime, not cash, in their daily life exchange of goods and services**.

I am talking here **hundreds of of thousands of experiments**. All over the world.

For every daily life-support system that is unsustainable now – food, health, shelter and clothing – alternatives are being innovated.

C] (WHAT TO DO NEXT)

Designers have an **important contribution to make** in this movement.

But it's a new kind of design. The priority is no longer the creation of brand new new products, buildings, and large-scale infrasrtuctures.

New and shiny is an old paradigm!

The new work for designers is to cast **fresh and respectful eyes** on a neighbourhood, or territory, to reveal material and cultural qualities that might not be obvious to those who live in them.

This kind of **regenerative design** not perceive the world as a blank canvas waiting for brand new objects to he placed on it.

Instead, restorative design perceives the world a complex of interacting, co-dependent ecologies that already exist – even if threy have been damaged: energy, water, food, and also information systems.

A specific design tasks emerges from this picture. to **map these "net present assets"** – assets that already exist – as the basis for creative ways to restore and enhance them.

These asset maps are needed in place of the traditional maps used by planners or Doomsday Machine economists. *Their* maps tend to focus on hard things, such as roads or buildings.

Every city or region, for example, can benefit from a fresh evaluation of the assets and resources are already there.

These assets can be hard or soft: natural assets – such as wind, or sun, or rivers. These assets can be indigenous materials, and the skills needed to use them. These assets can be abandoned spaces with the potential to be re-purposed.

These asset maps need to take natural **systems and ecologies as their starting point** – with special emphasis on bioregions, foodsheds and watersheds.

It's important to represent the **inter-connectedness and inter-dependence** of natural, human and industrial systems.

This is where **creative design skills and artistry** will be so valuable. New forms of representation are needed to communicate **energy and nutrient cycles** – and to make visible the ways that **healthy social systems** depend upon, and are intertwined with, healthy ecosystems.

As well as maps, a restorative economy needs **new tools and platforms.** Tools are needed, for example, that enhance a community's **capacity to share resources** – where "resources" include energy, matter, time, skill, software, space, or food.

A third design task, in addition to asset maps, and resource-sharing tools, is to connect people to each other, and helping them learn from each other's other experience.

This people-connecting work is itself a form of innovation.

Every city-region needs some kind of market place, or event, in which people can present grassroots projects, exchange experiences, and involve fellow citizens in ever larger numbers as participants in their experiments.

The keyword here is *social* innovation, because this movement is about groups of people innovating together – not lone inventors, and not super-smart designers flying solo.

Transition Towns is especially significant. Transition initiatives, which only started three years ago, are multiplying at extraordinary speed in Europe and North America.

More than 300 communities in Europe and North America have been officially designated Transition Towns, or cities, districts, villages – even a forest.

The transition model – I'm quoting their website – "emboldens communities to look peak oil and climate change squarely in the eye."

The key point is that these groups do not just look. Transition groups break down the scary, too-hard-to-change big picture into bite-sized chunks.

They create a **community-level to-do list**, and organize the list into an order of priorities.

These "Energy Descent Action Plans", as they are called – describe the skills and resources that a community will need to cope with the challenges coming down the track. They describe skills and resources needing to be put in place – and who will do what to make that happen.

The Transition model is powerful because it brings people together from a single geographical area. Such people people, of course, have different interests, agendas and capabilities. But they are united in being dependent on, and committed to, the **context in which they live**.

A second reason the Transition model is so powerful is that it uses a **process of setting agendas and priorities – the "open space" method** – that is genuinely inclusive of all points of view.

The lesson for design here is that resource efficiency is **a social process, not a technical one**. Any alternative has to be system-wide and involve a variety of different stakeholders who will not, as a rule, have worked together before.

In my own work, as an event organizer, this identification of individuals and groups who are already out there, and active, is central.

I describe my events **"Harvest Festivals of Projects"**

This was the approach this writer took with *Designs of the time* (Dottt) in North East England (where he was programme director), and with City Eco Lab, the "nomadic market" of projects from St Etienne region produced for the city's Design Biennale.

In these events, emerging community projects are presented to people from the region as the basis for discussion and action.

I ask each project to address two questions in its presentation:

- '*what might life in a sustainable world be like*?' and,
- '*how can design help us get there*?'

These events help discover which design skills, technology platforms and other resources are needed to help the project grow, and succeed.

I'm passionate about this idea: Connecting people to new people, **and helping them learn from each other's other experience, is itself a form of innovation.**

Every city-region needs a market place in which people can present grassroots projects, exchange experiences, and involve fellow citizens in ever larger numbers as participants in these experiments.

So there is **a lot for designers to do** in the transition to this new restorative economy. And this work can be a lot of fun!

The creation of interesting social alternatives is just as exciting and engaging as the buzz of new technology used to be. So don't get left behind: get out there and join in!

www.doorsofperception.com
www.thackara.com

KEYNOTE Professor Jeremy Myerson

A landscape of change for design challenges

Professor Jeremy Myerson, Director, Helen Hamlyn Centre for Design, Royal College of Art, London

My message at this conference is essentially a simple one: design today stands on the fault line between old and young in societies around the world.

In the drive to improve our cities and create a better quality of life in urban areas, designers will increasingly find themselves acting as mediators between the old world and the new – between institutions, ways of thinking, educational models and practice methods that belong to the 20th century and those that are fast emerging in this, the new century.

When I sat down to review the papers submitted to the Old & Young research strand of Cumulus Shanghai, I could see this form of mediation between old and young in action. Essentially I saw three main groupings of work from designers and researchers.

First, there were papers that explored design responses to demographic change and the rise of an ageing society.

Tensions between old and young are most visible in the impact of changing demographics on design, as the proportion of older people in the world population grows and the proportion of younger people shrinks. The implications of this profound shift for every branch of design are enormous.

Second, there were papers that specifically addressed the relationship between old and new in architecture and urban planning.

When architect Richard Meier placed a modernist structure on the Ulm Cathedral piazza in 1993, confronting one of the oldest medieval cathedrals in Europe with a gleaming white spaceship, he artfully summed up the tensions between the past and the future. These tensions are being played out less dramatically in new schemes for towns and cities all over the world.

The third grouping of papers focused on design processes, systems and strategies – and on paradigm shifts from old to new in education and practice.

In a world in which the welfare costs of the elderly will fall on a shrinking working population of younger people, in which many institutions and organisations require reform, and in which new technologies must be put to genuine social purpose, the urgent need to mediate between old and young requires designers to develop new skills, new tools and new approaches, many of them cross-disciplinary in character.

In this presentation I want to unite grouping one and three – I want to look at how demographic change is forcing a paradigm shift in design practice. Population ageing now presents challenges in every design discipline from transport, furniture and communication to fashion, architecture and urban planning.

Demographic picture

Let's look at the demographic picture. Britain's changing demographics are eye-catching. Pensioners now total 11.5 million, nearly a fifth of the UK population. We have just passed a milestone which means that, for the first time since records began, the number of people of pensionable age (60 for women and 65 for men) exceeds the number of children under 16.

It is Japan, however, that has the world's fastest ageing population. A quarter of its citizens are now aged 65 and over. In less than one lifetime Japan has shifted from a country with a young population to the one with the highest proportion of older people. In 1950 the median age of the Japanese population was just 22 – by 2005 this had climbed to 43. In 2050 the average age will be 55.

As a consequence, Japan expects its workforce to shrink by 16 per cent in the next 25 years. Little wonder that when a senior figure in Tokyo's Building Research Institute presented his country's demographic picture, he said simply: 'If you throw a stone in Japan, it will hit a senior.'

Worldwide, life expectancy will rise from 67 in 2008 to 75 in 2050 and the percentage of over-60s in the global population will double from 11 per cent to 22 per cent. By 2050, Japan will have greyed to the extent of having 44 per cent of its population over 60, but the UK won't be that far behind: 30 percent will be over the age of 60.

Eight design challenges of ageing

Against this background of profound demographic change, I want to propose eight key design challenges of ageing. There are many more but these are the ones on our radar at the Royal College of Art right now.

One: The Challenge of Definition

One of the most basic challenges for designers is to define what a growing demand for products and services for older people might mean. There is a tendency in design to lump all older people into one box called the 'grey market', to treat everyone over 55 as one homogenous group. But people in their early 60s are very different in outlook and capability from people in their late 80s. Also, older people are as diverse and complex a population sector as young people.

Defining needs and behaviours across the spectrum of an ageing society is a classic challenge – and one not fully appreciated yet by the design industry. One of our design researchers, Jo Young, produced a communication study called Yo-Yos (Young-Old, Young-Olds) in which she defined older people as going back and forth along a spectrum in their consumer choices, making 'young' decisions one day and 'old' decisions the next. This practice of switching modes is a useful way of understanding needs and achieving definition.

Two: The Challenge of Transition

Another misconception among designers of products and services for older people is that transitions in later life are generally smooth and calm – 'a slow fade to grey'. However our own situational research with older people indicates the opposite. Disruption, displacement and dependency – more typically associated with younger people – are also features of later life when you consider such events as cliff's edge retirement from paid work, moving house from a family home to a small apartment in a different area, loss of a partner or spouse, or sudden dependency through ill health.

Our Transitions research study with Nokia, led by Stephanie Chen, explored this in detail and identified new online services that could make such later life transitions less painfully disruptive. The challenge of transition has not been fully considered by service providers. That needs to change and will most likely do so.

Three: The Challenge of Technology

More than 14 million people in the UK can be termed 'digitally excluded' and the majority of these are older people. Some have never had access to a computer and many are never likely to. Many older people cannot justify the costs of buying a computer or the complications of learning to use one. This means that they are missing out on the benefits of being online in terms of information and services. The challenge of technology in an ageing society is one of finding new ways to design for digital inclusion.

We have been experimenting with this issue in a number of projects. The use of analogue communication devices (for example an electronic 'chalkboard' to transfer data on a mobile phone to a much larger, more intuitive visual interface) represents one strand of thinking.

The use of a hardback 'storybook' that leads the older user through an understandable narrative to set up a mobile phone, insert the sim card and charge the battery (as in a project for Samsung) represents another. In both cases, pre-digital archetypes of communication are aimed at achieving digital inclusion

Four: The Challenge of Cognitive Decline

The traditional focus for designers looking at an ageing population has been to address physical and sensory impairments over time. However one consequence for people living much longer is that minds deteriorate before bodies. Cognitive decline is now a major issue and design is playing catch-up in this area. People with dementia occupy approximately two-thirds of all residential care beds available in the UK. Alzheimer's disease is the principal cause of dementia and admission. Typically, 70 per cent of care home residents exhibit significant confusion and other cognitive impairments.

At the RCA, we have been collaborating with Bupa care homes to develop new products and furniture that will improve the experience of eating and drinking and also give greater independence in dressing. We have made significant progress in this area but have barely scratched the surface in terms of what really needs to be done. Our work with Bupa is ongoing.

Five: The Challenge of Public Space

Public space has always been a hotly contested area for advocates of inclusive or universal design. Access to the built environment has been a key target for campaigners for older and disabled people. This remains the case today – even more so perhaps, given new developments in street design. For example, the trend towards 'shared space' in which familiar markers such as kerbs and railings are removed so that people and cars can share the space more freely, makes life extra-difficult for people with sight loss.

One of our researchers, Ross Atkin, led a project that explores how visually impaired people really navigate the street environment, what cues they use and how they cope. He adopted a novel mapping technique to draw up 'sightline' maps that will advise street designers and traffic engineers on how to create a more inclusive environment.

Six: The Challenge of Economic Independence

Central to the debate about design for older people is their need to live 'independent lives'. Within this context, however, there is a growing school of thought that argues that independent living starts with economic independence. Keeping older people working – and therefore economically active – for longer is now a key economic priority for governments around the world. But the modern workplace environment is a tough place to age in.

The Helen Hamlyn Centre for Design at the RCA recently led a global study with academic partners in Australia and Japan called 'Welcoming Workplace' – this set out new ways to design for older people employed in knowledge-based industries so that they could concentrate, collaborate and, critically, contemplate and recuperate more effectively at work.

Seven: The Challenge of Hospital Care

Older people make more intensive use of hospital services and their stay in hospital is typically longer than young age groups. Designers need to be prominent in rethinking how we can take pressure off primary care centres such as hospitals by introducing more distributed and community based health services for older people, and by making hospital stays safer and more dignified for older people so that they are not exposed to distress or harm by catching infections or taking the wrong medication.

In this connection with this challenge, one of the biggest and most far-reaching our ageing societies face, my own research centre has been working on a range of health and patient safety projects – from remodelling the interior of the emergency ambulance and re-fashioning the hospital gown to designing out medical error through better use of equipment. In all of this work, and other design studies like it, the older person will be a key beneficiary.

Eight: the Challenge of the Unprecedented

The final challenge I want to talk about concerns the scale of demographic change – it is, quite simply, unprecedented. We have entered unknown territory. We are witnessing the greatest change to the age balance of the world's population since the end of infant mortality in the early 19th century. The design implications of living longer are enormous – from more octogenarian drivers on the road to more people getting divorced and having second and third families.

Let me give you one small example. One of the largest rises in sexually transmitted diseases has been recorded among the over-50s. By 2015, half of the US population living with HIV or AIDS will be over the age of 50. In the UK, one in 12 people diagnosed with HIV is already over 50. Yet we target sexual health campaigns exclusively at the young. We hosted a Fulbright Scholar at the RCA in 2009–10, Andy Chen, who produced an excellent visual communication campaign to redress the balance.

A landscape of change

So, eight design challenges of ageing– but what does it all mean for design practice?

Altogether I believe these eight design challenges create a landscape of change that forces a fundamental rethink of paradigms of practice.

Let me explain what I mean by this. Designing for people has been around for nearly 60 years. It is part of the bedrock of design practice, it goes back to the landmark publication *Designing for People* in 1955 by the industrial design pioneer Henry Dreyfuss.

Designing for people has evolved within the defining contexts of a production-led economy, consumerism and, more recently, globalisation. The relationship between professional designers and the people who use their designs has largely been a producer-consumer relationship – and increasingly on a global scale as design skills have been applied to create economies of scale in manufacturing and worldwide brands in marketing.

Henry Dreyfuss signalled mainstream design interest in human psychology and user need as a way to create products and services that sell. He set a blueprint for industrial design practice to treat people as passive test subjects in the design process, designing for their needs and wants from the vantage point of an expert mindset. And although many new and exemplary methods, technologies and techniques emerged over time to aid designing for people, this core belief system was largely unchallenged right into the new millennium.

Today, however, as Tim Brown and Jane Fulton-Suri of IDEO and others have pointed out, a paradigm shift is underway from *designing for people* to *designing with people*. And, in some cases, *designing by people*. The people in question in these new forms of practice are no longer passive consumers being studied by experts, but active participants in the design process. Human need is not being inferred by designers through impartial examination of behaviour, but translated directly into new products and services via an empathic co-design process, or, in the most extreme manifestations, self-recognised by those who will benefit from the resulting design. The designer mindset is no longer an expert one but a participatory one.

That Samsung mobile phone set-up project I showed you, featuring a hardback picture book with the phone inside, derived from *designing with people*. The designers created their concept via a series of interactive workshops across Europe in which older people were asked to visualize their perfect mobile phone using a banana and coloured stickers. And some of the hospital design projects I showed you, in which frontline healthcare staff took the lead on designing new systems and service, could be described as *designing by people.*

My point is not to say that those methods to design *for* people are becoming obsolete – far from it, many will remain relevant and important long into the 21st century and we regularly adopt them ourselves. It is simply that they will be supplemented by more empathic, democratic and bottom-up social models of design that let us focus more clearly on socially excluded people, such as those excluded due to age.

The great success of designers in the past was to use their skills to 'scale up' to meet the challenge of globalisation – to *abstract* things for mass communication across global markets. That's the old way of doing things. The new way is different – designers will need an ability to 'scale down' to address local needs, to get down and real with users on a community level. This is a different mindset for the designer and it requires us to turn everything we have learnt on its head.

And here we come, finally, to the real meaning of the Old & Young theme at Cumulus Shanghai. To meet the key challenges of changing demographics and the myriad other social problems we face, we need an underlying shift from Old to Young in the way we do things as designers – and that shift surely start in art and design education.

KEYNOTE Professor WU Zhiqiang
and Professor Yrjö Sotamaa

Sustainable Design – Design for sustainable life – Design for Future

Professor WU Zhiqiang, Dean of the College of
Design & Innovation, Tongji University
Professor (Tongji-Forever Chair) Yrjö Sotamaa,
College of Design & Innovation, Tongji University

The theme of the Shanghai Expo 2010 is Better City Better Life. What makes our life better we would say it is all about Design? Today, it is a very special event that we are coming from various parts of the globe here to discuss on the future of our design and especially design education. The 21st century will undoubtedly be a century of design and innovation. The new era needs new approaches of human centred innovation. To achieve this and go even further, international, trans cultural and interdisciplinary collaboration is of utmost importance.

1 Background

In many parts of the world, urbanization is being accelerated by the expanding global economy. In this urban age, trends of global economic crises, resource crises especially the depletion of oil, are literally changing the face of the planet. Increasingly, design is being influenced by continued socioeconomic and environmental economic dynamics. Its vision and management in this context have increased in both scope and complexity and become one of the most important challenges to design education in the 21st century. It highlights the importance of design research, too.

2 Paradox of Design: a two-blade sword

However, the discourse of the definition of 'design' has been a long history. Today, we are gathering here to define/debate the meaning or the role of design in our contemporary world, meeting the challenges of economic growth and sustainable development.

The prosperous of design schools and high richness of commodities give an illusion that we have achieved lots in our history. Our life becomes more convenient and beautiful because of design, for instance, from various kitchen wares to the airplane. But, if we take a careful investigate in one of our big supermarkets, how many products do we really need? Many products are designed and produced just for being sold or right for nothing, which have consumed large amount of resources.

Design is a two-blade sword. However, it is also the way towards future sustainability. It can deliver economic, ecological, social and cultural benefits to all people, improve our quality of life and create optimism about the future and individual and shared happiness.

3 Visions of Design: Sustainable development

At this crossroad of future development of human society, designers are questioned: What do we design for? Do form and function enough? What is sustainable design? These were the fundamental questions presented to us already in the 1960's by great visionary design thinkers Victor J. Papanek and R. Buckminster Fuller. The questions are even more relevant today.

In our point of view,

3.1 Design beyond form

Design has to be beyond form. Though form is the basic understanding of design, the human needs are truly the fundamental ones. As the stories behind the products, why this product is needed and why it has to be designed like this are the key questions that matter. Design is about beauty, about the reason for human existence.

3.2 Design beyond material

Design has to be beyond material. The social, economic and environmental effect of design gives itself the power leading towards innovation, towards social innovations.

3.3 Design upon interrelation between land/locale and people (behaviour)

Design has to be focusing upon the interrelation/interaction between land and its people, namely the design has to be rooted in its local culture and the human behaviour. The Chongming island project we are involved with is an excellent example of building new future with the local people. It is a good example of real co-creation, a key asset in new design thinking.

3.4 Design upon process

The last but not the least, design has to be upon the process, namely the lifecycle of design production, from design till the demolishing of the product.

4 D&I philosophy

These principles of design have formed the foundation of the College of Design and Innovation, Tongji University. It explores the fundamental role of design in a holistic way, in particular, in the rapid globalization of today. Our mission is to educate leaders of sustainable design innovation, designers who will show the way to the sustainable future.

4.1 vision and mission of D&I

On one side, **design** is to solve global problems and improve the quality of human life; to meet the urgent needs of high-level designing talent when China is turning from manufacturing China to creating China; it is also to meet the demand for innovative talents when Shanghai is changing the way of economic growth and upgrading industrial structure. Consequently, the **Innovation** generated by design is to drive economic, cultural and social development of our society in the digital era.

4.2 D&I Outreaching

The D&I has to outreach via

4.2.1 UNITING OR COOPERATING WITH INDUSTRIES

When Chinese cities become the world manufacturing base, the urgent demands for designers and innovative talents to design the paths towards sustainable industries, transforming industrial structures and transforming the whole economy urge us to cooperate closely with the industries and enterprises. A holistic approach and the value and meaning of design is emphasized.

4.2.2 INVOLVING/WORKING WITH FINANCIAL, ECONOMIC AND MANAGEMENT DISCIPLINES

Although a good designer is not necessary a good businessman, the financial, economic and management disciplines become more and more important in design management. To add the economic and management dimensions to design, that aims to more profit and new innovative business models will certainly increase the sustainability of design. The fundament of design innovation is a new interdisciplinary culture.

4.2.3 DESIGNING FOR BOTH URBAN AND RURAL (FOCUSING ON CHINA?)

In China, most of the population is living in the rural areas. Our design shall not only focus on the development of urban areas but also involve in the rural development. Improving the quality of life of rural people offers tremendous opportunities for design, for social innovations and for economic growth. This is unique opportunity for China, and to the world. There are also vast opportunities in revitalizing old cities, which are suffering of the effects of industrial transformation. Both the kind of real problems D&I wants to be associated with.

4.2.4 UNITING WITH AND LEARNING FROM WORLD DESIGN SCHOOLS

The college draws on the latest ideas and models of world design and arts disciplines in order to cultivate an international perspective, innovative, forward-looking, research-oriented, integrated new generation of design talent and design managers and is committed to building an "Open and Innovative" world-class college of Design.

Cumulus as an agent of Change

We are proud that Cumulus Association decided to celebrate its 20th Anniversary in China and in Shanghai. This is a tribute to the World Expo and to the growing importance of China in developing the future of design.

We sincerely hope that this conference marks the beginning of a new era of cooperation in tackling world's big problems and the enormous opportunities in solving them in a sustainable way. When driven by human centred innovation thinking we can lay a real foundation for social sustainability, too.

Cumulus has been and will undoubtedly be an important agent of change in the spirit of the Kyoto Design Declaration and in its capability to bring the best design universities, their students and teachers together to build design education for the future.

Tim Brown

What happens if we move from design to design thinking?

Seeing the big picture nets bigger results

Tim Brown, IDEO president and CEO

Back in the 19th century, a British civil engineer named Isambard Kingdom Brunel designed many innovative structures. His greatest creation was the Great Western Railway. Brunel said that what he wanted passengers to experience the feeling of floating across the countryside. To do that meant creating the flattest gradients ever yet made, which required building long viaducts across river valleys and long tunnels, such as the one at Box in Wiltshire.

Brunel didn't stop there. He went beyond trying to design the best railway to imagine an integrated transportation system that would enable passengers to seamlessly use different modes of travel – to embark on a train in London and disembark from a ship in New York. So he built the s.s. Great Western to handle the seafaring leg of that trip, making it possible to go from London to New York in a single journey.

Brunel was working 100 years before the emergence of design as a profession, using design thinking to solve problems and to create world-changing innovations. However, as industrial society matured, systems thinkers and re-inventers like him evolved into a priesthood of folks in black turtlenecks who focused on aesthetics, image, and fashion. Of course, there's nothing wrong with making things more attractive, easier to use, and highly marketable. But now that designers have mastered the fine details, it's time to think big again.

If everyone moved from *design* to *design thinking*, we could effect more significant change, says Tim Brown, president and CEO of IDEO. "If we take a different view of design and focus less on the object and more on design thinking as an approach, we actually might see the result in a bigger impact."

Design thinking began with what Roger Martin, the business school professor at the University of Toronto, calls *integrative thinking* – the ability to exploit op-

posing ideas and constraints to create new solutions. In the case of design, that means balancing desirability and human needs with technical feasibility and economic viability. The re-emergence of design thinking enables us to tackle new kinds of problems, Brown says, and, in doing so, it's useful to observe three basic ideas: Design is human-centered. Prototyping enhances innovation. Collaboration among consumers and producers results in better designs.

Human-centered design may integrate technology and economics, but it starts with what humans need, or *might* need. "What makes life easier, more enjoyable? What makes technology useful and usable? This is about more than good ergonomics, such as putting the buttons in the right place," Brown explains. "It's about understanding the culture and context of people's circumstances, often before even beginning to conceive ideas for designs." For example, when an IDEO team started working on a new vision-screening program in India, designers sought to understand the aspirations and motivations of schoolchildren, in order to "get" how they might play a role in screening their parents.
[link to: http://www.ideo.com/work/childrens-eye-care/]

If human needs are the place to start, then design thinking rapidly moves on to learning by making. "Instead of thinking about what to build, we need to build in order to think," Brown says. "Prototypes speed up the process of innovation, because it is only when we put our ideas out into the world that we really start to understand their strengths and weaknesses. The faster we do that, the faster our ideas evolve."

Take the Aravind Eye Institute in Madurai, India, which is both highly efficient and very innovative. Aravind makes its own intraocular lenses (which replace those damaged by cataracts), and it does an incredible job of serving very poor patients by taking the revenues from those who can afford to pay to cross-subsidize those who can not.
[link to: http://www.aravind.org/aboutus/index.asp]

"When I visited them a few years ago, what really impressed me was their willingness to prototype their ideas very early," Brown says. "They brought the cost down from two hundred dollars a pair down to just four dollars a pair. Partly they did this by, instead of building a fancy new factory, they used the basement of one of their hospitals. And instead of installing the large-scale machines used by western producers, they used low-cost CAD/CAM prototyping technology. They are now

the biggest manufacturer of lenses in the developing world."

After human needs and prototyping, today's designers should consider the destination. "Instead of seeing its primary objective as consumption, design thinking is beginning to explore the potential of participation," Brown explains. "The shift from a passive relationship between consumer and producer to the active engagement of everyone in experiences that are meaningful, productive, and profitable."

For example, nurses and practitioners at Kaiser Permanente looked at how to improve the hospital patient experience. Through observational research, brainstorming new solutions, and rapid prototyping, Kaiser developed a new way for staff members to change shifts. They went from retreating to the nurse's station to discuss the various states and needs of patients to deploying a software-driven system that took place on the ward in front of patients. By doing this, nurses reduced the average time that they were away from patients from 40 minutes to 12 minutes, which increased patient confidence. Multiply that by all of the nurses in all of the wards in the system's 40 hospitals – and the change had a pretty big impact.

[link to: http://www.ideo.com/work/nurse-knowledge-exchange/]

"We can take this idea of participation perhaps to its logical conclusion," Brown adds, "and say that design may have its greatest impact when it's taken out of the hands of designers and put into the hands of everyone."

Session 1

Social Innovation & Sustainability

Luigi Ferrara, Elise Hodson and Yen Trinh

Renovating the Suburbs for a Sustainable Future

A World House Year 3 Project at the Institute without Boundaries

Abstract

The Institute without Boundaries in Toronto is a unique academic centre focused on collaborative design for social, ecological and economic innovation. As part of the Institute's World House project, in 2008–9, the interdisciplinary student and faculty team investigated how to renovate the inner suburbs of metropolitan cities, looking at the social and technological innovation required to engage citizens in the process of revitalizing neighbourhoods. Characteristic of other post World War II suburbs, Toronto's inner suburbs are suffering from aging infrastructure, aging populations, increasing demand for affordable housing, and limited access to sustainable food, energy and services. The Institute collaborated with two non-profit organizations, Habitat for Humanity and Evergreen, to develop community engagement tools, a catalogue of scalable "renovation" ideas, and an implementation strategy. A case study neighbourhood was used to contextualize the project and to encourage the students to design projects that are as real and as detailed as possible. The resulting proposal, Renovate Your Neighbourhood, includes design concepts for more affordable and diverse housing choices, more vibrant citizen-managed public spaces, and more sustainable land development patterns. This paper responds to the Sustainability & Social Innovation theme through a case study of an innovative model of design education, where students interact with the real world to develop and test new systems of design thinking in collaboration with industry, non-profit organizations and community members.

Key Words

Located in the School of Design at George Brown College (Toronto, Canada), the Institute without Boundaries (IwB) is a unique academic centre that teaches collaborative design, researches design tools for social, ecological and economic innovation, and provides strategic consulting and interdisciplinary problem solving to clients. The Institute offers a nine-month post-graduate program, where a small group of international students from a variety of backgrounds in design, arts, science and business, come together to work on complex problems. The inaugural project, *Massive Change: The Future of Global Design*, was led by Bruce Mau Design, and sparked a discourse on the potential of design to leverage positive change for the future. Building on this vision, in 2006, the Institute moved into its second phase, *World House*, to tackle issues of shelter by developing housing systems that operate on the principles of sustainability, universality, technological responsiveness and ecological balance. In 2008–9, the Institute focused on "renovating" the inner suburbs of metropolitan cities, looking at the social and technological innovation required to engage citizens in the process of revitalizing neighbourhoods. The resulting proposal, *Renovate Your Neighbourhood*, is a five-phase, community-based program that includes design concepts for more affordable and diverse housing choices, more vibrant citizen-managed public spaces, and more sustainable land development patterns.

The Institute's projects are designed around collaboration with external partners, whether they be manufacturers, non-profit organizations, community groups, municipal or national governments. This allows students and faculty to design for real clients, and apply innovative thinking to problems that require solutions that can be implemented. While working with specific partners, the IwB considers their needs from a broader perspective, with the goal of creating solutions that could be locally adapted by like entities around the world. For *Renovate Your Neighbourhood*, the IwB team of eight students, guided by seven faculty, imagined how two national non-profit groups, Habitat for Humanity Canada and Evergreen, could become catalysts for community action leading to suburban renewal. Habitat for Humanity is an international organization with affiliate offices across Canada, that "mobilize volunteers and community partners in building affordable housing and promoting homeownership as a means to breaking the cycle of poverty" (Habitat for Humanity, 2007).

Evergreen, a Canadian organization, strives to "make cities more livable…by deepening the connection between people and nature, and empowering Canadians to take a hands-on approach to their urban environments" (Evergreen, 2000). The two institutions have previous experience pairing house building with community landscaping, and they approached the IwB to explore how they could strengthen their working relationship to better serve their volunteers and clients. The result was a design for a program that built upon and extended the mandates of Habitat for Humanity and Evergreen, and that could be launched by the two organizations in Toronto, or customized by other non-profits or neighbourhood groups in urban centres across North America.

A Case Study Neighbourhood in Toronto's Inner Suburbs

To further contextualize the project, and to encourage the students to develop their proposals in as real and as detailed a way as possible, a case study neighbourhood and street were selected in Don Mills, one of the first planned suburbs of Toronto (Javed, 2009). Typical of other post World War II neighbourhoods, Don Mills was linked by main arterial roads, and planned around curved streets of bungalow houses and community spaces such as schools, parks and churches (Gillham & MacLean, 2002). In Toronto, the combined suburban residential areas and green spaces now occupy approximately 75% of the city's land (City of Toronto, 2006), representing a large and often overlooked opportunity for urban rejuvenation. While the physical structure of Toronto's inner suburbs has remained relatively unchanged since the 1950s, the social, economic and environmental contexts are dramatically different. These suburbs now present critical challenges characteristic of cities planned during the automobile era, such as social isolation, increased housing costs, changing populations, aging infrastructure, diminished quality of public spaces, and limited access to affordable and sustainable food, energy and services. To prioritize opportunities for renewal in Don Mills, the IwB team applied the Institute's World House Matrix (2006), an analysis tool that provides a holistic perspective by grouping design considerations into twelve systems under terrain, climate, economy and culture.

Four Community Projects to Create Balanced Neighbourhoods

Adapting the commonly used "triple bottom line" approach to sustainability, the team set the goal of creating balanced neighbourhoods that are social, green and diverse. The team developed a checklist for community self-evaluation based on a range of qualitative surveys and existing measures for urban design (Table 1). The checklist is intended to help initiate community discus-sion about local issues and areas for improvement, and to help focus visions and define shared goals. Once interested citizens identify areas in need of "renovation," they can look to the catalogue of small, medium, and large-scale community project ideas to improve their neighbourhood over time, based on their own assets, capacity, and appetite for change. The *Renovate Your Neighbourhood* catalogue (Figure 1) is organized by four common urban features that could serve as starting points for collective action: schools, parks, malls and housing. Typical of IwB projects, *Renovate Your Neighbourhood* not only offers "designed" communications, products, environments, services, and organizations, but also presents processes through which these elements can be developed and systems within which they are related.

The school project proposes that schools play a greater role in community life and inter-generational learning. Cities are facing concerns about food security and poor adolescent nutrition (Friendly, 2008), and many low-income areas in Toronto's inner suburbs (Hulchanski, 2008) have been labeled "food deserts" where communities have limited access to healthy food choices (Lister, 2007). The proposal suggests that schools become centres for local food networks where education about nutrition and food security is paired with hands-on learning about growing and preparing food. Students plant vegetables and fruits to transfer to family and community gardens at home, in schoolyards and parks, creating a wide collaborative community food network, supported by inter-generational programs such as seed and recipe exchanges, picnics and harvest celebrations (Figure 2).

The park project sees large suburban parks as underutilized assets, and encourages people to take ownership of inner suburban parks to make them more relevant to contemporary life. Many Toronto Parks, Forestry and Recreation programs (2007) are targeted at environmental improvement, health and sports, especially for children and youth. The project offers ideas to promote park use by a wider demographic (including parents, young adults and the elderly), such as community events, landscaping and building initiatives. Parks would become canvases for residents to create their own activities over and above typical events, such as hosting outdoor movies and community-run cafes. This proposal includes designs for a system of portable, temporary structures from outdoor lighting and furniture, to garden sheds and cafes, to supplement existing park infrastructure (Figure 3).

The mall project rethinks the future of suburban strip malls as new mixed-use destinations that increase affordable housing and reduce the impact of cars. Typically, 65% of mall sites is taken up by parking lots (Bond, 2002) which perpetuates car dependent lifestyles, accumulation of pollutants and contributes to "urban heat

Social: **Community Gathering & Involvement**	Green: **Healthy Living & Environments**	Diverse: **Value & Options**
Does your neighbourhood have:	Does your neighbourhood have:	Does your community offer:
Public spaces that are: ☐ Welcoming to people of all ages and abilities ☐ Peaceful ☐ Active ☐ Safe ☐ Used at night and on weekends ☐ Used for sport and recreation ☐ Used for commercial purposes Public spaces that provide: ☐ Facilities such as seating and bathrooms ☐ Clear signage and wayfinding ☐ Access to information and local media ☐ Opportunities to express creativity	☐ Clean streets ☐ Trees and greenery ☐ Older buildings and heritage places ☐ Ways to reduce the impact of and reliance on cars ☐ Networks of bicycle paths and facilities ☐ Access to daily necessities within walking distance ☐ Access to food and places to grow food ☐ Access to renewable energy sources ☐ Architecture and landscaping that respond to environmental conditions ☐ Opportunities to reduce, reuse and recycle ☐ Outlets for environmental education ☐ Environmentally responsible industries	☐ Housing and services that are accessible ☐ Affordable rents, land sales and housing ☐ Diverse types of houses and buildings ☐ Mixed-use buildings (live, work, play) ☐ Ways to minimize household costs ☐ Free community events and spaces ☐ Places of employment ☐ Access to schools ☐ Access to medical services

Table 1: Community Checklist for Neighbourhood Evaluation. Developed by the Institute without Boundaries

island effect" (City of Toronto Urban Design, 2007). In this proposal, the redesigned mall breaks from tradition by prioritizing pedestrian use in the short term through community events and green spaces. Longer-term changes are proposed by modifying the typical parking lot layout to allow for pedestrian walkways, plantings, bicycles and car sharing. Finally, new rooftop buildings add affordable housing to the existing retail mix.

The housing project looks at adapting houses and suburban lots in light of critical issues such as the increasing number of lower income families in the inner suburbs (Hulchanski, 2008), rising property prices, and large population growth. Neighbours would work together to share costs and labour on home and garden renovations that allow people to live in their homes longer and more sustainably. The project outlines how large suburban residential lots and unused commercial spaces can be subdivided for new affordable housing, and provides designs for a modular housing system adaptable to a variety of sites.

The *Renovate Your Neighbourhood* school, park, mall and housing proposals are strengthened by the fact that they are community–driven and interrelated. For example, plants grown at the school feed into the community garden and greenhouse outlined in the park proposal, or into the shared gardening renovation projects designed for homeowners. The nutrition education program for the students integrates intergenerational learning and interaction with the neighbours, leading to community programming for the park and mall.

An Implementation Plan for Two Real-World Partners

The IwB team designed *Renovate Your Neighbourhood* so that Habitat for Humanity and Evergreen (or other similar organizations) could facilitate these rejuvenation projects by providing communities with the required expertise to undertake construction, land development and gardening projects. The two institutions could also contribute labour and financial support by leveraging their strong volunteer bases, sponsors and experience in fundraising. To assist in the implementation, the IwB team developed a series of modular structures that could be prefabricated and sold by Habitat for Humanity and Evergreen, allowing the two non-profit organizations to generate revenue. These structures are designed around ten and twelve foot square buildings that can become garden sheds, greenhouses, community cafes, single-family or multi-unit homes and apartments. The partnership model for the two institutions also includes a retail co-location strategy. Habitat for Humanity's existing Restores, which sell recycled housing and construction materials, would be paired with a new Greenstore, designed by the IwB team, where Evergreen would sell salvaged gardening materials, plants and tools (Figure 4). The stores would distribute the prefabricated structures and give administrative and promotional support to the *Renovate Your Neighbourhood* program.

Fig. 1: The Renovate Your Neighbourhood Catalogue includes a research summary and implementation plan for the non-profit partners, and detailed renovation projects for communities. Photo by Justin Aitcheson

Fig. 2: A community food network based in local schools spreads over time to homes and parks. Maps by Eunice Lam

Fig. 3: Artist impression of the community café project in a park. Illustration by Sisley Leung

Fig. 4: Greenstore retail plan as shown at the Renovate Your Neighbourhood exhibition. Photo by Angela Lewis

Fig. 5: The Renovate Your Neighbourhood exhibition at George Brown College School of Design, Toronto, June 2009. Photo by Angela Lewis.

Inspiring the Community to Take Action

The success of this proposal hinges on motivating and inspiring communities to implement projects in the catalogue. To launch and sustain *Renovate Your Neighbourhood*, community engagement plans were designed to increase volunteer participation, solicit feedback, include the public in the "renovation" process, and share the results. This includes public events, an advertising campaign for Habitat for Humanity and Evergreen to announce the program and recognize "community champions," and templates for print materials that volunteers could customize to raise awareness. By celebrating success stories with neighbourhood awards and documenting the projects on a central web site, a series of case studies would be available to inspire and inform other communities in their efforts to renovate their neighbourhood. The web site would be an outlet for communities to add new projects under the school, house, park and mall categories.

Renovating the inner suburbs to meet 21st century requirements for sustainability is a challenge, but more significantly, the ways to achieve this objective are not immediately determinable. In the end, the Institute without Boundaries' solution was neither entirely prescriptive nor purely process-oriented. Instead, models were proposed that could be adapted locally and that would allow for change over time. The resulting product describes new ways of living in the suburbs and an alternative design model for producing urban change that connects citizens, NGOs, design resources, community action and interaction with the government, developers, and non-profit organizations.

A final exhibition and catalogue described the overall system of how communities could share local initiatives that lead to incremental and scalable transformation of aging suburbs (Figure 5). The next step is to launch pilot projects, as described in the catalogue, with interested communities in order to gauge the effectiveness of the concepts and the efficacy of the proposed processes. The project has already caught the attention of additional organizations including the United Way, People Plan Toronto and the Toronto Community Foundation.

Acknowledgements

Luigi Ferrara
Director, School of Design and the Institute without Boundaries, George Brown College (Canada)
230 Richmond Street East,
Toronto, Ontario, Canada, M5A 1P4
lferrara@georgebrown.ca

References

Bond, R. (2002). Shopping Centre Parking: How Much is Enough? *The Parker*, 4th Quarter, 202.

City of Toronto. (2007). *City of Toronto Official Plan*. Toronto, Ontario: City of Toronto.

City of Toronto Urban Design. (2007). *Design Guidelines for Greening Surface Parking Lots*. Toronto, Ontario: City of Toronto.

Evergreen (2000). About Us. Retrieved May 19, 2009, from http:// www.evergreen.ca en/about/about.html.

Friendly, A. (2008). *Towards Food Security Policy for Canada's Social Housing Sector*. Ottawa, Ontario: Canadian Policy Research Networks.

Gillham, O and MacLean, A.S. (2002). *The Limitless City*. Washington, DC: Island Press.

Habitat for Humanity (2007). About Habitat. Retrieved May 19, 2009, from http://www.habitat.ca/abouthabitatc1.php.

Hulchanski, D. J. (2008). *Neighbourhood Change in Toronto*. Toronto, Ontario: University of Toronto, Centre of Urban and Community Studies. Retrieved May 1, 2009 from http://www.urbancentre.utoronto.ca/gtuo/.

Institute without Boundaries (2006). *World House Matrix*. Toronto, Ontario: George Brown College, School of Design, Institute without Boundaries. Retrieved May 1, 2009 from: http://www.worldhouse.ca/inhouse/index.html/.

Javed, N. (2009, March 21). Toronto's Mother of all Suburbs, Don Mills. *Toronto Star*.

Lister, N. M. (2007) Placing Food: Toronto's Edible Landscape. In J. Knechtel (ed.), *Food*. (pp. 148–185). Boston, MA: MIT Press.

Toronto Parks, Forestry and Recreation (2007). *Annual Report 2007*. Toronto, Ontario: City of Toronto.

The *Renovate Your Neighbourhood* publication can be downloaded at http://www.worldhouse.ca/re_neighbourhood.

Anna Meroni

Design for services and place development

Interactions and relations as
ways of thinking about places:
the case of periurban areas

Services are a constituent element of urban planning. Nevertheless, a new perspective arises when considering regional contexts, and when considering services as an approach to design and subject matter for design.

The essay presents reflections raised by a group of projects in various parts of the world, conducted by local research partners within the international DESIS Network (Design for Social Innovation and Sustainability) and dealing with agricultural *periurban* territories. These projects are methodologically related to one currently in progress in Milan conducted by the Politecnico di Milano, Slow Food and Università Scienze Gastronomiche, which is expected to generate a scenario of sustainable local food production and consumption for the region.

Service design here aims at introducing a service-driven vision influencing the approach to regional planning, with the objective of strengthening the role of sustainable agriculture by creating a network of services supporting production systems and de-meditating offering and demand. Short food chains, *multifunctionality* of the systems and mutual collaboration between the stakeholders are the concepts framing the project. Fostering social innovation is considered a crucial action, since local creative communities can play a major role as potential engines of change.

The essay discusses the methodological framework through which these projects are conducted, the role of design schools and researching-teaching activities in the factual promotion of this kind of design issue, and a first set of design results of the ongoing projects, making connections among them.

Radical changes in the everyday life of communities

We claim that designing for sustainability with a strategic perspective means facing and promoting radical changes in ways of living (Manzini & Jegou, 2003). This assumption informs the way we use strategic design and design for services to tackle the sustainable development of places and regions.

Design for Services is an essential component of strategic design when the aim is to move from a framework of values and characteristics into specific solutions, and when we need to make manifest possible future behaviours that require new ways of interacting and producing value within a community and its environment. Services in fact exemplify systemic changes at the level of everyday experiences (Meroni & Sangiorgi, forthcoming 2011).

Strategic Design is an approach whose goal is to interpret ongoing situations, where problems are open and ill-defined, tasks unclear, processes experimental and where knowledge is something that emerges step by step, by continuous interactions with other players. Any strategic decision is the consequence of interaction with the environment, its actors, constraints and opportunities and, according to Game Theory the behaviour of players can be driven by the comprehension that favouring the interests of the community can be strategic to favouring one's own interests (Zurlo, 2004 and 2010). Therefore, strategy can result in win-win solutions, where the interests of the individual (a person, a company, an enterprise) can converge with those of the environment and of the collectivity. In compliance with Bateson's concept of ecology (Bateson, 1979), affirming that the minimum unit of survival in evolution is never simply an individual organism, not even a species, but always species-plus-environment, win-win strategies appear to be those with this potential for causing them both to evolve. Any strategy to achieve a radical but successful change must, consequently, consider both eco-efficiency and social behaviour (Brezet & Ehrenfeld, 2001; Vezzoli, 2007) in a brand new approach.

Investigating and promoting social innovation (innovation that moves from emerging behaviours in society) takes us in this direction: by working with innovative social parties, searching for, exploring, observing and involving in the design activity the most pro-active and creative social, economic and productive resources of a context, we believe that we can start a project with a

reasonably good chance of successfully causing a situation to evolve. It is here that social innovation becomes crucial, especially when a project is about communities and territories. We call these emerging social behaviours creative communities, groups of people who creatively organize themselves to obtain a result in ways that are promising steps towards sustainable ways of living and producing (Meroni, 2007), and visionary ventures, meaning enterprises that challenge the conventional ways of doing in the market, in the name of a fairer, more sustainable and valuable production and consumption system. This kind of social innovation is actually prototyping innovative ways of doing that can be seen as a driver for technological and production innovation. The practices they propose combine a high degree of feasibility and an impressive visioning; they have the power of transmitting to us their ideas, feeding our imagination about the future and becoming the source of inspiration for new solutions and services rooted in existing assets. They embody in a positive and fashionable way the contemporary interpretations of jobs which we believe can become the basis of a truly *green economy*: they try the unprecedented with remarkable bravery, they risk, they learn by doing, they apply a trial-and-error approach that is costly and often apparently reckless. They are led by visionary individuals who have been able to gain the support of the community, attracting and motivating people by the strength of their ideas (Manzini, 2007; Leadbeater, 2007; Drayton, 2010) All together, these phenomena of social innovation create a strong pattern of local *changemakers* (Drayton, 2010)who we believe can become the drivers of innovative projects.

Bateson's concept of ecology shows us the profound and vital relationship of a community with its environment, which means for designers two fundamental factors to be investigated: the community's sense of belonging to the (private and public) space, and the relationship that exists between local people and local resources. These two issues are, with different shades of meaning, the focus of investigation for some schools of urban and regional planning around the world (the Scuola Territorialista in Italy; the New Urbanism movement in North America; the INTBAU – International Network for Traditional Building, Architecture & Urbanism in UK) that we like to acknowledge as scientific references when speaking about sustainable place development. They actually affirm that the valorisation of local heritage (environment, urban settlement, culture and society) is the only possible approach to producing the lasting enrichment of an area, because places are the result of a historical co-evolution of human settlement with environment, nature and culture, whereas the functionalistic approach tends to consider the territory as a kind of technical support for activities organised independently from the local means, resources, potentialities and qualities. Therefore, sustainable development not only refers to the reproducibility of natural resources, but also to the way in which urban systems are established; to the coherence of production systems with local resources and entrepreneurship; to the development of capability and self government by local communities. In short, to community sovereignty (Magnaghi 2000).

We take this multilayer definition of "place" as the result of the interaction of the community with the environment and believe that Design for Services, which has recently taken up the debate about regional development (Meroni et al, 2008; Meroni, Simeone & Trapani, 2009; Jégou, 2010) can significantly contribute with conceptual tools to research on these topics. In fact, Service Design looks at the interrelations within a community and at the relations of the community with its territory with a distinctive approach, as we will discuss in this essay.

We also believe that, on one hand, this disciplinary approach can complement those of planners, architects and sociologists and, on the other, it can shape the competences and skills of a new profile of designer.

New generations of designers and new skills

A new generation of designers needs to grow up, be trained to develop new skills and equipped to contribute in solving new kinds of problems that are both systemic and wicked (Manzini in Meroni, 2007; Buchanan, 1992). At the same time, a new generation of entrepreneurs needs to flourish, oriented to the so called *green economy* and commit to jobs that are potentially the engine of this economy, but that ought to be reinvented in the light of contemporary lifestyles.

In the most established design schools all around the world, interdisciplinary curricula oriented to train students to design for services, or to develop a strategic approach to design are flourishing. The Politecnico di Milano has matured over 10 years experience in master level courses in Strategic Design, Product Service System Design and Service Design, being one of the schools pioneering these approaches. We believe that new design profiles should address the abovementioned new design demand, and therefore students can beneficially be challenged with problems of a systemic dimension. And, even more, we believe these students can significantly contribute to "warming up" research thinking in this field, and prototyping tools for intervention in systemic problems. Actually, their involvement can result in a double achievement: practising on real cases helps them to develop awareness towards sustainability and systemic thinking, and approaching these themes in design studios allows teachers to begin exploring new research topics with more freedom and creativity. Therefore, we systematically combine research

and training, setting up design processes where training activities are synergically integrated with action research, and giving students the opportunity to measure themselves with similar topics, in dedicated studios or workshops. This is a unique chance for cultivating in young people an alternative awareness of design and business, where emphasis is laid on the environmental, social and ethical issues of the community, and for testing the preliminary hypothesis of research with initial ideas.

Investigating a community in its own environment means paying primary attention to the ethics and values of the project, so as to orient design actions to make these values tangible and to develop an approach that connects design to human dignity and human rights (Buchanan, 2001). In doing this, a shift from the concept of *User Centred Design* to one of *Community Centred Design* is implied (Meroni, 2008), where understanding behaviours and collaborating with the most active social communities in conceiving and developing solutions (Ogilvy, 2002, Jégou & Manzini, 2008) is the distinctive work of the designer. Community Centred Design refers also to an approach that upgrades the consolidated methods and tools of User Centred Design to the scale of community, in order to understand its behaviours, needs and network of relationships.

As a consequence, this approach requires two kinds of competences: one related to knowledge of the context, the other to creative collaboration with non-designers.

The former results in field immersion, so as to pursue a direct experience of the contexts and develop empathy with the community. It produces a de-mediated knowledge of people and places that leads to empathic design: an approach where designers are pushed to move in real contexts so that projects benefit from the emotions of both users and designers (Leonard & Rayport, 1997). To activate people, to spur them to take action and collaborate in doing things, designers must be aware of the kind of behaviours a community will be willing to take up. Understanding the pivotal assets to rely on in order to design solutions that propose radical changes in everyday life is, thus, as essential as knowing the unexploited assets and unmet needs of a given context. Moving from here, designers can work with local communities to develop scenarios, or hypotheses with some chance of finding the right humus on which they can flourish as future solutions (Ogilvy, 2002).

The latter, which results in designing scenarios for and with local communities, requires the designer to be able to manage collaborative processes and transdisciplinary skills. Helping collaborative design practices to happen, fostering conversations around systemic changes exemplified at the level of everyday experiences, and materializing big shifts in tangible lifestyles and business opportunities are actually some of the peculiar

capabilities that we believe a designer for services today must have (Meroni & Sangiorgi, forthcoming 2011).

A critical context for urban development and food sovereignty

Periurban areas are, today, among major critical contexts in regional development projects: lying between a town and its rural surroundings, they are mainly used for agricultural activities (sometimes sustainable, often conventional), but subject to urban expansion where formerly separate cities and towns merge into vast urbanised zones: the way this comes about is crucial for the sustainable development of a region (Donadieu 2005 Viljoen, 2005). We take them as *metacontexts* (Manzini, Collina & Evans, 2004), that is widely found typologies with analogous characteristics in different contexts. *Periurban* areas are the thresholds where urban and rural dynamics meet, creating unique opportunities (or risks) to improve the quality of everyday life and make a decisive step towards sustainable development. The reflection developed in this essay arises from a cluster of ongoing projects around the world (Milan, Shanghai, New York and Porto Alegre) within the DESIS Network[1] which, notwithstanding the different progress of the work, can be seen to rest on similar bases and hypotheses.

Initial field observation, supported by theoretical and empirical research, led us to recognize the following main needs, resources and design challenges:

Needs and critical factors:
- agriculture is managed through both sustainable and conventional methods: in the absence of alternative and more direct channels of sale, agricultural practices become gradually less profitable year by year (Fleury, 2005; Donadieu 2005)
- the proximity to town is a real threat for these areas, given the unquestionably higher value of urban exploitation compared to agricultural use of the land, in the current mainstream market (Viljoen, 2005; Petrini, 2005) and in the limited perspective of the present day;
- the aging population and the progressive lack of motivation for youth to work as farmers are the reasons for the massive exodus from these areas. This is due to several factors, among which : the meagre profitability of the work; the industrialisation of activities and the "downgrade" of the role of farmer to one of industrial worker; the lack of appeal of agriculture-related professions due to their apparent

---

1 Design for Social Innovation and Sustainability: an international network launched by a group of researchers gravitating around the Politecnico di Milano (http://www.desis-network.org)

obsolescence and inadequate social-recognition in mature economies.
- the overall quality of life in the areas is perceived as low because of the scarcity of services, entertainments, infrastructures, social opportunities.

Resources and local assets:
- sustainable agriculture can become a recognised added value, thanks to the demand for "clean and fair produce" (Petrini 2005) which comes from the city and is usually bigger than the offering;
- proximity to town can be seen as an advantage for these agricultural areas, because of:
1. the ease and convenience of food transportation and delivery to town;
2. the possibility of inventing local tourism formulae connected to agri-culture, taking advantage of easy and fast connections with the city;
3. the opportunity to mix functions and activities so as to complement and match urban ones;
- the quality of the life in these areas is, in terms of health, unquestionably better than in town, because of cleaner and fresher air, vegetation, less noise and pollution, more open spaces;
- the presence of creative communities and visionary ventures, challenging the traditional way of living and producing in urban and rural settings, is noticeable here and has a relatively high impact: the sizable number of initiatives operating in the agricultural field is likely to be due to the application of urban-like creativity (Florida, 2005) to agricultural issues. Actually, the diffusion mechanisms of creativity and activism which are often accelerated in cities and rely on emulation, find in these critical contexts a natural area of application. These kinds of initiative offer a good picture of the lively humus characterizing these contexts, despite scarce support from the Institutions and even the apparent obstructionism of policy against these small actors, to the advantage of big territorial players (agribusiness, builders, big retailers).

Design opportunities and challenges
- to increase the regional self-sufficiency of the food system through various forms of local food sale and de-mediation (Meroni, 2006) of agricultural production. This still remains the most important function of periurban agriculture (Petrini, 2005);
- to foster multifunctionality of systems and differentiation of offering over specialization, in order to increase the economical profitability of enterprises, while enhancing the attractiveness and feasibility of services;
- to conceive new cultural meanings for agricultural jobs by creating added value services and produce,

build over the quality of products, services and activities;
- to strengthen the relationships between rural areas and the city in terms of material, economic and cultural flows, and rationalize then according to a sustainability assessment;
- to invent new forms of agritourism, agriforestry and proximity leisure to take urban inhabitants into the nearby countryside, and to intensify relations between agricultural activities and urban life by imagining new services supporting urban farming;
- to find creative interconnections and new forms of collaboration and synergies between farms and other local activities, so as to save resources and create closed loop systems, connecting inputs and results of rural activities within a logic of service symbiosis (Mirata & Ristola, 2007);
- to implement new communication technology as support for collaborative services (Manzini & Baek, 2009);
- to create an imaginary around the place and its produce: branding products and services in the name of quality and values.

These design challenges, focused on delivering services and relations for a more ecological food production, distribution and consumption, represent the core of the innovation demand expressed by *periurban* areas, and have different specifications in the different geographical contexts.

Approach and method of work
As mentioned, a Design for Services perspective to Place Development shifts the design focus towards the investigation of interactions and relations. In the specific context, these are represented by the network of services supporting the agricultural business and the new forms of de-mediation between offering and demand.

Shortening the food chain, fostering multifunctionality of the systems and implementing collaborative practices are the key concepts in common that shape the design briefing of the projects, which is based on the following hypotheses:

- using local resources to develop a distinctive offering (Mirata & Ristola, 2007; Magnaghi, 2000) and activating collaborative practices of work (Cottam & Leadbeater, 2004) can produce tangible and effective improvements in the quality of life and environment;
- sustaining local collaborative patterns, which involve inhabitants and enterprises, can create the conditions for social innovations to flourish and change settlement models by changing underlying practices (Latouche, 2004);
- supporting social innovation is therefore crucial, be-

cause *creative communities* can play a major role as potential engine of the change. This assumption implies an approach to transformation that, borrowing concepts from Positive Psychology (Seligman & Csikszentmihalyi, 2000; Inghilleri, 2003), relies on and enhances the positive assets of a system or a context in order to produce a change;

• bridging divisions between disciplines, institutions and public, private and voluntary sectors is, today, the most advanced way to innovate in production and particularly in service provision. According to Landry (2000), new forms of alliances have to be set up, while Murray, Caulier-Grice and Mulgan (2010) speak about overlapping fields of the social economy, social entrepreneurship and social enterprise.

Therefore, the method of work currently being experimented starts by observing local assets, goes on to create specific projects shaped by/oriented towards a scenario and ends up with the creation of a network of synergies:

1. *Resources and assets mapping*: finding, analyzing and visualizing the "place capital" (natural + artificial + social) and the relative potentialities.
2. *Social innovation mapping*: finding, describing and representing the local creative communities and their initiatives.
3. *Scenario and solutions design*: co-designing a set of scenarios for the context, exemplified in specific solutions connected to the existent social innovation.
4. *Defining pilot projects*: finding the most promising initiatives and developing ideas about how to replicate them or start up new initiatives using existing assets.
5. *Project networking*: linking projects in a local system, creating mutual connections and relating them to the external environment.
6. *Project communication*: communication of single projects and of the whole scenario.

One crucial point of scenario-building is the connection of the projects into a network organization, or more specifically, the way the different services are connected to support one another and to frame a consistent scenario. The strong sense of community that we have observed in cases of social innovation leads us to assume that the social and relational basis for the network is likely to be the need to enhance actors' perception of a coherent community where everybody (the local "changemakers" – Drayton, 2010) contributes to collective success. This is facilitated when a shared vision confers the network with a sense of identity, claims values, creates trust and orients motivations, actions and strategies (Van Alstyne, 1997). The functional basis for the network is the need to share or complement the various assets and operations of the different activities, so as to make beneficial synergies. As a consequence, three forms of synergy can be investigated:

• Synergies between analogous activities: economies of scale and scope of similar solutions that can benefit from sharing some operations and infrastructure, and creating critical mass.
• Synergies between complementary activities: economies of scale and scope between different solutions which, while delivering different products and services, have many common elements since the outputs of one activity become the inputs of another.
• Synergies between compatible activities: economies of scale and scope between solutions which, when combined, can generate mutual virtuous savings and reinforcement.

Synergies allow collaborative problem solving to happen, meaning that they create the condition for breaking tasks into sub-tasks and sharing them (Van Alstyne, 1997), activating collaborative services (Jégou & Manzini, 2008) and collaborative entrepreneurship (Dayton, 2010). Altogether they outline different scenarios of *Community Supported Agriculture*, where food production, trading, hospitality, leisure, cultural and social activities create a unique mix of functions.

The six-step process here described aims to generate ideas for activities and services based on the creative use of local assets and to establish a direct connection with local creative communities and ventures. We propose that regional planning be informed by these ideas and by the network structure of city and its *periurban* area that they imply. Having said this, we believe that the specific contribution of design for services consists in offering a methodological toolbox to support a new paradigm of urbanisation based on this approach, and in engaging a continuous, strategic dialogue with the community (van der Heijden, 2005; Manzini, Collina & Evans, 2004; Landry, 2000; Kahn et al., 2009).

Ongoing projects

The process presented in the previous paragraph has been applied, in different stages, to the aforementioned projects. While the ones in New York and Porto Alegre are still in the proposal phase, Milano and Shanghai have already developed to a stage that allows more than a few reflections about their outcomes as design and training experiences. For these two contexts the opportunity to share some design thought arises from a couple of applied research projects for the local *periurban* areas: the Agricultural South Park in Milano and Chongming Island in Shanghai.

The process has been reiterated more than once in the two situations, upscaling the substance and impor-

Fig. 1: The network of service models developed for the *periurban* area of the Parco Agricolo Sud di Milano, Italy.

tance of the projects. In fact, in both cases an exten-
sive design experiment has been carried out involving
students[2] in initial self-committed research. A couple
of workshops have created the first scenarios and set of
ideas that enabled the start of a strategic conversation
with prospective partners and interlocutors for projects
with real commitments. From here further profession-
al research steps have recently been taken.

Milano
The Milanese project, in fact, started as methodolog-
ical research, funded by the Italian government[3], and
then evolved into a bigger, more specific project named
"Nutrire Milano. Energie per il Cambiamento" (Feeding
Milano. Energy for change, http://www.nutriremilano.it),
funded by local institutions (Fondazione Cariplo – a
bank foundation- Comune di Milano and Provincia di
Milano). The project was proposed and is now being
developed by a partnership between the Politecnico di
Milano, Slow Food Italia and the Università di Scienze
Gastronomiche. Students' contributions have been in-
tegrated in the process since its beginning, and current-
ly other classes of service design students are partic-
ipating in it: for them the topic has definitely become

2 students of Service Design and Product Service System
Design from the School of Design of the Politecnico di
Milano, and of Politong Master Program – a double de-
gree program between the Politecnico di Milano and the
Politecnico di Torino in Italy, and Tongji University in
Shanghai, China
3 The first commitment for the project came from the PRIN,
Miur, 2006–2007, Italian University and Research Minis-
try, then in 2009 Fondazione Cariplo, Comune di Milano
and Provincia di Milano, have funded the project "Nutrire
Milano. Energie per il Cambiamento" (Feeding Milano.
Energy for change) where the Politecnico di Milano part-
ners with Slow Food Italia and Università di Scienze Ga-
stronomiche.

their chance to face a real context of application, and
for the School of Design a consolidated and recognised
field of work.

The first ideas developed with students have evolved
into a broader scenario built on the principles of di-
rect relations (de-mediation) between producers and
consumers, and collaboration among actors. Eight ser-
vice models, inspired by the existing situation and tak-
ing it a bit further (Meroni, Simeone & Trapani, 2008),
have helped the scenario to materialise into tangible
lifestyles and business opportunities. These include
the Collective Park Brand, the Farmers' Market, Public
Green Procurements, Food Box Subscription, the Vis-
itors' Centres, the Rural Cultural Centre, Horticulture
and Urban indoor/outdoor agriculture (for a detailed
description see: Meroni, Simeone & Trapani, 2009) (fig 1).

This scenario has then laid the basis for the project,
Nutrire Milano, whose pillars are multifunctionality, de-
mediation and collaboration.

The main actions undertaken in this project are:

1. supporting existing best practices and resources in
the agricultural field;
2. activating resources not yet / no longer valorised;
3. creating new services. The project will systematical-
ly implement pilot activities to test and assess ongo-
ing ideas: the local farmers' market is already under
experimentation (http://www.mercatidellaterra.it/
ita/network/milano) (fig.2)

Shanghai
The Chinese project started as a self-committed applied
research project by Studio TAO of TEKTAO[4] and IDEO
Shanghai, and then, by involving Tongji and Politong

4 Studio TAO is a Shanghai based design "think-and-ac-
tion tank" focused on sustainability

Fig. 2: The 'Mercato della Terra' in Milano: the first pilot project launched within the framework of the project Nutrire Milano for the Parco Agricolo Sud di Milano, Italy.

Fig. 3: The five new business ideas developed for the *periurban* Island of Chongmin, Shanghai, China.

university students, it has grown in scope and capability of creating connections with local and international partners. Currently the various seeds of ideas planted by the students have flourished into a comprehensive scenario which joins different services of food production / distribution and local tourism into a network, and proposes a hub (Design Harvests Hub) as a local engine for discussing the scenario with the local community and gradually implementing it. In particular, the workshop with the Politong students[5] has led to a proposed network of five new, creative business ideas dealing with food, agriculture, hospitality, mobility and health, to create an entrepreneurial community in the village of Xian Qiao, in Chongming Island. (fig.3)

Conclusions

The conclusions we would like to draw from the discussion of these experiences fit into two categories: results concerning the disciplinary approach of design for services applied to place development, and the involvement of design school students in similar activities.

The discipline: design for services

- The value of introducing a design for service perspective in place development processes, can therefore be summarized in the distinctive contribution it makes to the following points (Meroni & Sangiorgi, forthcoming 2011):
- Creating convergence: assuming that the key objective of scenario building is to generate convergence among diverse players on a vision for the future (Manzini & Jegou, 2003), design for services can help scenarios "materialise" into concepts and artefacts;
- Supporting design thinking: assuming that today, and more and more in the future, good ideas will come from both amateurs and professionals (Leadbeater, 2008), new approaches are needed to reverse top-down design processes and shape horizontal frameworks of collaboration where innovation is interpreted as a social, cumulative and collaborative activity. Design thinking represents an approach to idea generation and problem solving that both designers and non-designers can develop and apply: Design for Services can create the conditions for it to spread, offering specific tools to help (highly relational and multidisciplinary) co-design processes to target communities of innovators. This leads to

---

5 The workshop was held by Anna Meroni and Lou Yongqi with the support of Miaosen Gong, Clarisa Diaz, Joon Sang Baek and Fang Zhong. Participants: Francesca Carnevale, Chai Zhi, Cheng Shuwen, Antonella Espro, Feng Mengyuan, Marco Grimm, He Xin, Emanuele Laviosa, Li Niaoniao, Li Xiaoyi, Luo Jie, Federico Mighetto, Simona De Rosa, Shen Siyuan, Song Song, Chiara Torti, Giuditta Vendrame, Wang Yun, Zhang Yang, Zhao Lulu

the concept of *community centred design*, where attention shifts from the individual "user" to the community, which replaces the role that was previously reserved for the "user in helping the designer to decode and interpret the emerging design demand;

- Building capacity: assuming that the very essence of designing strategically is enhancing and building capacities in communities and organisations to see problems better, while choosing the right strategies to act (Burns et al., 2006; Meroni, 2008; Zurlo 2010), design for services can contribute by conceiving services that enable new behaviours through the provision of competences and by appealing to people's individual motivations. In fact, social psychology (Seligman & Csikszentmihalyi, 2000) teaches us that the systematic building of competency and skills is a way to prevent problems and facilitate collective wellbeing (Von Hippel, 2005). According to several authors (Parker & Heapy 2006; Zuboff & Maxmin, 2002) a new service enterprise model is emerging which is no longer centred on products or services, but on the provision of "the support" people need to navigate a complex world and to lead their own lives as they wish. Manzini (2007) speaks about "enabling platforms" and "enabling kits" as ways for designers to help people generate their own solutions.

The involvement of design schools

- Cross fertilization: assuming that design for service and design thinking are approaches that largely benefit from transdisciplinarity and extended strategic conversations, the systematic involvement of students becomes a real opportunity for "warming-up" thinking and creating a larger arena for idea generation and discussion. It is, moreover, an opportunity for them to practice systemic thinking, tackle wicked problems, develop and prototype ideas and get in touch with competences other than design.
- Links: for designers, and thus even more for prospective designers, the exercise of conceiving and developing ideas which are mutually interconnected into a local system is a way to experience the complexity of a real context and to trigger a mutual learning process.
- Empathic design: assuming the importance of stepping into the shoes of others in order to understand their positions and become more capable of designing for and with them, the social innovation led approach brings a distinctive value both to education and practice. Pushing students to work as "antennas" of social innovation (Jégou & Meroni, in Meroni, 2007) is a way of training young designers in field work while, at the same time, putting them in touch with extremely motivated groups of visionary, non-professional, designers, who reveal unexpected cre-

ativity, opening the mind and driving one to think-out-of-the-box. We have experienced in students what we have also noticed in our research team, viz. the development of emotional connections and empathy with the context that eventually also stimulate a real sensitiveness towards sustainability.
- New design skills: assuming the need for academics to respond to a new demand for professional design, place development projects offer the chance to build and test a new set of skills for designers dealing with services.

To conclude, we would like to acknowledge that similar research projects are opening to designers, and especially designers working for services, quite a promising area of operation which has been so far territory of architects, urban planners, sociologists and economists. Designers are here bringing to the table a kind of knowledge that is likely to be peculiar and therefore not exclusive of other roles, but instead complementary. This new role is connected to the rising impact of services on the way economies produce value, and to the increasing importance of network technologies as means of self-organisation and distributed creativity. Therefore these research projects are experimenting, in both professional and academic contexts, methods and tools for this new role of the designer.

Anna Meroni
Assistant Professor, Department INDACO,
Politecnico di Milano (Italy),
Via Durando 38/A, 20158 Milano,
anna.meroni@polimi.it

References

Bateson, G. (1979) *Mind and Nature. Necessary Unity*. New York: Bantam Books

Brezet, J.& Ehrenfeld, S. (2001) *The development of eco-efficient services*. Suspronet. working paper.

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

Buchanan, R. (2001). Human Dignity and Human Rights: Thoughts on the Principles of Human-Centered Design. *Design Issues*, 17(3). Summer. pp.35–39.

Donadieu, P. (2005). *Campaignes urbaines*. France: Ecole nationale superieure du paysage Ed.

Drayton, B. (2010). Tipping the world: The power of collaborative entrepreneurship. *What Matters.* McKinsey & Company. April 8. [available at: http://whatmatters.mckinseydigital.com/social_entrepreneurs/tipping-the-world-the-power-of-collaborative-entrepreneurship]

Fleury, A. (ed). (2005). L'agriculture périurbaine. *Les Cahiers de la multifonctionnalité*. No. 8.

Florida R. (2005). *Cities and the creative class*. New York: Routledge

Halpin, H. & Summer, K. (2008). Network organizations for the 21st century, *Turbulence. Ideas for movements*. Number 4, July. pp. 55–63 [available at: http://turbulence.org.uk/turbulence-4/network-organisation-for-the-21st-century]

Inghilleri P. (2003). La ″ buona vita ″. Per l'uso creativo degli oggetti nella società dell'abbondanza. Milano: Guerini e Associati

Jégou, F. (2010) Social innovations and regional acupuncture towards sustainability. Paper presented at the 2010 International Conference on Green Zhuzhou /Hunan, May 21–22

Jégou, F. & Manzini, E. (2008). *Collaborative services: social innovation and design for sustainability*. Milan: Edizioni Polidesign [available at: www.sustainable-everyday.net]

Kahn, L., Ali R.; Buonfino, A.; Leadbeater, C. & Mulgan G. (2009). *Breakthrough cities: how cities can mobilise creativity and knowledge to tackle compelling social challenges*. London: British Council and the Young Foundation. [available at: http://creativecities.britishcouncil.org/files/data/exploratory/Breakthrough%20cities%20report.pdf].

Landry C. (2000). The Creative City. A Toolkit for Urban Innovators. London: Earthscan

Latouche S. (2004). *Survivre au développement*, Paris: Mille et un nuits

Leadbeater C. (2007) Social enterprise and social innovation: Strategies for the next ten years, A social enterprise think piece for the Office of the Third Sector, Cabinet Office, Office of the Third Sector, UK. [available at: www.charlesleadbeater.net/cms/xstandard/social_enterprise_innovation.pdf]

Leadbeater, C. (2008). *We Think: The Power of Mass Creativity*. London: Profile Books LTD.

Leonard, D. and Rayport, J. (1997). Spark Innovation Through Empathic Design. *Harvard Business Review*, November-December. pp. 102–113

Leonard, D. & Rayport, J. (1997). Spark Innovation Through Empathic Design. *Harvard Business Review*, November-December. pp. 102–113.

Magnaghi, A. (2000). *Il progetto locale.* Torino: Bollati Boringhieri

Manzini, E.& Jegou, F. (2003) *Sustainable everyday: scenarios of Urban Life.* Milano: Edizioni Ambiente

Manzini, E.; Collina, L.& Evans, S. (eds) (2004). *Solution oriented partnership: how to design industrialised sustainable solutions*. Cranfield: Cranfield University

Manzini, E.& Meroni, A. (2007). Emerging User Demands for Sustainable Solutions, EMUDE. in Ralf, M. (Ed) *Design Research Now: Essays and Selected Projects*. Basel: Birkhäuser

Manzini, E. (2007). Design Research for Sustainable Social Innovation, . in Ralf, M. (Ed) *Design Research Now: Essays and Selected Projects*. Basel: Birkhäuser

Meroni, A. (2006). Food de-intermediation. Strategic Design for the creation of transparent food networks. in: Salmi E. & Anusionwu L. (Eds) *Cumulus Working Papers: Nantes*. Helsinki: University of Art and Design

Meroni, A. (ed.). (2007) *Creative Communities. People inventing sustainable ways of living*, Milano: Edizioni Polidesign [available at www.sustainable-everyday.net]

Meroni, A. (2008). Strategic design: where are we now? Reflection around the foundations of a recent discipline. *Strategic Design Research Journal*, 1(1), July–December. pp. 31–38, [available at: www.unisinos.br/sdrj/]

Meroni, A. & Sangiorgi, D. (forthcoming 2011). *Design for Services*. Aldershot, UK: forthcoming for Gower Publishing.

Meroni, A.; Simeone G. & Trapani P. (2008). A vision of an urban countryside. Service Design as a contribution to the *rururban* planning. in Cipolla, C. & Peruccio, P.P. (Eds.) (2008). *Changing the Change: proceedings. Changing the Change. Visions, Proposals and Tools*. Turin 10–12 July

2008. Torino: Umberto Allemandi & C. Editore, [available at www.allemandi.com/cp/ctc]

Meroni, A.; Simeone, G. & Trapani P. (2009). Servizi per le reti agroalimentari. Il Design dei Servizi come contributo alla progettazione delle aree agricole periurbane. in Ferraresi, G. (ed.) *Produrre e scambiare valore territoriale: dalla città diffusa allo scenario di forma urbis et agri*. Firenze: Alinea Editrice

Murray R.; Caulier-Grice J. & Mulgan G. (2010). *The open book of social innovation*. London: NESTA – Young Foundation, on line publication [available at: www.nesta.org.uk/publications/reports/assets/features/the_open_book_of_social_innovation]

Ogilvy, J. (2002). Creating better futures: Scenario Planning As a Tool for A Better Tomorrow. New York: Oxford University Press.

Parker, S. & Heapy, J. (2006). The Journey to the Interface. How public service design can connect users to reform. London: Demos.

Petrini, C. (2005). *Buono, pulito e giusto*. Torino: Einaudi.

Seligman, M. E. P., & Csikszentmihalyi M. (2000). Positive psychology: An introduction. *American Psychologist*, (55) pp *5–14*.

Van Alstyne, M. (1997), The State of Network Organization: A Survey in Three Frameworks. *Journal of Organizational Computing and Electronic Commerce*, 7 (2 & 3) June. pp. 83–151

Vezzoli, C.(2007). *System Design for Sustainability*, Rimini: Maggioli Editore

Viljoen, A. (ed.). 2005. Continuous Productive Urban Landscapes: Designing Urban Agriculture for Sustainable Cities. UK: Elsevier.

Von Hippel, E. (2005). *Democratizing Innovation*. Cambridge MA: The MIT Press.

Zuboff, S. & Maxmin J. (2002). The Support Economy: Why Corporations Are Failing Individuals and the Next Episode of Capitalism. New York: Penguin Books.

Zurlo, F. (2004) Della relazione fra strategia e design: note critiche. In Bertola P.& Manzini E. (edited by) *Design Multiverso: appunti di fenomenologia del design*. Milano: Edizioni Polidesign

Zurlo, F. (2010). Design Strategico, in: Various Authors. *Gli spazi e le arti*. Volume IV:XXI Secolo. Roma: Enciclopedia Treccani.

Ulla Johansson, Maria Nyström,
Henning Eklund and Jill Woodilla

Reality Studios

A Combined Device for Education,
Research & Social Change

Abstract

A "Reality Studio" is a pedagogical device for design & architect students making their thesis work in a real life project in Africa. The studios have been practiced in collaboration with Maseno University in Kisumu since 2005 and in other parts of Eastern Africa since the end of 1970s. The focus is on everyday life and sustainable urban development and uses a trans-disciplinary approach. The studio is based on a longer field study, and builds upon the intensification, development and implementation of small-scale design, which is more adaptable to local situations, thus lowering the threshold towards reaching sustainable development. It is, as the name indicates, both a pedagogical model and a way of accomplishing change in real life. It also blurs the lines between education and research.

The "Reality Studio" resembles Business and Design Lab's (BDL) approach to education, research and development and what is so far has been labeled a "Workshop semester". The workshop semester also deals with real life projects, though mainly for designers and management students rather than architects and has so far been conducted in Sweden[1].

Both Reality Studio (RS) and Workshop semester (WS) are interested in blurring the lines between their different activities. Both aim to work with ethical dimensions and a sustainability perspective – and both work with different sorts of creative experiential approach in master courses and Ph.D. education. We now want to merge these two names as well as the activities and find a joint platform.

In this paper we want to conceptualize and narrate the concept Reality Studios, and make clear what we mean by that. We also want to make a theoretical po-

sitioning versus action research as well as collaborative research.

The concept Reality Studios
– its history and context

The Reality Studio has its history at Lund University, Architecture and Development Studies (Ark3) where the pedagogy was developed in the 1960s. The late Professor Torvald Åkesson introduced the philosophy and the studios abroad, and in 1967 studios with field studies started in developing countries, first in Tanzania, then continuing in several countries in East Africa.

The concept "Reality Studio" comes from Professor Maria Nyström, first at Lund University and now a professor at Chalmers and HDK/University of Gothenburg (GU), who further developed the studios in Kenya where they have now existed for 5–6 years. The Reality Studio runs annually and is well-known within the Kisumu Municipality, Maseno University, and other related organizations.

"Reality Studio" consist of a group of students (15–25) from different nationalities and subjects (so far mainly from architecture, planning and design) working on their master's project or thesis. The group forms a fictitious creative architecture studio within the Department of Architecture, Chalmers University of Technology. It is a full-semester project based on a two-month field study in East Africa (mainly Kenya and Tanzania) and deals with questions about development from architecture-, urban planning- and design perspectives. The label "Reality Studio" conveys some of the aims for the students' work: that it should contribute to real life changes for the people where the studios are set up, to date mainly around Kisumu, Kenya, where an ongoing cooperation, since two years, exists with Maseno University. One aim is to contribute to specific improvements in everyday life; another is to continually work with a sustainability framework. These conditions place the Reality Studio in the border between education, development work, action research, entrepreneurship, and sustainability work. The combination of education, research, and real changes is a significant part of the Reality Studio and what attracts students. The collaboration between Chalmers and Maseno University also implies that students and teachers from both universities have the opportunity to participate in the studio and thereby Reality Studio also involve building and development of networks on different lev-

---

1 However, already in autumn 2010 one group within the workshop semester of Business and Design will be a reality studio in Kisumo, thereby for the first time blending the concepts…

els between students, teachers and the universities as a whole.

The Reality Studio takes its departure from the current urbanisation processes, with the vision to increase health and enrich the quality of everyday life on Earth. The immediate goal is to find new design and planning strategies for urban areas, villages, neighbourhoods, and for the built environment in general and architectural conservation and transformation. Because sustainable development is a global issue that needs to be managed with care in each locality, each site needs careful analysis and locally specific solutions. But these sites also face problems that they share with many other cities of the world, such as threatened cultural identity and increased tourism, population growth and poverty, urban expansion, pressure on resources, climate change, declining markets and growing slums.

A basis for the Reality Studio is the belief that we need new strategies for urban design and planning that can meet the challenges of fast growing mid-sized cities of developing countries. Such areas are complex, with conflicting interests of various groups and the interaction of social, cultural ecological, technical and economic pressures; thus strategies involve an integrated systems design approach to urban development, taking into account various preconditions and including a long-term perspective on resource-efficient urban management. We need to mobilise expertise from different sectors of society in a trans-disciplinary knowledge development processes placed in real world urban development. Points of departure are social-cultural transformations in the everyday lives of people as well as architectural conservation and transformation of the existing built environment, organisations, and enterprises. Such processes have to be understood, designed, and facilitated in ways that promote the integration of relevant leading-edge scientific knowledge with place-specific experience-based knowledge. The design disciplines, such as architecture and design, use a problem-oriented and synthesizing approach that addresses and communicates the increasing complexity that designers, architects, planners, managers, politicians and others must cope with in society.

Reality Studios are simultaneously student projects at the master level and "real projects" where the students act as consultants and researchers to improve the quality of daily life. The key concept is mutual learning and the Reality Studio becomes a capacity-building project for the students, teachers and the local partners. Two important pedagogical goals are to make the students aware of the social context of their future work and to make them capable of analyzing that context as a necessary point of departure for their work.

The students are taught to use research methods for systematic investigations, to formulate questions and define problems to solve. Project design is central and the students are trained to develop their own projects through interaction with local stakeholders. The design project must in some way support and improve the everyday life of the local people. However, the project/product should also be realisable without any extra resources (material and human) from the outside; the resources used should be found in the local context. Accordingly, the field studies have the following stages:

1. "Read and Discover," which is a systems thinking survey of the local situation and context from micro to macro levels,
2. Project Area Definition (PAD), including strategy and programme design,
3. Project Design, formulating the issues of study and their boundaries, and
4. Exhibition and Communication. The concluding exhibition and communication with local people serves as an input to the final stage
5. proposed design solutions, the elaboration of conditions necessary for the successful survival of the design solution, and reports and projects at the home university.

We believe that students as a group have important roles in defining and starting projects that lead to development of future research projects. We also believe that students constitute one important target group for capacity building. First, they are a resource for data collection, idea generation, and communication with local people. Second, student projects have proved to be useful "neutral" tools for communication between researchers and practitioners, experts and laymen. Third, students are the practitioners and leaders of the near future and, as such, the best disseminators of research results and normative guidelines for practice. With the approach that programs for higher education should be experience-based learning, students can play important roles in the development and implementation of locally grounded vision, policies, strategies, and action plans for sustainable urban development. Moreover, through increased options for continuing education and support of networking activities, these young future practitioners play significant roles in a longer-term perspective on urban development.

The workshop semester in Business & Design – history and context

The workshop semester in Business & Design Lab (BDL) is, compared with the Reality Studio, a new phenomenon. The planning of a 2 year master program in Business and Design started in 2007, the first students were accepted in 2008 and the first graduation took place in June 2010. The master program is part of a broad-

er investment in cooperation in research, education and cooperation with the surrounding society, between School of Design and Crafts (HDK) and School of Business, Economics and Law that started in 2006. The idea behind had been discussed by the deans and other people in a couple of years and could be described as follows: We want to create an education that blurs the lines between design and management but also between research, education and practice (defined as what is outside Academia).

This master in Business & Design within University of Gothenburg belongs to a stream of universities that the last years have started courses and/or programs where students with different backgrounds in design, business and technology can study in an interdisciplinary and integrated manner. The most renowned one, the D-school at Stanford University, has only short courses where students combine training in design methods with their basic subjects, up to a maximum of 1-year. Students at the IBDM-program at Aalto University Helsinki combine studies in technology, business administration and design with a common project as a part of their master exam. As far as we know, to now there is only IDBM and Business & Design Lab (BDL) that has a cohesive and 2-year master program with a common exam at an advanced level open to students from various disciplines.

The Business & Design master program is designed for students and professionals with different educational backgrounds but a common interest in working strategically with design. Every year about 10 students with design background and 10 students with management background are accepted. About 4–5 students with great interest and relevant background in other subjects (like communication, engineering etc) are also accepted. The students start with a specific background and what happens during the 2 year program is that they both confirm and broaden their capacity into an individually formed blending. They all learn "design thinking" but they do not all of them design any artifacts or sketches – even if they all get familiar with the design tools and process for problem solving.

The first year of the program consists of a number of shorter courses that cover different areas in the intersection of design and management: Design and society, Design and accounting, Design and marketing (with focus on branding), Design strategy and innovation (including service design). The students also read introductory courses like "Design for non-designers" and "Management for non management students" as well as a course in research and philosophy. In the end of the first year they have a 10 weeks course with applied integrated work in groups. Then they act like consultancies for a company or a community with the difference that they do have more freedom and are able to be more critical than most consultants do have.

The second year has only two courses. The first one is the "workshop semester" that resembles the Reality Studio and the second one is the thesis work – that often is a continuation and theoretical reflection around the work done in the workshop semester. The workshop semester runs in close co-operation with the regional trade and business companies and organizations. In the course, students cope with different roles (as design students, management students etc.) as well as their individual profile of knowledge's and interest. They contribute with their various expertises.

The program is manned by teachers from the two schools together with professionals from surrounding companies and other organizations. All are very enthusiastic and devoted to the idea of an integrated program.

The primary purpose of the program is to prepare the students for careers in the arenas of business development, marketing, branding, and product and service development on a strategic as well as on an operational level. More specifically, they will also use design and design thinking as instruments in these endeavours and be able to work with different people, perspectives, and interests throughout the process. This includes the ability to use innovative and creative thinking combined with the capacity for a down-to-earth implementation of ideas and a readiness to continuously acquire and apply new knowledge.

The Business & Design master program foster aimed-for attitudes and behaviours through pedagogy of problem-based learning (PBL) (Savin-Baden & Howell Major 2004). Students formulate questions, problems or cases to explore in connection with different subject areas or topics in order to learn, but also to produce new knowledge. They work in small groups consisting of representatives from the different disciplines. The role of the faculty in this PBL setting is to facilitate this exploring process rather than to teach a certain amount and a certain kind of knowledge and to dissolve the borders between teaching and practice. In other words, to form all learning processes around common activities.

The most central part in the program is a vivid co-operation with the external environment working with open cases and problems anchored in current needs. This entails lots of opportunities and interesting works but also a lack of control. (Opposite to the Harvard method with well defined old cases, well-controlled but also with a high risk of just re-cycling earlier knowledge). Earlier experience shows that it is important to take measures to avoid some particular problems which can show up during such operations.

An important feature of the program has been to get organizations or companies that are interested in acting as real partners for the program. In order to get a group of students to work with them they must act as if the students were their own paid consultancies – only

with the difference that the students are not obliged to follow all the restrictions normally given to consultants. Here, the students can act more freely and stretch their capacity to create a more visionary solution. Yet they learn how to act in a real case situation. The aim is that the students should get experiences from a working process and knowledge about how to use and stretch their own capacity at the same time.

The first examination and presentation of the final thesis work from the students took place only a week before this paper was written. It was obvious that neither the problematization nor the suggested solutions could have been created if the group had not had access to both management and design knowledge and insights. The students have through the program learnt how to improve their ability to communicate and to take advantage of each another's expertise.

Interesting is also that the projects not only span between design and management, but also between quite diverse industries (from Volvo AB to small companies) but also between commercial companies and local communities.

Conceptualizing the similarities between the two concepts

We see three different levels within both of these student projects (RS and WS), that partly overlap and in different ways support and benefit to each other. The methods, content and lay-out of the projects are not the same but have several key-elements in common. By fusing the projects together (partly or as a whole), we are convinced that the possibilities for achieving a more grounded and at the same time dynamic knowledge base within the two projects, will be greater and that the results thereby will have more impact and relevance to the actual stakeholders and the problem areas in general. The different levels are education, research and practice, and the key-elements that to a great part will constitute the association between the projects are described and discussed below.

In academic, research and education are intertwined. Few people would deny such a statement. However, the relation between education and research is mostly thought of – and practiced – as one where the result of research is presented to other academics or to students. The espoused model for master education is for the researcher to present his or her own results to students. In practice, this model is infrequently realized; at best professors use results from the work of colleagues or published in academic sources. If the education is restricted to what is already known through research, the effect will be limited and irrelevant education.

The structure of learning in RS as well as in WS implies that the students need to orient themselves in "the reality" (real world projects). The basis and start of the projects starts is the student's active participating in

the defining and formulation of a problem area, in other words the pre-design process of the project constitutes an important part of the learning- and project-process. This initial phase of the project is conducted in close contact and cooperation with the company or organization connected to the project. In most cases, this approach makes the stated issues and produced knowledge up to date, meaningful and useful. It also gives an incitement for the students, teachers and involved organizations to build further on previous work.

Many problems in both the management and design areas are of a kind that yield quite diverse knowledge depending on whether the research starts from an analysis of academic perspectives or whether it starts by listening to what is said and practiced in the market and reflecting on that. Reflexions, defined by Alvesson and Sköldberg (2007) as a matter of stepping back and critically analyzing one's own interpretations of the situation or text, are probably one of the most important characteristics for research in the emerging area of design management and the design area as a whole. Building on this idea, we believe that intellectual dialogue and cooperation between academia and the world of practice should take place at all levels, between students, teachers and researchers, and everyone should be seen as resources in the exploration of the design possibilities for organizational and societal change.

Both of the projects take departure in problem-based learning (PBL). These are projects where the students work and study in close connection with an existing organization or on a societal level in Sweden or abroad. The purpose is to, under supervision; make use and test abilities and theories. The work of the students result in a direct application "in reality" on the basis of previously acquired skills, theories and information. For the students this seems to lead to a more active definition of one's own professional role and thereby wider conceptions of possible areas for future work. This is also further emphasized by the studio set up, with students from different backgrounds and educations forming project groups, practicing and experiencing group dynamics, project management etc. One interesting observation with this project set up is also that the students seem to a larger extent be more aware of the time component in more complex project work, in other words consciousness about how to handle short-term and long-term solutions and the connection between them.

Conceptualizing the differences towards action research and collaborative research

Collaborative research is characterized by a close and ongoing dialogue with the companies. In that way we are entering a dialogue with the companies and communities that we collaborate with in the workshop semester. We are already in the phase of planning the third workshop semester and find ourselves in a situ-

The propeller metaphor Source: Malbert, B. 2008

ation with a dialogue with a number of potential organizations – some of them might be selected for a workshop semester others might be better for the applied work of 10 weeks in the springtime. Further more might find that they can be partners in research projects or participants in single courses or workshops arranged by Business & Design Lab. The ongoing conversation that can result if different actions initiated either by the company or the university makes the workshop semester resemble collaborative research.

However, in collaborative research there is often a distance between the researcher who takes care of the material and information in their own way. This is something that differ collaborative research from the tradition of action research where the researcher mostly is engaged in an organizational change or societal change that he or she aims at.

Regarding these two characteristics Reality Studio are definitely more of action research while the workshop semester so far could be either or. Also, as said before, both the workshop semester and the reality studios are a combination between education and research.

Summary

Management studies and design studies do have quite different traditions and it is not easy to make a joint master program with multidisciplinary groups consisting of both design and management students. An interesting way of such multidisciplinary groups is the so called "Reality Studios" developed during a number of years and the "workshop semester" than has been developed the last years at University of Gothenburg.

Both programs let the students start with defining real problems in an organization (Workshop semester) or a life context (Reality Studio). In both cases the formulation of the problem is as essential as the solution presented (that in turn of course depends on how the problem is formulated).

Ulla Johansson Professor
HDK -University of Gothenburg, Sweden
ulla.johansson@gri.gu.se

Maria Nyström Professor
HDK -University of Gothenburg, Sweden
maria.nystrom@hdk.gu.se

References

Forray, J. & Woodilla, J. (2009). Developing Worldview as a learning objective. *Journal of International Business Education*, 4, 251–268.

Johansson, U. (2006a). *Design som utvecklingskraft: En utvärdering av regeringens designsatsning 2003–2005.* Växjö: Växjö University Press.

Johansson, U. (Ed.). (2006b). *Design som utvecklingskraft II. Fem uppsatser om utvalda projekt från regeringens designsatsning 2003–2005*. Växjö University Press.

Normann, R. (1977). *Management for growth.* New York: Wiley

Nyström , M. (2002). *Making – Research*. In Nordic Journal of Architectural Research 2002:4.

Nyström.M and Selin Lindgren. E. (2006). *Sustainable Urban Development – a Research Agenda for Africa,* SIDA2131, Sarec, Stockholm, Sweden

Rylander, A. (2009). Design thinking as knowledge work: Epistemological foundations and practical implications. *Design Management Journal, 4*(1), 7–19.

Sveiby, Karl-Erik (1994). Towards a knowledge perspective on organisation. Stockholm: Univ

Verganti, R. (2009). *Design-driven innovation*. Boston, MA: Harvard Business Press.

von Busch, O. (2009). *Becoming fashion-able: Hactivism and engaged fashion design*. Gothenburg: Camino.

Penny Herscovitch, Dan Gottlieb,
Liliana Becerra, Mariana Amatullo,
and David Mocarski

Safe Agua

A Collaboration between
Un Techo Para mi País and Art
Center College of Design

Themes: Sustainability & Social Innovation
Keywords: social innovation; sustainable development;
poverty alleviation; water access; BOP markets; so-
cial entrepreneurship

Abstract

This panel discussion brings together the lead creative
team of Safe Agua, a social innovation collaboration be-
tween Designmatters at Art Center College of Design
and Chilean NGO *Un Techo Para mi Pais* (Un Techo).
This unique combination of design education, design
research, and social entrepreneurship aims to help fam-
ilies in Chile's campamentos (slums) break the cycle of
poverty by developing new products and systems of
storing, utilizing, transporting, and conserving water.
Un Techo is run by university students and young pro-
fessionals dedicated to eradicating poverty throughout
Latin America via social inclusion processes and hous-
ing solutions. The partnership between its Innovation
Center and Designmatters, Art Center's social impact
department, provided a multidisciplinary team of fac-
ulty and students the opportunity to conduct field re-
search with families living in Santiago's campamentos.
Art Center students then designed innovative solutions
at a range of scales – from product to system, to com-
munity spaces to campaign – to address specific wa-
ter-related needs identified through that research. Six
prototypes are currently in various stages of testing,
in preparation for real world implementation. Projects
such as Safe Agua are changing design education by
integrating dynamic social entrepreneurship and com-
munity activism to realize a more sustainable future.

Introduction

In both their pursuit and execution, projects such as
Safe Agua reveal the future of design education in a
brilliant new light.

Led by the Department of Environmental Design
under the aegis of Designmatters, Art Center's social
impact department,[1] Safe Agua brought together stu-
dents from five majors (Environmental Design, Product
Design, Graphic Design, Transportation Design, and
Graduate Broadcast Cinema)[2] under three faculty mem-
bers: Penny Herscovitch and Dan Gottlieb (Environ-
mental Design), and Liliana Becerra (Product Design).

The result of a Designmatters partnership initiated
in 2008 with the nonprofit group *Un Techo Para Chile*
and its umbrella organization, *Un Techo Para mi País*
(Un Techo), Safe Agua addresses the quotidian chal-
lenges of safe water access for the families of Campa-
mento San José, one of the transitional slum develop-
ments on the outskirts of Santiago, Chile. Felipe Berrios,
a Jesuit priest who also happens to be a social entre-
preneur, founded Un Techo, which translates as "A Roof
for my Country," in 1997. Berrios set about to improve
conditions of poverty in Chile's slum communities with
a sustainable and inclusive model for housing and de-
velopment that has produced outstanding results in ad-
dressing systemic poverty by flattening social barriers
and discarding an "us versus them" view of the world.
Embracing the motto, "Youth building a Latin America
without poverty," the best and brightest university stu-
dents were mobilized to volunteer and meet the needs
of slum residents by building transitional housing as
the first stage of a comprehensive program integrating
a series of long-term skill development services focus-
ing on empowering individuals, families, and communi-
ties to take charge of their own future. Today, Un Techo
serves 15 countries throughout Latin America, recruit-
ing young professionals and university volunteers to
assist over 200 million people living in extreme poverty.[3]

Un Techo's model is fundamentally not about par-
achuting handouts of aid, but connecting often divid-
ed sectors of society, and ultimately building the com-
mitment necessary for a more humane and prosper-
ous outlook for all. As first articulated by Berrios, this
mission is aligned with prevailing views in sustainable
development best practices, which argue for proactive
and co-participatory creative problem-solving models
across boundaries to tackle environmental and social
challenges. It is a transformative agenda for collabora-

tive social change that also resonates with contemporary organizational learning theories, including that of MIT scientist Peter Senge:

> *"The vast changes required for creating a regenerative society…will require inspiration, aspiration, imagination, patience, perseverance, and no small amount of humility. They will require networks of committed people and organizations who not only learn how to see systems shaping how things work now, but also create alternatives."* [4]

The Safe Agua collaboration is a key exemplar of the national and international alliances brokered by Designmatters that enrich the educational curricula with meaningful outside engagement in order to promote cross-pollination of expertise, new forms of knowledge, and an immersive and experiential learning process that allows students to develop tangible, "real-world" outcomes.[5] The project also reflects a socially ambitious approach to contemporary pedagogy that is redefining the role of artists and designers as potent catalysts for social innovation. With a critical shift toward ethical design gaining momentum, projects such as Safe Agua demonstrate how design schools have the unique opportunity to become vital laboratories for best practices in human-centered research and creative engagement, and play a critical role in shaping a more equitable society.[6]

As the ensuing sections of this paper attest, the extensive field research undertaken at the inception of the project was a paramount in gaining a richer understanding of the project's challenges and opportunities. This immersion allowed the students to gain experience with the community and make personal emotional connections that proved instrumental not only in their understanding of the depth of their creative process, but also in their ability to integrate design, business, and culture factors into their proposals. Both the research methodologies and initial outcomes of the project, as presented herein, clearly stand at the opposite spectrum from utopian, "blue sky" and style-driven design briefs. In seeking opportunities to improve the quality of these families' lives through design, the rigor and constraints of the field research and the multilayered community interactions together stand out as a foundational stepping-stone for the Safe Agua student teams.

Design Challenge

Safe Agua is a unique combination of design education, design research, and social entrepreneurship. Such projects are changing design education and the design process itself to integrate field research as the driving component. Beyond responding to a preconceived design brief, students now are learning how to identify design opportunities and evaluate their largest potential impacts.

Our team of teachers, students, and nonprofit partners integrated multiple professional backgrounds and design disciplines. This new model deeply connects people across cultures and forges alliances across borders.

Our design challenge began by asking the question: How can we work with impoverished communities (campamentos)[7] in Santiago to develop new tools for using, storing, and transporting water in order to help families overcome the conditions of poverty?

> *"We are designing real, actionable solutions to help improve the daily lives of people living in the campamentos. This is a serious challenge to create real social change. Social entrepreneurship is not about charity, it is about reaching out to others, addressing real problems in their lives, and empowering them to bring about the change they desire." – Jacqueline Black, Product Design student*

The Context: Water in Campamento San José, Santiago, Chile

Globally, 1.1 billion people[8] do not have access to safe, clean water for drinking and daily use. The challenge in Campamento San José is not the absolute lack of water, but rather the physical and mental burden of living without running water. It is easy for people who have running water to take it for granted. We bend water to flow through our lives – it appears at the turn of a knob and disappears down the drain. In the campamentos, people bend their lives to accommodate the realities of water.[9] [10]

Families in Campamento San José receive water from a municipal truck one to three times per week. They live with the uncertainty of whether or not the water truck will arrive. When the water is delivered, they store it in barrels outside their homes.[11] Without running water, women must hand carry water for each daily task. Bathing becomes an arduous chore rather than a relief; laundry can take a full day of physical labor; and a glass of water can make a child sick. These perpetual burdens consume people's time, diminish their quality of life, impact health and dignity, and become an obstacle to earning a stable income and overcoming poverty.

> *"In many countries, the water problem is the primary reason people are unable to rise out of poverty. When used properly, nothing drives growth and eliminates poverty more effectively than water."–Blue Planet Run*[12]

Field Research

In order to understand and gain insight into another culture and ultimately identify design opportunities to help families overcome the conditions of poverty, we established different strategies and methodologies to gain empathy and to guide the students throughout the research phase.

Exercise in Empathy: A Day Without Taps

We believe that at the root of all design is empathy. Therefore, one of our initial goals in the research process was seeking to understand people whose lives differ in many ways from our own. Establishing personal connections between students and families shifted our process from designing *for* people to designing *with* people.

For many of us, this was the first time we visited families of lower socioeconomic status, and likewise our first experience living without running water. One of the things we take for granted is convenient, unlimited water from plumbing and faucets, yet the communities we worked with in the slums of Santiago only have water delivered (as infrequently as once a week) by truck.

To better understand this limitation, we conducted an empathy exercise called "A Day Without Taps." The Designmatters team in California and our partners from Un Techo, in Chile, participated in this exercise togeth-er, helping us bond as a group and setting the tone for a truly collaborative project.
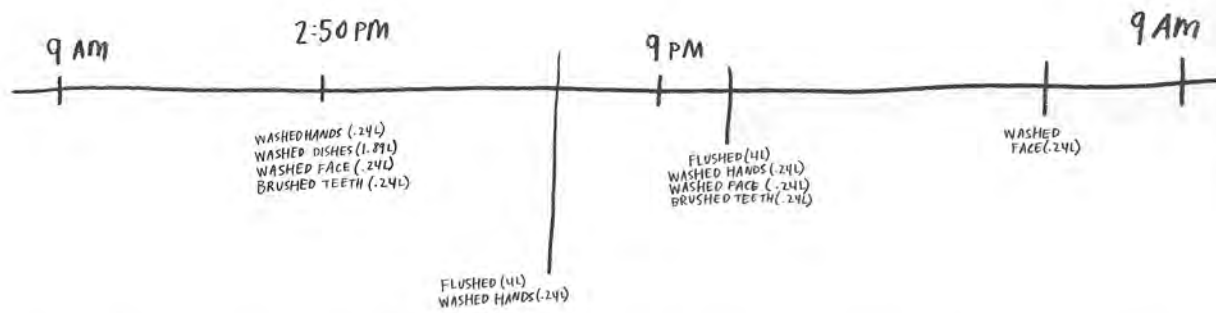
In order to experience the challenges that families living in the slums face on a regular basis, each student and instructor lived for a day using only five gallons of water, taken either from our nearest hose or from a previously filled five-gallon (19-liter) container – the average amount of water that a family in Africa consumes each day.[13] We committed ourselves to use that limited water for all our daily activities (bathe, brush our teeth, cook, wash, drink, flush toilet, etc.).

We each kept a detailed visual journal of our Day Without Taps, documenting with photos, sketches, reflections, and questions. We noted how many liters of water we used for each activity, and whenever possible we consulted our water bill to compare how much we otherwise use on average. We often found ourselves changing our behaviors to cope with the challenge: skipping showers, postponing laundry, and coming up with different solutions to carry, store, and filter water.

Once we arrived in the slums of Santiago, we realized that as useful as this exercise in empathy was, our experience of a Day Without Taps was nothing compared to the challenges people in the campamentos had to confront every day.

WATER DIARY:
ELIZABETH BAYNE
8-15-2009

TOTAL WATER USE:
12 LITERS

9 AM · 2:50 PM · 9 PM · 9 AM

WASHED HANDS (.24L)
WASHED DISHES (1.89L)
WASHED FACE (.24L)
BRUSHED TEETH (.24L)

FLUSHED (4L)
WASHED HANDS (.24L)

FLUSHED (4L)
WASHED HANDS (.24L)
WASHED FACE (.24L)
BRUSHED TEETH (.24L)

WASHED FACE (.24L)

Research Methodology Cards

In order to prepare ourselves for the field research, we created a tool kit of methodology cards specifically targeting our project objectives. We drew input and inspiration from different design research sources and methodologies, including IDEO's method cards and their Human Centered Design (HCD) tool kit,[14] and also from our own professional background and experience in the field of design research and insights.[15]

The tool kit was fundamental for directing the focus of the field research. It provided our students with the confidence and structure to navigate a completely new territory. It also changed the traditional model of design education by introducing field research as a key component of the design process.

The set of six cards defined the outline of the research. Each card featured one research topic and posed its fundamental questions with an inspiring image on the front and our recommended tips and strategies for gaining the relevant insights on the back. The cards were pocket size, with waterproof surfaces, to enable students to carry them out in the field as a guideline. We included a blank section on the back of the cards corresponding to the date, so students could decide and mark the order in which they would organize their research.

Broad Research Topics

Rather than focusing only on the functional problems of storing, carrying, using, and re-using water, we also decided to assess the "big picture" aspects of the problem. Understanding things such as people's core values, aspirations, physical environments, and daily life gave us further insight into the problem, and ultimately engaged our team on a personal level with our partners in the slums.

The three broad research areas we considered were:

1. Aspirations & Limitations

What are people's aspirations, and what keeps people from achieving them? How can we best impact this area?

ASPIRATIONS / LIMITATIONS METHODOLOGIES
- Personal Inventory (Emotional):
  Document the things that people identify as important to them as a way of cataloging evidence of their lifestyles. (30 min)

COLLAGE OR CARD SORTING:
- Ask participants to build a collage from a provided collection of images and to explain the meaning of the images and arrangements they choose. (30–45 min)
- Draw your Past / Future:
  Ask participants to "draw the future you want" (if they won the lottery or otherwise had no limitations). Draw a path from the past to now to that future, with the steps and hurdles along the way. (30min)

EXTRA TIPS
- ▶ First, gain people's trust.
- ▶ Gather direct, unfiltered quotes.
- ▶ Plan deep interview questions and practice interview techniques.
- ▶ Ask "why" five times, to get to the real "why."
- ▶ Prepare and print visual cards ahead of time.

2. Materiality & Spaces

What is the material reality of personal and collective objects in the household and neighborhood? How can we best impact this area?

MATERIALITY / SPACE METHODOLOGIES
- Behavioral Archaeology:
  Look for evidence of people's activities, habits, and values inherent in the placement, wear patterns, and organization of things.
- Social Networks & Spaces:
  Notice different kinds of social relationships within a user group and map the network of their interactions. In what ways do objects, materials, and spaces express social relationships?
- Personal Inventory (Functional):
  Ask people to show and describe objects they handle daily – catalogue evidence of lifestyle. (30 min)

EXTRA TIPS
- ▶ How do things wear out?
- ▶ What can we learn from resourcefulness of the material culture?
- ▶ Be aware of materials and spaces throughout Santiago, not just in the slums.

3. A Day in the Life

Catalogue a day in the life of people in the campamentos, with special attention to the role water plays. How can we best impact this area?

DAY IN THE LIFE METHODOLOGIES
- A Day in the Life of a Family:
  Catalogue the activities and contexts that water users experience throughout a day.
- Shadowing:
  Tag along with people to observe and understand their day-to-day routines, interactions and contexts. (1–2 hours)
- Timeline:
  Create a branching timeline of household members' activities. Every person in the household plays a different role. How do the roles of different people relate to each other?

EXTRA TIPS
- ▶ Each team member can shadow a different household member.

Focused Research Topics:

To focus on more specific functional, water-related issues that would directly target our project objectives and deliverables, we created the following three research topics:

1. Storing / Containing

How do people store, contain, and protect valuables, food, water, and everyday objects? How can we best impact this area?

STORING / CONTAINING METHODOLOGIES
- Error Analysis:
  List all the things that can go wrong when storing/ containing water and determine the various possible causes. (30 min)
- Scenario Testing / "What If":
  After your initial research, show users a series of cards depicting possible future scenarios for storing water and invite them to share their reactions. (30 min)
- Guided Tour:
  Ask participants if you can accompany them on a guided tour of how they contain objects. Why did they choose a specific means of storage? (45 min)

EXTRA TIPS
- ▶ Be aware of cultural biases and preconceptions.
- ▶ Consider differences between storing valuables versus daily objects.
- ▶ How does the house itself serve as a container to keep out rain, store water, etc.?
- ▶ Survey containment solutions that exist on the market and that families have invented.

2. Carrying & Moving

How do people carry objects, water, and themselves around? How can we best impact this area?

CARRYING/MOVING METHODOLOGIES
- Behavioral Mapping:
  Track the positions and movements of people within a space over time and note what are they carrying or moving around while doing it. (45 min)
- Flow Analysis:
  Represent the flow of water through all phases of use. Consider water's behavior, not only on a map or plan, but also as it moves up and down.
- Fly on the Wall:
  In public spaces, such as markets, neighborhoods, or public transit, observe and record behavior within its context, without interfering with people's activities. (1–2 hr)

EXTRA TIPS
- ▶ What do people carry around (wallet, phone, children, jewelry, etc.), and why?
- ▶ Take "what's in my bag" photos.
- ▶ Survey carrying solutions that exist on the market and that families have invented.

3. Use & Reuse of Water

How is water used over the course of a day and week? What objects have been reused for a function or task different than its original purpose? How can we best impact this area?

USING / REUSING WATER METHODOLOGIES

• Storyboard of Water's Day / Week:
  Illustrate a character-rich storyline describing the context of water use. Water is the main character; if water could tell its story, what would it say?
• Camera Journal:
  Distribute a kit with camera, journal, and instructions. Ask participants to keep a diary of activities related to using water. (15 min / 1–2 days)
• Narration:
  As they perform a task or process, ask participants to describe aloud what they are thinking – to reach users' perceptions, concerns, and motivations. (45 min)

EXTRA TIPS

▸ Other documentation methods: Script photos – ask people to re-enact each step of a process; time-lapse video.
▸ Ask the family what's missing?
▸ What objects have been re-used for a function or task different than its original purpose?
▸ Be sensitive to private activities (i.e. shower).
▸ Buy cameras ahead of time.

In the Field

"It was quickly clear to me that my research trip wasn't just about acquiring raw data, quotes, and statistics. My research was to listen to stories, study faces, sympathize with difficulty, and share in excitement."
–Stephanie Stalker, Environmental Design student

Once in the field, our team spent two weeks of intensive research in Santiago, Chile, with families living in campamentos (slums). During the process, students developed and personalized the guided methodologies, making them their own. This included:

Design Process

What made the Safe Agua design process unique? The class proceeded like any other Transdisciplinary Studio (TDS) at Art Center,[16] but with four significant distinctions: first, driven by field research, student designers became opportunity seekers; second, collaboration was essential to the process; third, the studio embraced the ingenuity and resourcefulness embodied by Un Techo's *Minimo* philosophy; and finally, the resulting projects are designed to be rapidly implemented in the real-world campamento context.

Driven by Field Research: From Problem Solvers to Opportunity Seekers

During our research trip, each methodology card asked "How can we best impact this area?" Upon returning to Art Center from Chile, this question became the driving

Fig 1 Creating card-sorting exercises to identify aspirations.
Fig 2 Students Diane and Ramon look at the documentation of the research finding they have just created while taking a break in the field. Throughout the entire process, students documented their research findings and created people's profiles and floor plans with flows of water and daily activities.
Fig 3 Students Stephanie, KC, and Nubia created a paper space-planning tool. Maria used this kit to design her ideal configuration for her media agua.
Fig 4 Participating in – rather than only observing – daily activities of the families: doing laundry by hand, helping clean the house, and cooking meals.
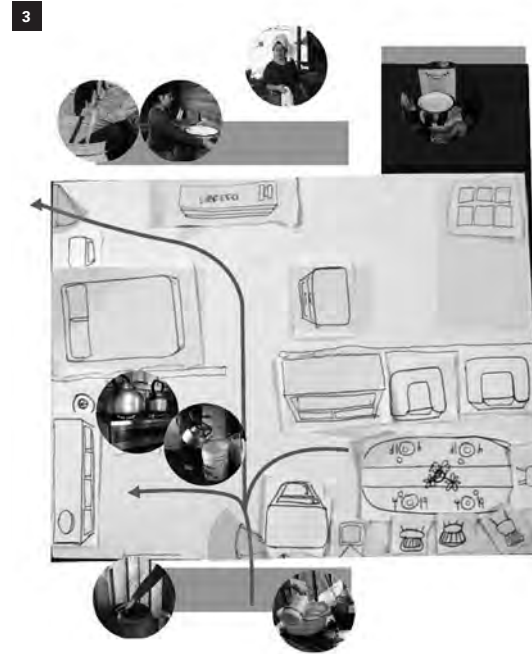
force for the design process. After compiling the field research, we clustered the gained insights into areas of focus, ranging from long-term well-being (health, employment, education, and emotion), to daily water-related tasks and functions (optimizing containing, transporting, and using water for time efficiency and physical convenience).

Unlike many studio classes, in which an instructor or partner company might assign a project brief that defines the problem to tackle for the term, each Safe Agua team embarked on a process to define the problem for themselves based on their observations during field research. This alters the conventional responsibility of the design student to now engage in the process of evaluating *which* (of the dauntingly many) problems to tackle, and then deciding *what* to design.

"What is *the* problem?" probed visiting faculty Adlai Wertman and Abby Fifer Mandell from the Society and Business Lab at USC's Marshall School of Business.[17] While the constellation of daily and long-term challenges that people in the campamentos face seemed daunting, intertwined, and complex to us, Adlai's provocation challenged each team to focus on a very specific problem that could be tackled in the remaining 10 weeks.

At one point during this process of problem definition, Environmental Design student Stephanie Stalker asked, "Rather than identifying potential problems to solve, couldn't we identify opportunities?" Although it might seem a simple question of semantics, Stephanie's question shifted our view of the problem-solution paradigm toward a much more optimistic perspective: we may have begun by calling ourselves *problem*

solvers, but in fact we would come to define ourselves as *opportunity seekers*.

Collaboration: Designing "With" not "For"

> *"Modern environments and experiences cut across all boundaries of geography and ethnicity, of class and nationality, of religion and ideology: in this sense, modernity can be said to unite all mankind.…A struggle to make ourselves at home in a constantly changing world…[that] implies an open and expansive way of understanding culture."* – Marshall Berman[18]

Early in the term, Dirk-Mario Boltz, visiting professor from the Berlin School of Economics, framed Safe Agua in terms of the larger "co-creation" trend. Co-creation, simply put, is designing *with* people, not *for* them. The first step is empathy – moving past a mindset of "us" and "them" to a mindset of "we" – and developing what C.K. Prahlahad describes as "a new respect for consumers as co-creators of solutions and not just passive recipients of a product or service."[19]

Our ongoing relationship with the campamento families and our NGO partner, Un Techo, drove the project. At heart, the Safe Agua design process embraced collaboration – an engagement between people of different disciplines, perspectives, and histories.

In Product Design student KC Cho's words, "No statistic or data replaces direct contact and feedback from the families. Once we were able to connect with the families, they gave us everything we needed to start the project."

In practice, bridging the divide of location, culture, and language presented challenges. Yet students stayed directly connected to the families by several means, including email and Skype. Families from the campamento participated in a focus group organized by Un Techo to share their specific feedback on each project. This dialogue between students and families extended to co-testing: as Jessie and Narbeh tested their *Ducha Halo* shower prototype in Pasadena, families were testing it in the campamento. Since the campamento families could not come to Pasadena for the final presentation, our team sent the families a five-foot long banner showing the entire final presentation, a symbolic exchange that extended the personal relationships established during the project.

Minimo: Maximum Impact for Minimal Resources

"Minimo" stands for maximum impact for minimal resources; this is the philosophy of Un Techo's Innovation Center. Minimo also encompasses the extraordinary resourcefulness and ingenuity that people living in the campamentos have developed out of necessity. The Safe Agua studio adopted the minimo ethos – that design innovation can be driven by a radically low budget. Prahlahad, again, cites not just the poor's participation in local problem solving, but also in worldwide economic growth: "Four billion poor can be the engine of the next round of global trade and prosperity. They can be a source of innovations… in technology, products and services, and business models," and result in "sustainable win-win scenarios where the poor are actively engaged and, at the same time, the companies providing products and services to them are profitable."[20]

In practice, this approach influenced every aspect of the studio, from process to presentation to final proto-

types. For midterm, teams employed an iterative process of making working mock-ups "Frankensteined" together from off-the-shelf parts (rather than more polished looking but non-functional models). This iterative process of making full scale, working mock-ups continued through to the final, to yield final prototypes intended for real-world implementation.

Real-World Design for the Campamento Context

The context of the campamento was paramount, and communicating the context in which each design was intended became part of the challenge. A particularly inventive student team played a Spanish soap opera on high volume during their research presentation to help the guests understand what it was like inside the homes of many of the campamento families. For midterm and final presentations, the simple rule of "no display pedestals" pushed teams to display their proposals within a context that communicated the feeling of the campamento to the whole school; and teams displayed their projects in the gallery amidst decidedly un-gallery-like wooden slat structures. One cannot remove these projects from their context; they simply do not make sense against a glowing white backdrop, as they are for, by, and of the campamento.

    Part of our collective responsibility as a class was to bring the minimo ethos, and our connections with the families of the campamentos, back to Art Center to share with the school and beyond. This is precisely what this paper endeavors to do: connect the reader with the people in the campamentos, the challenges they face, the bigger picture of global water and poverty challenges, the class process, and solutions proposed by Safe Agua teams.

Outcome: Six Interconnected Projects

The six transdisciplinary teams designed innovative solutions at a range of scales – from product to system, to community spaces, to campaign – that addressed specific water-related needs identified through their field research. They coordinated how each proposal would complement the others, producing an outcome in which the whole is greater than the sum of its parts.

    Julian Ugarte, director of Un Techo's Innovation Center, envisioned the metaphor of the class as a human body. *Gota a Gota* is the heart of Safe Agua – a gravity-fed system that allows water to flow to all parts of the home. *Agua Segura,* a family-sized kit for water chlorination and filtration, fulfills the physical need to drink safe, pure water. Two projects fulfill the need to be clean: *Ducha Halo* brings the dignity and well-being of a hot shower to people living with no running water, and *Re-Lava* is an inexpensive kitchen workstation that makes washing dishes in the home sanitary and efficient, and

facilitates the reuse of water. The *Mila* community laundry and *Iindex* catalog of shared innovations address people's need to communicate and share social support.

    Although each project specifically targeted water-related challenges, the entire class worked toward a holistic goal: to make an impact on the lives of families in the campamentos. The projects that emerged are interconnected in a pragmatic sense, in that they collectively fit into the home, to make incremental improvements in the quality of daily life. More broadly, they fit into the longer trajectory of a person's life, and seek to help make the transition from people's current temporary living situation in the campamento toward a better life for their families (with the assistance of Un Techo) in permanent social housing.

    Safe Agua provides a case study in a new and necessary approach to the critical importance of empathy-driven methodologies in design education for social impact, and documents the unfolding evolution of design and design education. Considered in isolation, Safe Agua makes a powerful case for specific, direct impacts through a human-centered, collaborative approach to problem solving. Viewed as an example for the execution of socially driven design principles, however, it demonstrates the far-reaching potential for these research methodologies, collaborative processes, and creative solutions to achieve further relevant successes globally. As a template for action, Safe Agua evinces the role of designers as potential change agents for people living in poverty, or otherwise suffering from seemingly intractable problems that have yet to be addressed by the power of design.

Mariana Amatullo Vice President and Director
mariana.amatullo@artcenter.edu

Dan Gottlieb Faculty
dan@padlab.com

Penny Herscovitch Faculty
penny@padlab.com

David Mocarski Department Chair
david.mocarski@artcenter.edu

Art Center College of Design, USA

Endnotes

1   Designmatters was founded in 2001, inspired in part by a school-wide survey in which Art Center students expressed keen interest in pursuing international educational opportunities and socially relevant projects as part of their coursework. A volunteer task force of staff, faculty, and students worked with cofounder Mariana Amatullo to articulate the original Designmatters mission, establish guidelines for the program to function, and initiate both internal and external contacts to scout for projects and fundraising opportunities. For a com-

prehensive archive of Designmatters projects and publications, see http://www.artcenter.edu/designmatters.

2 The Safe Agua team of students comprised Elizabeth Bayne (Graduate Film); Jackie Black (Product Design); KC Cho (Product Design); Ramon Coronado (Graphic Design); Narbeh Dereghishian (Product Design); Stella Hernandez (Environmental Design); Erica Li (Environmental Design); Nubia Mercado (Transportation Design); Stephanie Stalker (Environmental Design); Will Tang (Product Design); Diane Wei (Product Design); and Jessica Yeh (Environmental Design).

3 The authors are indebted to the commitment, expertise, inspiration, and generosity of Padre Felipe Berrios; Rafael Achondo, Director of Development, *Un Techo Para mi País*; and Un Techo's outstanding Innovation Center team: Director and Founder, Julián Ugarte, Andrés Iriondo, and Askan Straume. For more information about *Un Techo Para mi País*, see www.untechoparamipais.org.

4 Senge, P., Smith, B., Krushwitz, N., Laur, J., & Schley, S. (2008). *The necessary revolution: Working together to create a sustainable world.* New York: The Crown Publishing Group.

5 Art Center students and faculty participate in interdisciplinary studios, elective courses, independent study, special projects, and international internships that focus on the social responsibility of design and business practices. The outcomes and wide visibility of many of the Designmatters projects implemented to date derive from the strength of the educational collaborations that the initiative has brokered. These partnerships focus on four pillars of investigation – human sustainable development, global healthcare, public policy, and social entrepreneurship – and expose students to a meaningful range of expertise and experience. In 2003, the United Nations Department of Public Information designated Art Center an NGO (non-governmental organization) in recognition of Designmatters' service to society. Other unique affiliations now include civil organization status with the Organization of American States, and another NGO designation by the United Nations Population Fund (UNFPA).

6 For an excellent anthology of the current debates and discussions about what it means to teach art and design in the 21st century, see Buckley, B., & Conomos, J. (Eds.). (2009). *Rethinking the contemporary art school: the artist, the Ph.D., and the academy.* Halifax: The Press of Nova Scotia College of Art and Design.

7 "Campamento" (literally translated as "camp" or "encampment") is the Chilean Spanish word for a slum, including the transitional communities served by *Un Techo Para Chile*. UN-HABITAT defines a slum household as a group of individuals living under the same roof in an urban area who lack one or more of the following: access to improved water; access to improved sanitation; security of tenure; durability of housing; or sufficient living area. In 2010, according to UN-HABITAT, 110.7 million people in Latin America and the Caribbean live in slums, also referred to as *favelas*, *villas miseria*, or *asentamientos*.

8 Estimate for 2002, by the WHO/UNICEF JMP, 2004.

9 For an in-depth discussion of the water crisis and the historical context of the eras of water that the world has experienced, refer to: Gleick, P. H. (2009). Facing down the hydro-crisis. *World Policy Journal, 26*(4), 17–23. Peter H. Gleick is co-founder and president of the Pacific Institute in Oakland, California. A MacArthur fellow and member of the U.S. National Academy of Sciences, he is the author of seven books, including the biennial report, *The World's Water* (Island Press).

10 For a primer on global water issues, refer to: A special report on water. (May 2010) *The Economist.* Retrieved from: http://www.economist.com/specialreports/displaystory.cfm?story_id=16136302

11 The 20 families of Campamento Fundo San José live in media aguas – which literally translates to "shacks" – transitional homes constructed by *Un Techo Para Chile* volunteers. These prefabricated wooden structures house a family of four in 18.3 m2 of interior space (6.1 m x 3 m) – smaller than a typical parking space.

12 For a rich collection of photographs, figures and stories about the global water crisis, refer to Blue Planet Run: Smolan, Rick, Jennifer Erwitt, and Robert Redford. *Smolan, R., Erwitt, J., & Redford, R. (2007). Blue Planet Run: The race to provide safe drinking water to the world.* San Rafael, CA: Earth Aware Editions. http://www.amazon.com/Blue-Planet-Run-Provide-Drinking/dp/160109017X/ref=cm_taf_title_featured?ie=UTF8&tag=tellafriend-20.

13 water.org. http://water.org/ (26 May 2010).

14 Patrice Martin, Practice Lead and systems designer at IDEO, notes that Method Cards were originally developed "to represent the diverse ways design teams can better understand the people they are designing for." IDEO also provides the HCD Toolkit, which is specially adapted for NGOS and social enterprises working with low-income communities in Africa, Asia, and Latin America. It is designed to help understand people's needs in new ways, find innovative solutions to meet these needs, and deliver solutions in a financially sustainable way. The resource is free and available to download at www.hcdtoolkit.com.

15 IDEO's Design for Social Impact workbook and toolkit for the Rockefeller Foundation is another valuable resource, which is free and available to download at: http://www.ideo.com/work/item/design-for-social-impact-workbook-and-toolkit/.

16 Project-based learning is a key element of Art Center's educational philosophy. Working in real-life settings tests and enhances proficiency in fundamental skills and exposes students to a wide range of disciplines. Because businesses increasingly require artists and designers from discrete disciplines to work in collaboration, Art Center's Transdisciplinary Studio (TDS) workshops combine upper-term students from different majors on projects requiring several areas of specialization. By working across traditional boundaries, students achieve fluency in multiple design settings and applications.

17 Adlai Wertman (Founding Director, Society and Business Lab, Marshall School of Business, University of Southern California) and Abby Fifer Mandell (Director of Education, Society and Business Lab, Marshall School of Business, University of Southern California) are ongoing collaborators in Designmatters TDS projects. Their expertise and perspective adds fundamental value to design studios that focus on design for social impact. For further information about the innovative work done by the Society and Business Lab, refer to http://www.marshall.usc.edu/sbl/.

18 Berman, M. (1988). *All that is solid melts into air: The experience of modernity* (Second ed.). New York: Penguin.

19 Prahlahad, C. K. (2009). *The fortune at the bottom of the pyramid: Eradicating poverty through profits* (Revised and Updated Fifth Anniversary ed., p. 15). Upper Saddle River, NJ: Wharton School Publishing.

20 Prahlahad, C. K. (2009). *The fortune at the bottom of the pyramid: Eradicating poverty through profits* (Revised and Updated Fifth Anniversary ed., pp. 15, 27–28). Upper Saddle River, NJ: Wharton School Publishing.

Carla Cipolla and Nadia Carvalho

Designing a new food system for Federal University of Rio de Janeiro (UFRJ)

A "Slow Food" perspective.

Abstract

The Federal University of Rio de Janeiro / Brazil (UFRJ) started the twenty-first century decided to be prepared to "a future marked by transdisciplinarity and the universalization of higher education". In this context, among many other actions, takes shape in UFRJ a new project for its food system, particularly focused on the service provided by the "university restaurants", considered as a key issue in university communitarian life.

This paper presents the development of this project which is based on two main questions: *What does differentiate a restaurant located in a university from other ones? Which "mission" a university restaurant could specifically have?*

The project is being guided by the Slow Food approach, on which the relation between food (good, clean and fair), knowledge and pleasure is promoted. In this perspective consumers are "co-producers", and the university restaurants are places on which consumers/students can know about how food is produced, and actively contact and support those who produce it. The university restaurants are also being conceived to promote food research activities in the university, favouring a multidisciplinary academic approach in the science and culture of food,

This paper describes the principles, first steps and the lessions learned in this project.

1. The UFRJ Food System today and future plans

The UFRJ Food System is organized today under a industrial approach, serving 2,500 meal per day. For a low price, students can have a complete meal. It is composed by two restaurants called "Central" e "Letras". The System also includes procedures to control the quality of trailers, kiosks and private restaurants established in the UFRJ Campi.

After a long period of clousure, the university restaurants system is being renewed, including the construction of ad-hoc buildings. The project plans to serve over 5,000 meals by 2011, also due to the opening of the restauant called "CT". Next, in 2012, the opening of "CCMN" restaurant will provide more 2,000 meals each day.

Based on this expansion and new buildings, the new project of the UFRJ Food System – particularly focused in the service provided in the restaurants – is being coordinated by the second author of this paper, also as her PhD research, with the involvement of teachers from the Production Engineering Programe/COPPE, the Institute of Nutrition and the UFRJ Innovation Agency. It involves also other actors, like the the Lemongrass group (the student movement of agroecology in the University), the Association of Biological Farmers – ABIO and the Association of Agroecology –AARJ, both based on the state of Rio de Janeiro.

The project is an ongoing activity, a *participatory design* project on which the various aspects of food system (products, services and communication) around the UFRJ university restaurants are designed to promote initiatives for social innovation for sustainability (Manzini, 2007) in the sector of food provision and education, particularly considering a "Slow Food" perspective (www.slowfood.com).

2. Project principles: the relation between food, knowledge and pleasure

The new project of the UFRJ Food System is being guided by the following questions :

- *What does differentiate a restaurant located in a university from other ones?*
- *Which "mission" a university restaurant could specifically have?*

Here, the work hypothesis is to consider the connection between food, knowledge and pleasure. This ap-

proach was adequately synthesized by the Slow Food approach (Petrini, 2005):

"We believe that everyone has a fundamental right to pleasure and consequently the responsibility to protect the heritage of food, tradition and culture that make this pleasure possible. (…)

Slow Food is good, clean and fair food. We believe that the food we eat should taste good; that it should be produced in a clean way that does not harm the environment, animal welfare or our health; and that food producers should receive fair compensation for their work.

We consider ourselves co-producers, not consumers, because by being informed about how our food is produced and actively supporting those who produce it, we become a part of and a partner in the production process."

Based upon these statements, some points were defined as principles to guide the UFRJ Food System project (composed mainly by the university restaurants):

- *linking producers and co-producers;*
  Consumers in the university restaurants needs to be informed and become part of and partner in the production process (as co-producers) supporting by their consumption a specific kind of locally produced food (good, clean and fair food). The university restaurants could showcase products of excellent gastronomic quality and offer the opportunity to meet its producers.
- *taste education;*
  It means to estimulate students, teachers and employees to rediscover the joys of eating and understand the importance of caring where their food comes from, who makes it and how it's made, i.e., to know the meaning and origins of each taste.
- *crossing academic and traditional knowledge;*
  The university restaurants could be related to food research activities in the university, promoting a multidisciplinary academic approach in the science and culture of food, i.e., the university restaurant project itself as an opportunity to bring together the research of the academic and scientific world and the traditional knowledge of farmers and food producers.

3. First challenges in this ongoing project

A essencial requirement of this project is how to organize the provision of food to make up the menu to be offered in the restaurants, able to effectively perform the principles listed above.

In the strategy of promoting a good, clean and fair food, those involved as providers are family farmers of organic products, established in the state of Rio de Janeiro, the same state on which the University is placed. Here the project is facing two initial challenges:

- the availability of locally produced food to be provided by family farmers of organic products, to meet the demand of 2,500 lunches per day (and which is planned to strongly increase until 2012);
- the legislation in the public sector to allow this specific type of qualitative food purchase (the UFRJ is a public university).

3.1 First challenges: Identify and support food producers

It was identified the difficult to stablish a continous provision of organic food produced by family farrmers. The challenge to find out how to stablish this provision is being faced up through a participatory process. The director of the UFRJ Food System and teachers of Institute of Nutrition invited all the involved actors to discuss, particularly Lemongrass group (the student movement of agroecology in the University), the Association of Biological Farmers – ABIO and the Association of Agroecology – AARJ. It was observed that it is necessary to held closer to family farmers in order to understand its dynamics, difficulties, interests and possibilities to provide the food required. In this sense, the idea of a *Fair* has emerged as a strategy to initiate the mapping of local producers, open a conversation (Freire, 1996) and give support to them.

This indication guided the organization of the event and fair called "Sabores e Saberes" (*Tastes and Knowledge Fair*). The event promoted lectures, workshops and cultural events on the theme of "clear, good and fair" food. Various cooperatives and farmers in the State of Rio de Janeiro had exposed and commercialized its products. This event strongly involve undergraduates, and is serving for the establishment of partnerships with potential suppliers to the system of university restaurants.

From this event, a weekly organic fair was organized, placed in the garden of the main restaurant builiding in the Campus. Every Thursday, the university community can purchase organic food and meet its producers.

But the *Tastes and Knowledge Fair* is not targeted only to bring organic food to the campus. It organizes also workshops to producers, to improve their planting and food processing techniques, themes required by them. The workshops are organized and offered by Nutrition and Biology undergraduates, under supervision.

The workshops and the *Fair* itself are working as exchange moments, on which the undergraduates and their supervisors are also learning from producers: their mindset, their way to relate to food, and other issues .

The contact with the producers, through the organization of the *Tastes and Knowledge Fair*, has generated a process of collective definition (co-design) of the characteristics of the project for supplying food to the restaurants in the university. Some key issues were

raised, which express the strategy that is taking shape through this participatory process.

- Define the menu according to seasonality;
- Producers adjust their production to the restaurants menu (coordination between producers and restaurants demands);
- Arrange an infrastructure in the university to receive and store products and organize the logistics of the food provision;
- Encourage other stakeholders in the campus (other restaurants, bars and ocanteens) also to buy from these same producers, diffusing "good, clear and fair" food approach in the campus;
- Organization of all suppliers under a "cooperative".
- Rethink the service design of the restaurants to comunicate the food quality (examples: table covers describing the characteristics of each food product, activities to be promoted during the waiting time in the queue, training the staff, etc)

All this issues are under development and represent the actual stage of the project.

3.2 First challenges: outsourcing

Food preparation in the restaurants is outsourced. Therefore the management of the service suppliers is a key issue in the UFRJ Food System organization. The proposal of the inclusion of "good, fair and clean" food in the university restaurants will require the definition of the food suppliers of these outsourced services, following the principles previously described.

At the moment, based on an agreement with the actual outsourced service provider, one day per week a salad will be included in the restaurants menu, composed by products supplied by the family farmers contacted (that are being organized through the contacts and the activities promoted by the *Tastes and Knowledge Fair*). This first initiative (one salad) is a pilot and will serve to better understand and test our hypothesis and make a step further in bringing the good, clean and fair food to the university.

4. Perspectives

"Eating is an agricultural act" and "produce must be a gastronomic act" are emblematic statements that, according to Petrini (2005), should help us in the choice and acceptability of food. For us, these statements are guiding a process targeted to bring to the university community not only food, but also knowledge and, specially, pleasure. Fair and clean food is also good, i.e., a source of delight and joy. For us, in a design perspective, ensure the quality of the product (the food) offered in the university restaurants is the first step. Other elements are part of the project, as have been defined in

the participatory process: the service provided in the restaurants and how to communicate the value and the quality of the food offered. These elements are being interconected and articulated to promote, aligned with the *Slow Food* principles, a view of the university restaurant as a space of conviviality, i.e., from the late Latin *convivialis*, from Latin *convivium* – banquet, vivere – to live. In this mood, everyone is being invited: producers, co-producers, students, teachers, researchers, public administrators. The project here is targeted to create the condition for this *convivium* take place.

We are looking foward other initiatives in a promotion of a better, cleaner and fairer collective dining in universities. Share sucessful examples and open conversations regarding good existing solutions and how to overcome challenges will be of great help.

Carla Cipolla
Associate Professor, UFRJ-Coppe,
Production Engineering

Nadia Carvalho
PhD student UFRJ-Coppe,
Director of UFRJ Food System

Cidade Universitária, Ilha do Fundão,
Centro de Tecnologia,
bloco G, sala G209,
Rio de Janeiro (RJ)
Brazil 21941-909

cipolla@pep.ufrj.br;
nadiaanerj@yahoo.com.br

References

Freire P. (1996), Pedagogia da Autonomia: saberes necessários à prática educativa. 25ª edição. Rio de Janeiro: Paz e Terra.
Manzini, E. (2007) Design para a Inovação Social e Sustentabilidade. Rio de Janeiro: E-Papers, UFRJ/Coppe – Programa de Engenharia de Produção.
Petrini, C. (2005) Buono, Pulito e Giusto: Principi di Nuova Gastronomia. Torino: Einaudi.
UFRJ (2008) Plano de Desenvolvimento da Cidade Universitária: projetos 2020. Rio de Janeiro: Editora Milograph.

Virginia Tassinari and Nik Baerten

Design for togetherness

Abstract

The study of community life has long been an area dominated by fields such as sociology and urban planning. Increasingly however also the field of design steps in to actively uncover latent needs and potential within communities in order to jointly develop solutions and plant seeds of positive change. When assessing today's neighbourhoods' challenges, a crucial ingredient for resilience appears to be a positive sense of togetherness. Socio-cultural megatrends such as the individualization of Western society and the loss of social cohesion are frequently mentioned as threats to this sense of togetherness and consequently to healthy community life. Furthermore, both community members as well local authorities are rediscovering the benefits of resilient communities built around a positive sense of togetherness in contrast to those delegating responsibilities and problem solving strength to third parties. During a 3 month case study, product design and communication & multimedia design students from the KHLIM Media & Design Academy in Genk, Belgium, went out into the surrounding former mining neighbourhoods. Their core challenge: How can we – designers and community together – stimulate togetherness through design?

Introduction

Among the major challenges that today's neighbourhoods are facing is the stimulation of an active sense of togetherness. It is known to be a crucial factor in healthy, community life[1]. Across the board, citizens and city councils are rediscovering the benefits of resilient communities built around such a positive sense of togetherness.

The study of community life has long been an area dominated by fields such as sociology and urban planning. Increasingly however also the field of design is stepping in to uncover latent needs and potential within communities, to develop solutions collaboratively and to plant seeds of positive change. As such, not only is design focussing on new challenges, e.g. social innovation, also the role of designers and hence their required set of skills and experiences are changing in order to be successful in these domains.

It is in response to these challenges that *"Design for togetherness"* – an ongoing project at the Media & Design Academie (MDA) of Genk, Belgium – was initiated by the authors of this paper earlier this year. We will address the first edition of the project, the approach taken as well as first results obtained and lessons learnt. Yet before zooming in on the project itself, it is important to understand the context in which it was set.

Context & challenges

MDA is located at the heart of the former mining site of Winterslag in Genk, Belgium, which is now being reshaped and rebranded as *C-mine*, a hotbed for culture and the creative economy, design and innovation.

Aside from landmark industrial architecture referring to its mine-related past, also the social fabric of the area bears testimony to a colourful history. With kids playing on the streets and elderly chatting in front of their houses, the former mining neighbourhood or *cité* as it is called, clearly has a Mediterranean feel to it. This comes as no surprise, since, as of the end of WW I until well into the seventies, various waves of immigrants have populated the area. People from Italy, Poland, Turkey, Greece, Morocco, Spain, Ukraine, etc. came to work in the mines and found a new home in the neighbourhoods constructed around the mining facilities. Different cultures grew up together, on the same streets, learned each other's customs, which through-

---

[1] See also (Thackara, 2005, pp 113–133) on "conviviality" and "social capital".

out the years led to an original and tasteful cultural blend. Recipes ranging from couscous & pasta to souvlaki were exchanged. Inhabitants celebrate religious feasts in their neighbourhoods and share all kinds of dishes carefully prepared for the occasion; the local Flemish dialect has come to incorporate a wealth of words and expressions from the native languages of the immigrant population, etc.

The closing of the mines (last closure in the late eighties) sent shockwaves through the local communities. At first, as in many former mining areas across Europe, an atmosphere of disappointment, anger, fear and sorrow because of massive job loss but also because of uncertainty about the future took hold of the people left behind. Gradually the social fabric of the former mining communities changed. The shared experience of working together in the mine – a hard and often dangerous activity – which created a strong bond between people, who after all entrusted each other with their lives, disappeared from everyday life. Daily contact between former workmates became ever more scarce. A whole generation of people was retired early, others had to seek new sources of income elsewhere, often in nearby towns. At the same time, individualism increased within the surrounding society. One can easily see how these developments affected the once so tightly woven social fabric.

As time passes, new generations of people grow up or come to live in the neighbourhood, for whom the shared experience of the mine is no longer a personal one, but rather one of hear-say. The balancing act of preserving what is left of the mining past and caring for the future of new generations is a day-to-day challenge for both the communities and the local authorities. The *generational disconnect* between the two challenges puts even more pressure on the *sense of togetherness* within the neighbourhoods.

Furthermore – as in many villages and towns – most of the small neighbourhood shops and workshops have succumbed to the battle with supermarkets on the outskirts of town, sucking trade and economic activity further out of the neighbourhood centres. As such, also in this community, local entrepreneurship is falling or stalling, hence having a negative impact on the *vitality* of the community. Re-activating such activity, bottom-up is a clear challenge for the future.

Visually speaking, the towers of the mine still dominate the skyline and seem to watch over the streets and houses of the surrounding neighbourhoods. Not only did the mine provide a sense of shared social identity, as an organization it was also materially responsible for its "community within the community". It took care of the social safety and wellbeing of its people. It built houses and set up schools and healthcare facilities. Its offices were the single point of reference and service to

many people. The mine was a sort of subsidiary authority to which people would turn in order to solve their problems. While this instilled a feeling of safety amongst people, according to some it also nurtured dependence.

Nowadays, it is a broader trend in many Western European local communities: the better a city takes care of its citizens, fulfils their needs and solves problems *for* them, the more the citizen becomes citizen-customer. People turn to local authorities when they encounter even the simplest of problems, most of which could easily be solved within their communities.

Although the *enhancement of a community's capacity for bottom-up, participatory problem solving* is a general contemporary challenge, the cités are a particularly interesting working context. With the tightly woven social fabric of the not so distant past still very much present in the minds and hearts of many and with a shared set of challenges ahead, there is fertile ground on which to build.

When it comes to togetherness, the local authorities also recognize the important role of the many cultural and sports-related associations in the area. They are a strong binding element in the social fabric. However, the city council also understands the fragility of these entities and the challenges they face. Once lively and with a large member base, quite a few are now challenged by a balancing act between the ageing of their core member committees and the shifting needs and interests of the younger generation. As with the mine itself, pictures and trophies decorating the walls of the clubs are often a reference to the past, proudly yet melancholically staring one in the eye. Signs of *nostalgia* to some, mere historical references to others, they are omnipresent in many ways. Old mining equipment populates the territory as totems to the past, solitary pieces of urban art. The bright past is also visible in nostalgic musical congregations such as for instance in the miners' choir and the Alpini choir (cf. Italian community). Dressed in traditional ways and because of their "folkloristic" character, they are welcome guests at many local happenings. But when too much becomes folklore, what remains of today? To what extent can the local community resist a shift towards becoming as artificial an entity as the glass snow globes in a tourist shop? How can the dynamics of the glorious past be meaningful in the present and help build towards a bright future?

The assignment: design for togetherness
The city of Genk continues to work hard to help and stimulate the cités with a varied range of initiatives. They were early adopters when it comes to the introduction of neighbourhood managers as go-betweens between the local communities and the city. Also, among other initiatives, they support a series of artistic projects, devised to bring youngsters hanging around the streets

back into the fold. With so many efforts ongoing and new ones continuously under way, what can design do? How can it support and positively affect everyday life in the cités? While there are many traditional design challenges, ranging from new systems for waste collection to the redesign of local playgrounds, there are also challenges that run deeper than the bricks and mortar.

Of all the changes that the cités went through and are going through, one underlying challenge clearly stands out, i.e. *re-awakening, stimulating and enhancing togetherness within the local communities*. Design can and should work on interventions that reinvigorate the bonds between people, that help to spot 'rooms for improvement' in people's neighbourhoods, support them to devise their own solutions, to realize their value as a community. While much can be done from the top, such change clearly also calls for a co-creative and bottom-up approach, which embraces rather than replaces.

It is from such a people-centred spirit of design rooted in context and participatory in nature as well as from a strong belief in its transformative power that *"Design for togetherness"* grew. During a first case study**2**, we sent our students out into the surrounding cités. Their core challenge: *How can we, as designers, stimulate togetherness through design interventions with and within the community?*

An open yet structured approach

In preparation of the project, we made an appointment with the responsible for neighbourhood development, who kindly took us on an insightful guided tour through the cités in the vicinity of the academy. He explained their history and pointed towards some of the practical challenges neighbourhood managers as well as the city were currently facing or were likely to face in the future. At the same time also the many positive features of life in the cités became apparent. Positive dynamics already present within the communities served as seeds for solutions on which we decided to build.

Before sending them out on a field trip, the students – a multidisciplinary class of 2nd year product design and communication & multimedia design students – were asked to brainstorm about what togetherness meant for them. What were elements that brought people together in the past? How did togetherness in society change over time? What were the factors that played a role in driving that change? Not only the past was to be addressed however, also the future. In order to stimulate a systemic understanding of the topic and its dynamics, a low threshold foresight technique called a *future wheel* was used to explore causal relationships between possible future developments and togetherness.

2 Course meetings were 24hrs in total and spread across a 3-month period.

After laying out a common ground of understanding of the notion of togetherness, students were sent out on a first field trip through the cités in the vicinity of the academy. They were asked to document their walk in a visual journal, by taking pictures, recording video or sketching. Experiencing the places and talking to the people first hand, immediately helped to set some prejudices about the area aside and inspired students in terms of possible focal points for their design efforts. Some felt that the green environment and the gardens could offer an interesting point of departure from which to build towards togetherness. To others it were the cultural associations already present in the neighbourhood that looked promising, or the stories they heard from people on the streets, etc.

In order to provide a means to document the process and keep ideas flowing in-between meetings, we asked students to keep a personal sketch- and scrapbook. In it, they could write, draw or paste their own ideas, but also inspiring articles or images they found elsewhere, research results, etc. Aside from being a means of documentation, the booklets would also offer a way to discuss their work with others, including their peers, something for which we reserved ample time at the start of each session.

Subsequently, the students were challenged to come up with a first series of design propositions. By means of inspiration, a series of projects in the area of design for social innovation ranging from urban farming initiatives to citizen journalism was presented to them. The typology of projects presented, turned out to be new yet inspiring to most students. They were asked to do some further background research on the topic of togetherness and social innovation and present a set of projects that resonated with them or their own angle from which they wanted to tackle design for togetherness.

Feedback and suggestions from ourselves as coaches as well as their peers led to a first tuning of their ideas. In order to further facilitate the shift from *inspiration* to *ideation*, the students were sent out into the former mining communities once again. This time they were instructed to employ a few design research methods that would help to inspire and inform their designs further. They were asked to combine two typologies of design research methods, i.e. *observation* and *asking questions*. Methods ranging from simple "fly on the wall" observation, to "guided tours" by local inhabitants, simple "questionnaires" or more complex "cultural probes" were carried out by the students on their second trip into the cités. A selection of IDEO's Method Cards (IDEO, 2003) provided additional help to students in planning their design research where needed. While the exercise and its findings helped some to tune their existing ideas, it also motivated several students to leave their original idea behind and shift their approach.

If there is one element that sets design for social innovation or design for change in general apart, it is *process*. Even students with a strong initial focus on a product, e.g. new street furniture, had to realize that their role as a designer would (have to) go further than merely designing the furniture as such. To help them elaborate upon the process side of design, students were asked to sketch out the envisioned user experience in a simple storyboard. This allowed them to identify the various *touchpoints* in the 'service' that they would be providing to the community. Furthermore, they were challenged to take into account everything from the earliest phases of for example letting people know about a design intervention all the way to dealing with the recycling of waste. Aided by roleplay and/or persona-based techniques, questions such as *"what happens before that? or after that? or between this and that step?", "how could I design it as part of my system?"* helped to increase the level of detail. This exercise was metaphorically referred to as *"peeling the onion"* and helped to enrich ideas for products, services and experiences further. A selection of Experience Design Cards (Shedroff, 2009), provided additional support to students to critically question the user experience of their designs.

Last but not least, a one-day lo-fi prototyping workshop was organized to stimulate thinking with one's hands. Various objects and touchpoints core to the user experience were made tangible in balsa wood, paper, cardboard, textile, etc. The intention of the exercise was not to give mere three-dimensional form to some of the designs as a means of 'presentation', but most of all to enter into physical dialogue with one's ideas, to play out alternatives in front of one's eyes and in one's hands rather than in one's mind only[3].

As such the shift from inspiration to ideation was organized in an open, yet structured manner. Throughout the process, several iterations of coach and peer feedback, as well as inspiration, further background research and refinement took place.

A peek at four design propositions

It is impossible to do justice to the breadth and wealth of material produced together with the students. The following is a short description of a selection of four design propositions that aim to tackle the challenge of designing for togetherness starting from different angles.

Cultural Couriers

Early on in the process, after engaging in conversation with several inhabitants of the cités, Vincent Olislagers was struck by the stories told by the people, especially those recounting bygone times or referring to their countries of origin. The mere act of listening represents

a valuable moment of social interaction. Although elements of melancholy and nostalgia are clearly present, such stories also contribute to the formation of an integrated identity for second and third generation inhabitants of the cités. On one of his many trips into the neighbourhood, Vincent also became fascinated with a peculiar kind of national sport in Belgium, i.e. pigeon racing. To him, it symbolized in a kind of poetic way the thread between the inhabitant's current home, Belgium, and their countries of origin, between the sentiment of being at home and far from home at the same time. Combining these two elements, Vincent developed a system allowing families to borrow a pigeon and take it along with them on holiday as they visit their home country. There, either on a tiny scroll of paper or via a chip inside the pigeon's id-ring, people could send 'home' small stories or images about their trip. The pigeon would be released and fly back to Belgium, where others would await the stories to arrive. The pigeons would fly into a specially crafted exhibition space at the club, stories would be revealed and spark conversation amongst the people present. The stories would provide material for street conversations, gossip even and as such enhance the sense of togetherness and social identity. In a very spontaneous, yet also poetic way, the designer facilitates the natural process of telling and sharing stories, simultaneously breathing new life into the social fabric of an existing sports/cultural association.

Continuity

Stories also played a central role in Chris Muller's project, who was interested in the way traditions were able to bring people together. Would it be possible to create new traditions for the future? How could they be created? Chris discovered stories, myths and legends were like seeds out of which traditions could grow. A second element that fascinated him was the way in which the physical environment would contain landmarks related to traditions and their underlying stories. In case of the mine, the towers for example were constantly within eyesight. In search for new points of reference, attention-grabbers for new stories and traditions, Chris sought inspiration in zeppelin culture, the Thai sky lanterns and the Balinese tradition of the shadow theatre. Inspired by these, he designed a lantern. It would be put in front of houses where people would gather to tell and listen to stories. The colour of the lantern would signal the nature or atmosphere of the story being told (e.g. adventure, romance, fantasy, etc.) and allow people to influence the atmosphere of the next session by changing the colour. The lantern would also feature a carrousel-like 'story calendar' of shadow puppets, each of which would portray one of the cultural entities present in the cité. The calendar would advance on its own, beyond the direct control of people, so that every cul-

---

3 See also (Winograd, 1996)
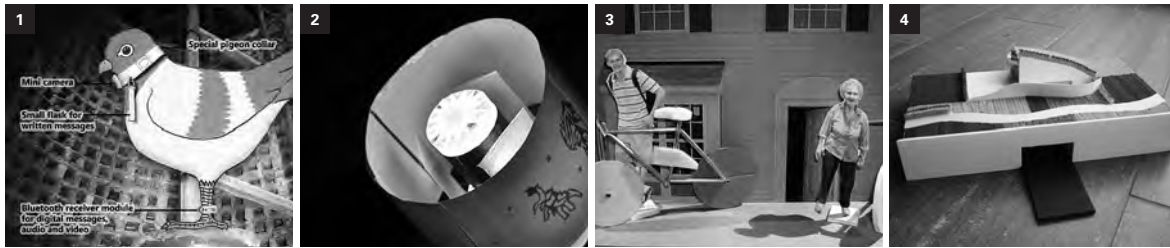
1. Cultural Couriers **2.** Continuity **3.** Bikes4Genk **4.** Garden bridge

ture would have its turn to stand in the 'lantern-light'. The stories would grow over time and the happening as such would become a sort of mythical event that would resonate through town. By providing room for new stories to be told, people would share time together, discover and understand each other and each other's cultural backgrounds in new ways. By appealing to all generations, including children, and by playing with the poetry of images, people would rediscover the joy of dreaming together. "Continuity" would enhance a sense of belonging to the place and set the social(izing) gears in motion.

Bikes4Genk

Driven by a search for more sustainable mobility and a willingness to narrow the generational gap in the cités, Alec Van Peel explored how bike rides could bring people together across generations. After all, biking offers plenty of opportunity for social encounter. But how could one get people out onto the streets, on their bikes and in touch with each other? Alec designed a system in which a fancy bicycle for young people would charge a swappable battery that could power a nice semi-electric bicycle for the elderly. As such the latter ones would no longer have to remain housebound because of a steep hill or fatigue. Chargers and consumers would both be able to get a top quality bicycle at a low price and be matched to each other. As soon as the battery of the elder person would run low, it would send a signal along with its location if necessary to the youngster, his/her 'energy buddy', who could come to swap batteries. Charging cycles would be monitored and allow young and old to gain credits to pay off the loan of the bicycle. By designing physical contact into the service, an opportunity for further social interaction between the generations is created and togetherness is enhanced. Young and old would help each other out and learn to enjoy each other's company.

Garden bridge

Widmer Berckmans was struck by the way in which a railroad separates two neighbourhoods and hinders social interaction between people. Merely facilitating the physical connection would not be enough to bring people together across their 'frontiers', so Widmer started to look for an element that would draw people together and have them share an in-between space and joint activity. As such, his design aims to create an area covering the existing road with community gardens and recreational space (e.g. a playground, a picnic park, etc.). The landscape would ramp up towards the covering area from both sides, enhancing a sense of continuity. People from both neighbourhoods would work side by side in the community gardens and receive credits in return. Produce would be sold through a local shop for credits or money, in order to involve also those not actively working in the gardens. Growing food in a sustainable way would offer plenty of opportunity for people to interact, to get to know each other and to enhance a sense of togetherness.

Other design ideas proposed by the students included a community barter centre, a matching service for skills and needs, a social waste management system, a creative sports challenge and much more.[4]

Some conclusions & future plans

It was clear from day one that the topic resonated with the personal experiences of most students. The decline of social cohesion, its causes and consequences, challenges and opportunities were recognizable within their own neighbourhoods as well. To some students, the project clearly transcended the perception of 'a school assignment'.

While accessible as a topic as such, introducing "togetherness" as a design challenge however proved to be challenging to a far greater degree. Many initially struggled to move beyond a pure consumer product orientation, beyond top-down and outside-in solutions, to shift to a more process-based angle on design etc. Thorough and repeated inspiration by means of examples of projects that showed alternative ways, proved most valuable in this respect. Therefore, in a follow-up edition of the project even more time and attention will be devoted to analyze and compare challenges identi-

---

4 An online publication featuring a broader selection of student projects is under preparation. Images courtesy of the resp. students.

fied by the students, to projects elsewhere on the globe focussing on similar issues.

It is too early to judge the design propositions in terms of their envisioned impact on catalyzing togetherness in an enduring and sustainable way. The course as currently organized took place within a limited timeframe, which did not offer the necessary space nor budget to move beyond inspiration and ideation to implementation. It is our conviction however that short burst-sessions of co-design and co-validation would prove valuable in aiding the students to tune their ideas, to keep a closer eye on expected impact and to learn how to build capacity for their concepts amongst their envisioned user base. It is also likely to help them to overcome their sense of "inability to bring true change" much earlier on in the process. Moreover, from a didactic point of view it is worth to stress the importance of keeping the long-term perspective alive throughout the design process as much as possible.

Provided with only a theme, several students initially felt at loss, seemingly confronted with too big a challenge and too much freedom of how to go about it. They experienced difficulties to formulate their own brief and subsequently select and plan their research activities. Nevertheless, continuously presented with critical feedback, illustrative examples and a 'toolbox' of methods from which to choose, most students quickly found their way. Many even started combining and appropriating the generic methods to serve their own particular needs. While moments were reserved to present and share results of their research activities, clearly true methodological learning in this matter only comes from doing and from personal experimentation.

The shift from a product to a more process-based view on design – a common notion in service design for instance – and seeing design as a tool for social innovation was an eye-opener to the students in many ways. Most importantly perhaps it adjusted their view of what it means to be a designer and to have impact through one's designs in unexpected ways. The experience also gave them a taste of the shifting role of designers towards facilitators of processes in a socially responsible way. They have come to realize that design is about more than the shape or functional value of objects and that it is – especially in cases like these – never a solitary act, but one of collaboration. They also learnt that in working with social challenges, it is key to restrain from over-designing, to work bottom up by embracing positive elements and built upon dynamics already present within communities, use them as springboards, platforms on which to elaborate and/or help others to do so.

This was a first, exploratory edition of a project which we plan to continue working on in the coming years. Although the course itself is finished for the students involved in this first edition, their design propositions will be further assessed, evaluated with the community and may serve as an inspiring starting point for next year's edition of "design for togetherness". In order to maximize room for the students to explore the topic of togetherness under as little constraints as possible, it was a deliberate choice in this first edition not to involve the local authorities as "clients" or "coaches" of an assignment. They did however help to inspire the project in many ways. The outcomes of this year's edition of "design for togetherness" will be presented to them for feedback and future collaboration.

Last but not least, in the spirit of togetherness, we look forward to share learning experiences from a didactic point of view as well as the design propositions as such, with others working on related themes within and beyond the context of design education.

Acknowledgments

Virginia Tassinari
Assistant professor,
Media & Design Academy,
Katholieke Hogeschool Limburg (Belgium),
C-Mine 5, 3600 Genk, Belgium
virgitassinari@gmail.com

Nik Baerten
Guest lecturer,
Media & Design Academy,
Katholieke Hogeschool Limburg (Belgium),
C-Mine 5, 3600 Genk, Belgium
Co-founder, Pantopicon, Antwerp (Belgium),
Cogels Osylei 36, 2600 Antwerp, Belgium
nik@pantopicon.be

References

Brown, T. (2009) *Change by design: How design thinking transforms organizations and inspires innovation*. New York: Harper Collins.

Coirier, L., Golicnik Marusic, B. & Niksic, M. (2010) *Human Cities. Celebrating public space.* Oostkamp (B): Stichting Kunstboek.

Fulton Suri, J. (2005) *Thoughtless acts? Observations on intuitive design*. San Francisco: Chronicle Books.

IDEO. (2003) *IDEO Methods Cards: 51 ways to inspire design.* Palo Alto: Wiliam Stout Architectural Books.

Manzini, E. & Jégou, F. (2003) *Sustainable Everyday, Scenarios of urban life*. Milan: Edizione Ambiente.

Shedroff, N. (2009) *Experience Design 1 Cards*. San Francisco: Experiencedesignbooks.com.

Thackara, J. (2005) *In the bubble: Designing in a complex world*. Boston: MIT Press.

Winograd, T. (Ed.) (1996) *Bringing Design to Software* (pp. xxi). New York: ACM Press.

Eduardo Staszowski

Amplifying Creative Communities in New York City

1. The project: Amplifying Creative Communities in New York City

Our current ways of living are proving unsustainable. But how can we change them?

Communities are no longer waiting for new technologies, stronger regulations, or market shifts to create more sustainable futures. People are initiating new ways of meeting their everyday needs. They are organizing efforts to improve the quality of their lives and the environment by sharing resources and ideas such as community carpooling, time-sharing, and community gardening. These "Creative Communities" are the basis of the project "Amplifying Creative Communities in New York City" led by DESIS (Design for Social Innovation and Sustainability) Lab and funded by the Rockefeller Foundation's 2009 NYC Cultural Innovations Fund.

DESIS Lab, a research lab at the School of Design Strategies, Parsons The New School for Design, proposes to advance the practice and discourse of design-enabled social innovation toward more sustainable cities. DESIS Lab investigates how design can enhance community-led initiatives in the development of more sustainable ways of living and working. In particular, DESIS Lab uses service design as a means of applying design expertise to problem-setting and problem-solving related to sustainable practices and social innovation.

The project "Amplifying Creative Communities in New York City" focuses on new ideas that are implemented locally and can make the transition to more sustainable societies. In particular, it proposes to:

- Listen out for Creative Communities in New York City that are taking quiet but significant steps toward more sustainable ways of living and working
- Work with these Creative Communities to learn about their social innovations
- Design with these Creative Communities to expand the capacity of their innovations

- Broadcast what we have learned about social innovation to other communities

This project represents one perspective on how designers and planners can generate sustainable and socially innovative solutions to urban problems. Our starting point is the belief many solutions are not visible – they are developed by small self-organized groups that seek to improve their lives and environment through collaboration. An important task of designers and planners is to identify and disseminate such innovations, i.e. to "amplify" them. In practice, DESIS Lab proposes to conduct an "amplification" process with communities in New York City in order to improve and expand their capacity for social innovation.

The amplification process is organized around three main actions:

- Mapping sustainable social innovations. This is being done mainly through student work in the course "Design and Everyday Experience" in Parsons Design and Management program. In this course – which provides training in basic ethnographic research skills – students interview residents, conduct photographic surveys, make observations, etc. Their findings have been uploaded to the Green Map platform.[1]
- Communicating innovations through (a) exhibitions, (b) workshops, and (c) websites to stimulate change within communities. In this project the exhibition is used as a research tool. The first exhibition (August 5–September 15, 2010) was designed for the Abrons Art Center at the Henry Street Settlement[2] on the Lower East Side, where the artifacts on display were not final results but works-in-progress that were intended to solicit public feedback to specific questions about community needs and solutions.
- Designing scenarios and toolkits to stimulate the start-up of new initiatives. DESIS Lab (Parsons students and faculty) is collaborating with the design firm IDEO to design a series of toolkits aimed at either improving existing initiatives or making new social innovations more accessible to the general public. These toolkits will take the form of a series of do-it-yourself manuals that provide storyboards

---

1   http://www.opengreenmap.org/greenmap/amplify-creative-communities-community-gardens-les
2   http://www.henrystreet.org

with step-by-step instructions on how to start-up a new initiative.

The project proposes to conduct amplification processes in two different neighborhoods. The first one focuses on the Lower East Side neighborhood of Manhattan where DESIS Lab is partnering with the Lower East Side Ecology Center, a not-for-profit organization, to reach out to local innovators. DESIS Lab is currently researching and analyzing how the Lower East Side is configured as a diverse mix of communities under the pressure of gentrification. Research has revealed different ways social innovations develop – from informal impromptu practices and physical manifestations of local politics such as community gardens, to formal efforts such as the activities of local non-profit organizations.

2. Creative communities, social innovation, and urban activism

The concept of Creative Communities is based on previous European projects such as EMUDE (Emerging Users Demands) and CCSL (Creative Communities for Sustainable Lifestyles):

Creative Communities are "groups of almost 'heroic' and innovative citizens, which organize themselves to solve daily problems towards a more social cohesive and eco-efficient sustainable way of living."[3]

We may call these interactions between people who cooperate "collaborative services"[4] or services that ask for the direct and active participation of the initiative's promoters and its final users. These initiatives often advocate alternative solutions to everyday urban problems such as housing, eating, commuting, learning, socializing, and health care.

Some efforts of this kind are already well-known models such as food co-ops, community-supported agriculture, urban farms, farmers markets, and bike-sharing systems. Other efforts are less-known – for instance, alternative mobility solutions such as associations that organize a "walking bus" of parents or grandparents to take children to school on foot or domestic micro-nurseries set up and managed by enterprising mothers.

The EMUDE and CCSL projects have collected more than 100 case studies of Creative Communities' initiatives around the world. This collection has helped define some specific criteria for Creative Communities:

- Propose solutions that help solve everyday problems
- Regenerate the social fabric
- Present a lower ecological footprint than mainstream solutions
- Reduce the demand for products
- Reduce the impact of mobility
- Represent experiments of new economic models
- Create decentralized networks or flexible forms of organization based on peer-to-peer collaboration and reciprocity among participants

The EMUDE project has clustered European case studies around everyday functions, such as eating, commuting, working, learning, housing, and socializing. CCSL has proposed a different clustering around service ideas (carpooling, micro-nursery, etc). In the Amplifying project we are proposing a fresh look at these international case studies so that they may be used to describe the kinds of social innovations that are currently being practiced, and they may be interpreted for the American public. One important conceptual first move was to "translate" the definition of Creative Communities into a language that would be understandable for the local community of social innovators.

DESIS Lab conducted an internal workshop with DESIS Lab members (professors, researchers, and students), professors from Milan Polytechnic and MIT, and project partners (the design consultants IDEO; the Green Map System director; and the community partner, the Lower East Side Ecology Center). The workshop's aim was to share knowledge about the history and context of the Lower East Side in order to inform the development of the project and its processes and activities. The workshop also aimed to build a bridge between other countries' lessons and the New York City/Lower East Side's ethos, to create a common ground for the project participants.

Working with the Lower East Side Ecology Center, a not-for-profit organization operating in the neighborhood for the past 30 years, we learned that the term "urban activism" would resonate better with local community members when discussing with them the concept of Creative Communities. The concept of urban activism appeals to the American tradition of protest and action, volunteering and community engagement of the 1960s and 70s, as well as the care for public space and neighborhood life advocated by Jane Jacobs's urban sociology and the Lower East Side's own history of resistance.

The next step was to make use of international case studies to guide the identification of local initiatives. But to do so, we also had to re-group the existing collection of case studies into categories that could be communicated more easily to the local public. We browsed through the international case studies and defined five

3 A. Meroni, ed., *Creative Communities: People Inventing Sustainable Ways of Living in Europe* (Milano: Edizioni Polidesign, 2007). Available online at www.sustainable-everyday.net.

4 F. Jégou and E. Manzini, *Collaborative Services: Social Innovation and Design for Sustainability* (Milano: Edizioni Polidesign, 2008). Available online at www.sustainable-everyday.net.

categories of Creative Communities' social innovations and urban activism worldwide:

- Transforming public space
- Enabling entrepreneurship
- Caring for people
- Bonding and bridging
- Promoting cultural empowerment

These categories were the starting points for our research into the essence of the Lower East Side's social innovations and urban activism.

3. A map of social innovations on Manhattan's Lower East Side

3.1 Community gardens: gateways for social innovations on the Lower East Side

The Lower East Side was chosen as the initial site for the Amplifying project "due to its high population density, diverse ethnic communities, history of resistance to gentrification and strong political capital. The Lower East Side Ecology Center described the neighborhood's transformation from the 1980's – when it was reminiscent of a burnt out city in post-war Germany – to the present time in which there are over 40 thriving community gardens that connect local residents and increase their cohesiveness."[5]

The Lower East Side is a neighborhood in the southeastern section of the borough of Manhattan in New York City. Its boundaries have been a source of controversy, as historic boundaries were changed by real estate dynamics. In this project we have adopted the boundaries suggested by Community Board 3:[6] the East River on the east; the Brooklyn Bridge on the south; Pearl Street, Baxter Street, Canal Street, Bowery, and Fourth Avenue on the west; and 14th Street on the north.

In terms of demographics, the Lower East Side has historically been a heavily populated area of New York City. In the past, Jewish immigrants comprised a majority of the population in the area.[7] Currently, the neighborhood's ethnic diversity is remarkable, with significant Asian/Pacific Islander presence (35%), geograph-

ically concentrated in the Chinatown area below Canal Street, and considerable Hispanic presence (26% – enough to create a Hispanic nickname for the neighborhood: "Loisada"[8]).

The neighborhood economic profile, albeit in rapid transformation, is still relatively low. It has traditionally been an immigrant, working-class neighborhood, but it has undergone rapid gentrification in recent years. The median annual income in 2006 was $36,500, which is 46% of the citywide median income of $76,800. Forty-nine percent of the population receives income support (such as public assistance, Social Security, or Medicaid).[9]

It is in this context that the development of community gardens appears as a major source of social innovation on the Lower East Side. In a large majority originated in burnout lots that the city inherited in exchange of payment of taxes (when arson was a common practice during the 1960s and 1970s), these gardens are the result of a successful effort of community engagement to avoid the continuous degradation of the neighborhood The famous "Green Guerrillas" and other organizations helped the community transform empty lots into enjoyable gardens. More importantly, these physical changes helped transform the perception of the area. According to Elissa Sampson, activist, geographer, and long-time resident of the Lower East Side, the community gardens were among the main reasons for the neighborhood's revival in the 1970s and '80s.[10] A city program, Green Thumb, helped by providing technical assistance to the gardens, and the gardens flourished.

The 1990s saw further changes in the neighborhood that dramatically affected the gardens. The then-new mayor, Rudolph Giuliani, did not renew the gardens' leases and the real estate dynamics changed completely, increasing property values. Many gardens were swallowed by new developments, and some of the historic ones disappeared forever. Since the gardens were tightly connected to each other, these casualties felt like major losses to the whole community. Still, 44 community gardens have survived.

3.2 A Green Map of community gardens

Although the Lower East Side was a deliberate choice for the Amplifying project, it was surprising for the researchers to learn about the importance of the community gardens in the neighborhood, their amazing diversity, and their significance in the everyday lives of residents. We also learned that the gardens represent

---

5 Laura Forlano, "Design and Politics on the Lower East Side." Research note for DESIS Lab, 2010, http://desis.parsons.edu/2010/03/acc-project-working-session-on-february-8/.

6 Local representative body of the City of New York.

7 "Historically, Lower East Side immigrants from Italy, Russia, Germany, and Ireland faced inadequate housing and taxing work conditions. By the turn of the century 8–10 people could share a 325-sq ft tenement apartment. Many of the immigrants had to find their 'sunshine' and create their lives in the streets, halls, churches, synagogues, parks and movie theatres outside of their tenement apartment." (Lower East Side Tenement Museum)

8 The Latino pronunciation of "Lower East Side" (Wikipedia, http://en.wikipedia.org/wiki/Lower_East_Side).

9 http://envisioningdevelopment.net/map

10 Interview with Elissa Sampson, April 1, 2010. See also white paper by Elissa Sampson, "A flowering of resistance," 2009, http://www.slideshare.net/ejswoo/a-flowering-of-resistance-the-gardens-of-the-east-villag.

the most important manifestation of urban activism on the Lower East Side.

We documented a selection of these gardens and interviewed their members to understand their efforts and motivations. Our hypothesis was that participants in the gardens were also likely to be participating in other innovative and sustainable endeavors within the community. In fact, our research helped uncover initiatives that were happening "below the radar," i.e. that were hidden from the sight of the general public.

Students from the Design and Management program at Parsons the New School for Design have documented 17 Lower East Side community gardens through interviews, photography, and film. A Green Map was created, aggregating all the data collected by students.

3.3. Community gardens' urban activism on the Lower East Side: following the leads from the community gardens' stories

A closer look at the community gardens research led us to identify creative solutions for everyday life developed by garden members, as well as the neighborhood's main areas of unmet needs and service demands.

We selected nine gardens with stories of strong urban activism and organized them into a matrix, categorizing them into four main areas that represent a mix of existing social innovations and urban activism and perceived demands for new collaborative services. Criteria for this analysis included the potential for local job creation, micro/domestic entrepreneurship as a possible response to gentrification, and retention of the active and traditional communities.

The areas identified were:

- Taking care of the elderly
- Eating Healthy
- Retaining Cultural Identity
- Living Together

This ongoing investigation is being carried out by students of the Independent Studies course in the Environmental Studies program. The students of this course followed the leads obtained from the community gardens research and conducted in-depth investigations into existing case studies. The results of this research will support the amplification process by informing the development of new service scenarios and amplification do-it-yourself toolkits.

4. Amplification by design

4.1 Exhibition as a research tool

Exhibitions are typically organized to show a final product. In the Amplifying project process, the exhibition
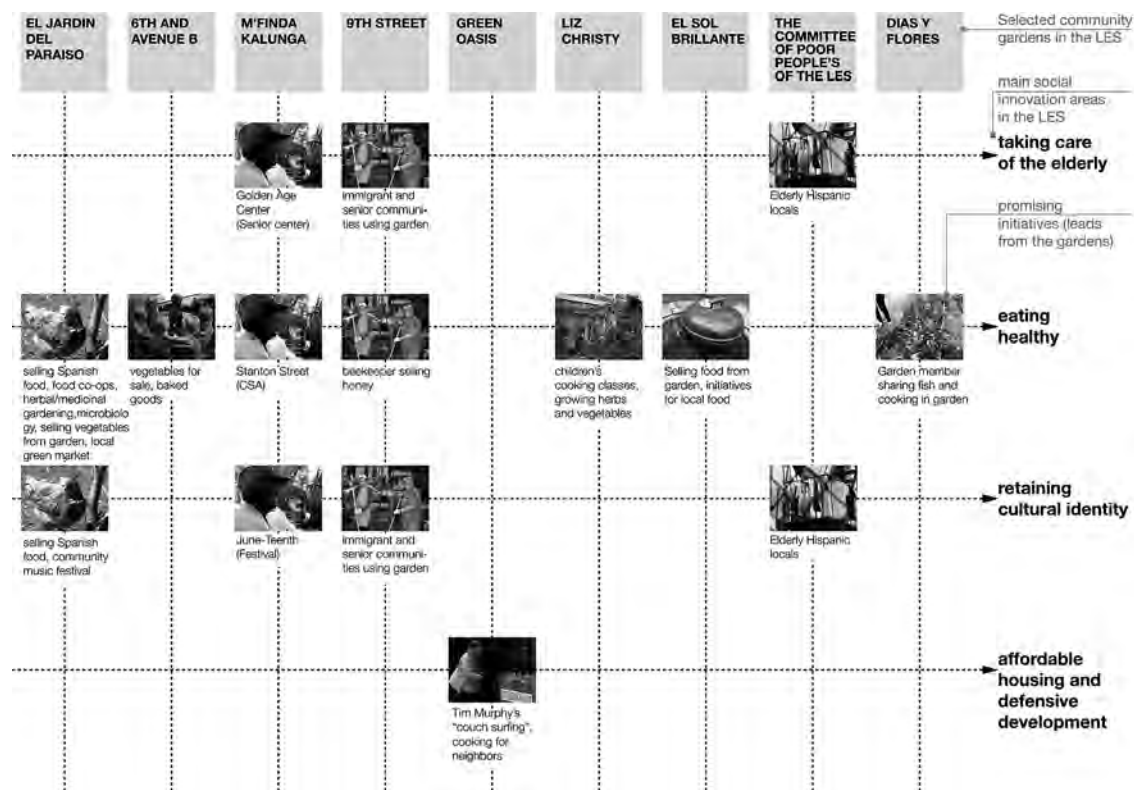

Figure 1: Categories of social innovation "leads" from selected community gardens on the Lower East Side

is used as a research tool. It aims to establish a public conversation, consulting the general public about several specific issues and showing some in-progress results and hypotheses.

For the Lower East Side exhibition we envisioned five main sections, each one dedicated to a particular aspect of the research. Each section aims to create a dialogue with the public about a specific topic by proposing a question about that topic and showcasing related research.

SECTION 1: LOWER EAST SIDE COMMUNITY GARDENS "INSTALLATION"

This section of the exhibition showcased 17 community gardens as examples of urban activism in the neighborhood. The installation includes a text description of each garden, as well as planters and similar artifacts produced in collaboration with the local community. A participatory method was used to accurately portray each researched garden through the eyes of the people who use them: members were invited to participate in an event to create a physical representation of their own garden, using actual plants from the gardens.

In this section no research question was proposed. Instead, this collaborative installation was intended to enhance the self-awareness of community gardens as gateways for other forms of social innovation on the Lower East Side.

SECTION 2: INTERACTIVE 3-D GREEN MAP TABLE

A physical version of the online Lower East Side Green Map showing Lower East Side Creative Communities was installed on specially designed tables and included elements (e.g. index cards) to enable public participation.

In this section we wanted visitors to help us identify other social innovation initiatives on the Lower East Side. The question to the public was: "Do you know a Creative Community in the Lower East Side?" We aim to use the public's input to lead us toward other initiatives and further mapping of urban activism in the neighborhood.

SECTION 3: SOCIAL INNOVATION CORNER

A closer look at the research with garden members led us to identify creative solutions for everyday life that members had developed, as well as four main challenges or areas of unmet needs:

- **How to take care of the elderly:**
  Traditional forms of support like senior centers are receiving fewer resources. How can we take this problem as an opportunity to rethink senior-focused services on the Lower East Side?
- **How to eat healthy:**
  Obesity, diabetes, and health issues related to food are a national and local challenge. How can we make the community's alternative food systems such as urban agriculture, food co-ops, and community-sup-

Figure 2: Section 1, the Community Gardens Installation, of the *Amplify* exhibition at the Abrons Art Center, with representations of gardens created for the exhibition

Figure 3: Section 2, the Green Map Table, of the *Amplify* exhibition at the Abrons Art Center, showing index cards submitted by the public

Figure 4: Section 3, Below-the-Radar Innovators, of the *Amplify* exhibition at the Abrons Art Center

Figure 5: Section 4, Creative Communities Worldwide, of the *Amplify* exhibition at the Abrons Art Center with wall-mounted iPods

ported agriculture groups more accessible to the entire Lower East Side population?

- **How to improve housing and home services**:
  With the pressure of gentrification, living on the Lower East Side is becoming more and more difficult to afford. And community bonds are fraying. Can we imagine collaborative services that respond to these challenges?
- **How to benefit from our cultural diversity**:
  The Lower East Side has historically been a melting pot of the most diverse communities, accommodating people from all over the world. How can we transform this wealth of cultures into a productive celebration rather than a community characterized by language barriers and separation?

Included in this exhibition section were four short videos designed by Parsons students[11] that told stories about local demands, unmet needs, and existing innovative solutions in the neighborhood related to each of the areas described above. Each video produced by students followed a three-part script:

- Part 1: Explaining the context – a sequence with images and captions showing people, spaces, interactions, etc., providing some background regarding each area;

---

[11] Students enrolled in the "Amplify Social Innovation" course in the Parsons Environmental Studies program

- Part 2: Vocalizing local demands – a series of "guerilla interviews" with people on the streets and in local businesses, gardens, parks, etc.;
- Part 3: Learning from existing solutions – a sequence combining an interview with the leader of at least one promising initiative (identified in the researched community gardens) and elements of the solution.

In this section the public could use cards to answer the questions: "How can social innovation make a difference on the Lower East Side? What are the main issues at stake?"

SECTION 4: CREATIVE COMMUNITIES WORLDWIDE

- In this section visitors were invited to browse through international stories displayed on wall-mounted iPods to learn from their successes and choose ones that could be started up on the Lower East Side. A selection of case studies from global research projects such as EMUDE (Emerging Users Demands), CCSL (Creative Communities for Sustainable Lifestyles), and CCSLA (Creative Communities for Sustainable Lifestyles Africa) provides an international perspective on existing social innovation concepts and existing Creative Communities worldwide. As described earlier, the case studies are clustered in five categories: transforming public space, enabling entrepreneurship, caring for people, bonding and bridging, and promoting cultural empowerment.

In this section the question to the public is direct: "Should we be doing something like this here on the Lower East Side?" A voting system using stickers allowed the public to select the most inspiring international case studies.

SECTION 5: WORKSHOP

A workshop was organized to evaluate the scenarios developed by students in response to the mix of demands and research into existing case studies of social innovation and urban activism. Workshop participants, who included project partners, local experts, and designers, discussed the scenarios' feasibility, usability, and adequacy for local conditions and hypothesized about aspects of each scenario.

4.2 Amplification toolkit

Beyond the exhibition, what other ways can designers intervene to scale up social innovation? As noted earlier, socially innovative practices are often below the radar of the general public and need to be acknowledged and sometimes "normalized" to be accepted as valid and desirable.[12] Therefore, designers have a key role to play: the transformation of existing hidden practices into models that can be reproduced.

In order to achieve this, DESIS Lab is proposing to build an "amplification toolkit" – a set of techniques, tools, and activities – to encourage individuals, local non-profit organizations, and policy-makers in the design field to develop solutions that promote sustainable lifestyles and sustainable and socially innovative solutions to urban problems.

The toolkit is a set of step-by-step instructions to help the user to develop a sustainable practice independently.

The plan to implement a do-it-yourself toolkit series is part of a network strategy to integrate efforts among the different stakeholders – from policy makers at the "top" to grassroots innovators at the "bottom" – involved in the development of solutions to daily problems. Our research identified the possibility of empowering community organizations already in charge of specialized programs and activities (such as recycling and composting by the Lower East Side Ecology Center, partner of the Amplifying project) to use their local knowledge and embeddedness in the neighborhood to act as hubs of social innovation. Equipped with our amplification toolkits, these organizations in the "middle" could play a major role in the adoption and diffusion of sustainable service ideas by promoting a positive interplay between bottom-up initiatives, peer-to-peer exchanges, and top-down interventions.

---

12 Laura Forlano, "Design and Politics on the Lower East Side." Research note for DESIS Lab, 2010, http://desis.parsons.edu/2010/03/acc-project-working-session-on-february-8/.

5. Next steps

When the first amplification process is concluded on the Lower East Side, the results of all conversations conducted during the exhibition and workshops will be analyzed and uploaded on the Amplify website, the main repository of the project. A second amplification process is planned to start in November 2010 in Brooklyn.

Eduardo Staszowski
Assistant Professor of Design Strategies
Parsons The New School for Design, USA
staszowe@newschool.edu

References

Center for Urban Pedagogy. *What Is Affordable Housing?* (a guidebook from the Envisioning Development Toolkit). Brooklyn NY: The Center for Urban Pedagogy, 2009.

Forlano, Laura. "Design and Politics on the Lower East Side." Research note for DESIS Lab, 2010. http://desis.parsons.edu/2010/03/acc-project-working-session-on-february-8/.

IDEO. *Human-Centered Design Toolkit: A Free Toolkit for NGOs and Social Enterprise*. IDEO, 2009. http://www.ideo.com/work/item/ide-and-gates-foundation-human-centered-design-toolkit/.

Jacobs, Jane. *The Death and Life of Great American Cities*. New York: Random House, 1961.

Jégou, F., and E. Manzini. *Collaborative Services: Social Innovation and Design for Sustainability*. Milano: Edizioni Polidesign, 2008.

Landry, Charles. *The Creative City: A Toolkit for Urban Innovators*. London: Earthscan, 2000.

Lower East Side Tenement Museum. "Lower East Side sites important to immigrants past & present." Walking tour developed by the Lower East Side Tenement Museum, 2010.

Manzini, Ezio. "Small, Local, Open, and Connected: Design for Social Innovation and Sustainability." *The Journal of Design Strategies. Change Design* (Parsons The New School for Design) 4, no. 1 (Spring 2010).

Mendelsohn, Joyce. *The Lower East Side Remembered and Revisited: History and Guide to a Legendary Neighborhood*. New York: Columbia University Press, 2009.

Meroni, A., ed. *Creative Communities. People Inventing Sustainable Ways of Living in Europe*. Milano: Edizioni Polidesign, 2007.

Nesta. *The New Inventors. How users are changing the rules of innovation*. Nesta: London, 2008.

Sampson, Elissa, personal communication DESIS Lab members, April 1, 2010.

Sampson, Elissa, "A flowering of resistance." White paper published by the author on Slideshare, 2009. http://www.slideshare.net/ejswoo/a-flowering-of-resistance-the-gardens-of-the-east-villag.

Sanoff, Henry, ed. *Participatory Design: Theory and Techniques*. North Carolina: Raleigh, 1990.

Von Hassell, Malve. *Struggle for Eden: Community Gardens in New York City*. Westport, CT : Bergin & Garvey, 2002.

Von Hassell, Malve. *Homesteading in New York City, 1978–1993: The Divided Heart of Loisaida*. Westport, CT: Bergin & Garvey, 2002.

Von Hippel, Eric. *Democratizing Innovation*. London: MIT Press, 2005.

Wallace Center. "Recruiting vendors for a farmers' market." Arlington, VA: Henry A. Wallace Center, Winrock International, 2007. http://www.wallacecenter.org/our-work/Resource-Library/wallacepublications/handbooks/RECRUITERS_Sc.pdf.

Session 2

Local Wisdom & Globalization

Federica Vacca and Paola Bertola

Fashion Artisan in Design Culture

An interpretative model

Abstract

Craft production is characterized by top manufacturing quality. However, there is no wide-spread perception of its value, therefore it is hard for this kind of production to enter the market. In this field, a *design-oriented* approach is essential. Design can establish a system of universally recognized values, and it can provide craftsmen with the tools to communicate the intrinsic quality of their work to the outside world. The relation between design and crafts becomes fruitful if consumers are able to understand and appreciate the excellence of a *craft design* production, by recognizing its uniqueness and added value.

The handicraft tradition, in all its forms, is therefore essentially a memory of customs and transmission of meanings. New languages must be found to confer a contemporary taste to manufactures, to avoid re-proposing passively the memory of shape and style, in order to preserve the identity as a positive heritage of the handicraft culture and to reconfigure planning and productive processes. Therefore, we cannot speak of a traditional production process of goods, but of a process that produces the value of goods themselves.

The focus of the paper is the study of knowledge, cultures, traditions and talent belonging to a place. The paper also aims to define the right conceptual and operational tools to increase the value of resources and to allow the reclamation of the proper factors for the identity of the local textile sector.

Keywords: Craft techniques, fashion and textile design, increase in value, implicit and explicit knowledge.

Slow & Fashion[1]

In all sectors of *made in Italy*, examples of designers-entrepreneurs are recurrent in the history of Italian businesses. This is a proof of the close connection existing between Italian culture and the Italian passion for the product. Although the market and production contingency is of course very different compared to the expansion period of *made in Italy*, "design companies" continue to be created today.

They are mostly very small enterprises, or actual micro-businesses. They are often classified as handicraft business, very distant from the arts&crafts model, and are much more common than what is usually thought. If, on one hand, they may be of little importance to those concerned with a strictly economic analysis, for those concerned with projects and innovation they are one of the most vital elements of our system.

Their survival is a key-factor in ensuring that our innovation potential is kept alive and strong. These businesses are characterized by a very distinctive level of design research and elaboration of new ideas; design is at the heart of the business and informs all processes. Their production is often very small-scale and is based on a sophisticated mix of advanced technologies and handicraft work.

Design is involved in all processes; it has a role in the process of connecting, and disconnecting, a given project with micro-production chains, selected according to creative, research and innovation objectives. Such network of "design-driven businesses" has direct and indirect relations with the rest of the productive system.

Although this network is seldom mentioned in the analyses and categories of the fashion system, it may well be one of its most strategic and distinctive elements.

Slow Design[2]

The big fashion brands of *made in Italy* coexist with a micro-business system that constantly regenerates itself, and can hardly be identified with existing, consolidated models. On one hand, it could be assimilated to the handicraft and artistic business system; on the other hand, this micro-business system is different to the handicraft and artistic business, especially in terms

---

of its approach to the product. Its product is indeed the result of a very advanced research, also on the technical level, which can integrate handicrafts with items produced through highly advanced industrial techniques.

If, on one hand, this new kind of economy may seem of little importance if assessed according to traditional economic parameters, on the other hand it is highly relevant from the point of view of the economy of knowledge. Within this fluid environment of micro-businesses (which are sometimes one-man businesses), cutting-edge projects and innovation take shape. They are then promoted in new ways, through networking and informal channels, and may often become a resource for the creativity of important companies. Micro-businesses allow for a dynamic mode of research and a review of traditional languages, because they are free from the restrictions imposed by large-scale production, without necessarily being bound to the production of single pieces.

This experience is very similar to what happened in the agro-industrial sector during the last decade. Small or very small productions were revived and renewed by integrating new techniques and resources, so that a small number of businesses were able to reach global niches of market[3]. *Slow* culture, in its broad meaning, is the capacity of protecting and recovering local know-how through renewed production and promotion. This culture seems to be deeply-rooted in our country, not only in the agro-industrial field[4].

The value of tradition[5]
In the last few years there is a renewed interest in traditional techniques and productions, which return to the contemporary world with a new aspect and new functions. From the etymological point of view, the term *tradition* (from Latin *traditiònem,* from the verb *tràdere*: to transmit) means "*the transmission of past generations' cultural heritage (i.e., laws, habits, memories, historical facts, etc.) by means of written documents or verbal communication[6]*".

This word is often used as a synonymous of *custom*. By *custom*, we mean the transmission throughout time, and within a given community, of the memory of events linked to the social or historical context, habits, rituals, myths, religious beliefs, customs, superstitions and legends. The cluster of traditions intended as *material culture[7]* (Miller, 1987) is identifiable with crafts production. This kind of production, therefore, becomes a founding element of the identity of a community.

In the recent past, due to its open rejection of standardization, crafts activities were viewed as hostile to modernity. Today, on the contrary, craftsmanship has become a model for post-industrial production, thanks to its unique character and personalized production that rejects today's "everything is the same" mentality. Crafts help defining the cultural identity of production through their ties to culture, memory and tradition, and by doing so they potentially become an element of innovation. Therefore, craftsmanship is "*memory of habits*" and "*transmission* of meanings". In order to preserve identity as a positive inheritance of crafts culture, it is necessary to re-structure design and productive processes.

New languages can thus be created, which can re-interpret crafts techniques with a contemporary taste, and avoid the passive reproduction of style and form. In other words, this process is no longer a traditional "production process" of goods, but it produces the value pertaining to the good itself. The value of the product is therefore less and less bound to its material qualities; rather, it relies on the symbolic, emotional or identity meaning that the consumer sees in it.

Design on the *thread* of tradition.
An interpretative model[8]
For manual arts in the textile sector, the relationship between tradition and modernity is crucial, in order for craft production to acquire a more modern and contemporary aspect. It is necessary to implement innovation processes aimed at the production of "new" goods, per-

3   Italy witnessed the birth of movements such as *Slow Food*. *Slow Food* is now well-known internationally as the movement that placed at the centre of food production and consumption the defense of territorial diversity, specific identity and typical products.

4   An interesting debate is currently taking place among multidisciplinary communities on the concept of "*Slow*" as a project, rather than simply as a movement connected to food. See papers presented at the seminar "Slow+Design, Slow approach to distributed economy and sustainable sensoriality", International seminar held in Milan, 6th October 2006, organised by Università di Scienze Gastronomiche Pollenzo, Slow Food, Politecnico di Milano, Istituto Europeo di Design, Domus Academy, Milan, 2006

5   By Federica Vacca, Politecnico di Milano, INDACO Department, Milano Italy.

6   Translation of the definition of *tradition* from "Il Grande Dizionario Garzanti di Italiano", updated edition, 2007.

7   To the Marxist notion of consumption and mass production, according to which people are alienated from the objects they produce, it is possible to oppose Daniel Miller's view. In his book "*Material Culture and mass Consumption*", Miller develops the concept of "*material culture*", intended as a process of creative consumption that can establish a tie between people and objects of consumption. According to Miller, *authentic* goods can be obtained not only through direct production processes, but also through a process of *personalization* of consumption. If goods are identified as one's own goods, they turn into "unique objects"; their value originates from the *personal* relation established with an individual who, through the object, identifies himself with a process of "material" signification.
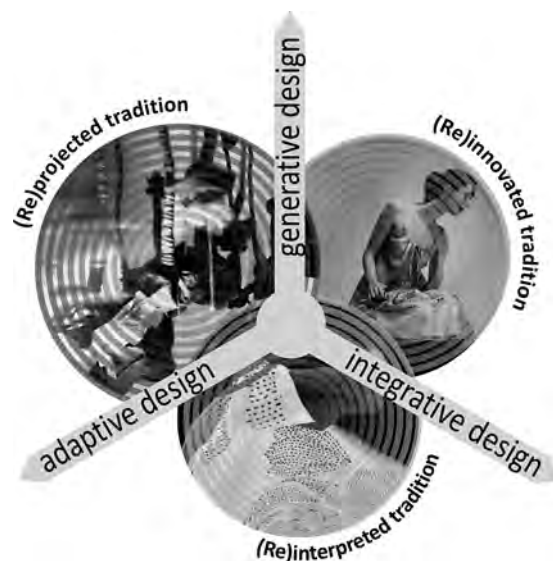
8   By Federica Vacca, Politecnico di Milano, INDACO Department, Milano Italy.

ceived as such by the market due to the way they look, their characteristics, performance or meaning (product innovation).

On the other hand, it is necessary to increase production activity by adding value to local specific identities, and to implement more sustainable processes that can be more flexible and fast in answering market needs (process innovation).

In terms of design, there are three possible interventions that can be performed:

- **adaptive** actions refer to the adaptation of external know-how by transforming existing processes into different applications.
- **integrative** actions refer to the integration of pre-existing know-how belonging to different production sectors.
- **generative** actions tend to develop new know-how and competences.
- Possible kinds of innovation connected to the material culture of craftsmanship can be obtained with a combination of these actions: **(Re)projected** tradition, **(Re)interpreted** tradition and **(Re)innovated** tradition.

Fig. 1: Combination of interventions at process level, as interpreted by Federica Vacca, Politecnico di Milano, INDACO Department, Milano Italy.

(Re)projected tradition⁹

In (Re)projected tradition, production processes and textile techniques – from spinning to dyeing – are de-contextualized and transferred from the place of origin to new contexts with new codes. This is an adaptive/generative action because, on the one hand, existing crafts techniques are adapted to different needs, re-pro-

jected and removed from their original context; on the other hand, this transforming action can also generate new languages and new meanings according to market needs.

As a consequence of this action, the original identity of the process is inevitably lost. Indeed, the process is no longer performed by expert craftsmen that inherited this know-how from past generation, but it is performed by new craftsmen/designers who learned these techniques and re-interpreted them by revisiting their concept and meaning. If techniques with specific identities are passively reproduced, the importance and meaning of craft tradition is at risk. In this context, the figure of the designer and the figure of the craftsman tend to coincide.

In a (Re)projected approach, the same individual, after having learned a certain know-how, is also able to re-elaborate, adapt and contextualize it according to a new mode of expression. The *traditional* craftsman, who produces objects to a purely practical purpose, is therefore replaced by the craftsman/artist. His or her work is informed by original creative models and styles, which give a new, personal meaning to the "*culture of making*", meant as a means of expression of one's own thought.

Valeria Bosco's Lasabui¹⁰

"My work is never-ending, and this is why it is so fascinating. I feel part of something that I can control, but which will never be entirely mine".

With Valeria Bosco, the art of textiles found new modes of expression, by combining elements of its own tradition with a mixture of different, remote languages. This is achieved through a balanced recovery and interpretation of the know-how typical of ancient cultures.

Bosco's design is based on the recovery of a skillful and mature handicraft tradition, in which signs of ancient cultures are rediscovered through materials. At the same time, her design is inspired by the artistic ability to discover her identity through expression, thus creating re-defined entities. Valeria Bosco has always put forward her personal research by re-interpreting ancient techniques with a contemporary taste. In doing so, she has often changed the nature of textiles, which were given new and different symbolic meanings in order to pursue textiles' expressive and emotional potential.

---

9 By Federica Vacca, Politecnico di Milano, INDACO Department, Milano Italy.

10 This paragraph is based on the interview made by Federica Vacca (Politecnico di Milano, INDACO Department, Milano Italy) to Valeria Bosco, designer of Laboratorio Lasabui, and on several press release texts made available by the designer herself. Whenever a specific footnote does not indicate otherwise, any quotation in this paragraph is based on Bosco's words during the above-mentioned interview by the author.

Lasabui is a craft workshop specialized in the decoration of fabrics with handmade techniques. They employ resist-dyeing[11] techniques that come from ancient traditions in textiles: Shibori, Batik and Tie&Dye. *Shibori* is a Japanese method and is considered the most noble among resist-dyeing techniques. In particular, Bosco re-interprets the C*lamping Shibori* technique and detaches it from its ancient tradition. First of all, fabrics are folded like in the *Origami* technique; then they are wrapped around geometric wooden blocks of different size. These are then pressed with grippers and soaked in dye, which penetrates the folded fabrics and creates geometric patterns with a sophisticated visual impact. The *Tie&Dye* technique is based on a similar concept. Reserves are obtained through bindings and knots. Color cannot fully penetrate these bindings, therefore creates a very refined irregular effect. In the better-known technique of *Batik,* reserves are obtained by applying melted wax on sections of the fabric, which are preserved from the dye and will undergo further decorations and dyeing.

> *"In the dyeing field, beaten tracks that achieved excellent results are hardly abandoned. But the real challenge is to find new decorations that are not directly linked to our culture. Through my work, these techniques are given different shape and languages; although they may be less recognizable, they are more contemporary".*

Valeria Bosco worked with the most important fashion brands, including Prada, for the 2004 Spring/Summer collection and the 2004/2005 Fall/Winter collection. The 2004 Prada style, with its vintage taste, evokes the Fifties. The wide, full skirts, decorated with Mediterranean images and patterns, the ankle-length trousers and the delicate silk shirts characterize this exclusive, *retro* women collection. Fabrics were also treated with peculiar techniques. Each item was treated with *Tie&Dye* and *Shibori* techniques, which gave the collection its unusual, innovative character, absolutely creative and original.

---

11 *Resist-dyeing* is a dyeing technique for fabrics and yarn, which consists in rendering part of the cloth surface dyeing-proof, so that the dye cannot penetrate. Thanks to this technique, the patterns and textures obtained are always different, because the preserved (or reserved) part maintains its original color, while the exposed parts absorb the dye. It is also possible to perform further dyeing of different colors, thereby creating very complex and refined patterns. Dyeing-proofing is obtained with different methods and materials, mainly of three kinds: tying the fabric on itself, or on various supports such as wooden blocks (Shibori or Clamping Shibori), tying the fabrics with strings, ropes or other materials (Tie&Dye); finally, applying wax or other kind of natural paste on the fabric, to prevent the dye from reaching all the cloth (Batik).

Through bindings, folds and a series of resist-dyeing processes, she created delicate and refined textures, based on color shades ranging from beige, to brown, to blue, red and green, in tune with the vintage and nostalgic ideal sought by Miuccia Prada. The result was extraordinary, a perfect contamination between two parallel worlds. On one hand, the display of ethnic and folkloristic techniques, with a traditional touch, conveyed *know-how* and a knowledge of fabrics and ancient dyeing techniques. On the other hand, the collection revealed the talent and creativity of design. The minimalistic and essential shapes, lines and fabrics are the characteristics of a kind of design that succeeded in perfectly combining these two, seemingly distant worlds.

Fig. 2: Lasabui by Valeria Bosco + Prada. SS collection 2004. http://www.style.com [12/09]

(Re)interpreted tradition[12]

In (Re)interpreted tradition, manual traditions are recovered by partially removing them from their original context. While the productive know-how continues to have its roots in the local territory, the design process is done beforehand by an external figure that projects the local know-how towards new results and different markets.

This is an adaptive/integrative action because, on the one hand, it adapts handicraft productions to design strategies different from those that traditionally belonged to the territory, thus producing innovation. On the other hand, it also integrates the know-how connected to different design strategies. In this case, techniques do not lose their identity; rather, the final product is improved by the addition of new meaning belonging to new design contexts.

The role of the designer is to support the craftsman in the process of evolution of formal archetypes, by revisiting together the elements typical of manual techniques. The product resulting from this collaboration is closely linked to the traditions it identifies with. As it does not lose its characterizing values and identity,

---

12 By Federica Vacca, Politecnico di Milano, INDACO Department, Milano Italy.

it becomes an innovative re-interpretation of the past driven by very contemporary criteria and objectives.

If not supported by strong planning strategies, these techniques and the cultural heritage they come from are at risk of becoming copies of themselves, and a passive reproduction of a now de-contextualized know-how.

Yooj by Jeong-Ah Yoo[13]

"My world is a continuous contamination of different cultures and ancient knowledge".

This is how fashion designer Jeong-Ah Yoo, who was born in Korea but lives and works in Milan, describes her world – a contamination of elements from different cultures and ancient know-how, linked to memory and to the past. With the brand Yooj, Jeong-Ah Yoo's aim was to create a collection of precious items with a multicultural identity. Indeed, the textiles belonging to Yooj fashion collection and home collection were inspired by Korea, Italy, India and Bangladesh.

All the textiles were manufactured by groups of Indian and Bangladeshi craftswomen, who master spinning and embroidery techniques belonging to the tradition of these two countries. The items of clothing, on the other hand, are designed and manufactured by hand in Jeong-Ah Yoo's workshop in the center of Milan. Thanks to their simple lines, both the textiles and the final products are characterized by a neat and minimal style. At the same time, elaborated and graceful embroideries, displaying a perfect balance between fullness and void, embellish the collection and enhance each single item by making it unique and personal. The exquisite textiles of the winter collection range from silk to cotton, from cashmere to wool. Colors are mainly neutral from white, to cream, to black, in order to enhance Yooj's distinctive trait, namely decorations and embroideries.

"I have always loved embroidery. I came in contact with the beauty and value of the Indian and Bangladeshi craft production, this why I felt the need of beginning a 'pure' search to discover textiles that could somehow stimulate and inspire me. At first, I was not interested in clothes. This aspect became important later, when I realized that it could have been interesting to produce clothes together with these wonderful craftswomen."

Each group of craftswomen working with Yooj specializes in a fully original and unique technique, which gives the collection its exclusive touch. In India, embroidery is very similar than in the Far-East. As in Chinese or Korean embroideries, patterns are very elaborated, colorful and difficult to make. Jeong-Ah Jeong-Ah Yoo's favorite kind of embroidery is *Kantha*[14]. Kantha is a fine, running stitch which, through stylized images of nature from the Indian heritage, conveys Yoo's meticulous search for fine, elegant and sophisticated textures. *Chikankari*, the so-called "shadow embroidery" (traditionally white thread on white fabrics), was used to create a refined, *ton sur ton* texture for silk shirts of the summer collection, and for belts, begs and other accessories of Yooj *home* collection. The use of *Zari or Zardosi* makes textiles even more sophisticated; clothes items or accessories can become even more elegant and refined thanks to the use of gold and silver threads, to which precious stones are sometimes applied.

Yooj collection is *out of time;* it only includes single pieces and concentrates on a particular kind of processing and experience. After having distanced herself from trends and the passing seasons of fashion, Jeong-Ah Yoo chose to focus on the quality of crafts, *"which needs to be allowed all the time necessary for creation".* This is how she created a unique and coherent collection with a very personal taste, destined to a market niche that can appreciate the timeless quality of her creations.

Fig. 3: Atelier Yooj by Jeong-Ah Yoo. http://www.yooj.com [12/09]

(Re)innovated tradition[15]

In (Re)innovated tradition, traditional processes remain strongly tied to their original territory, therefore become an innovation tool for the local community.

This is an integrative/generative action because, on the one hand, there is an improvement of handicraft

13 This paragraph is based on the interview made by Federica Vacca (Politecnico di Milano, INDACO Department, Milano Italy) to Jeong-Ah Yoo, designer of Yooj, and on several press release texts made available by the designer herself. Whenever a specific footnote does not indicate otherwise, any quotation in this paragraph is based on Jeong-Ah Yoo's words during the above-mentioned interview by the author.

14 Kantha is a kind of embroidery made of small stitches that look the same both on the front and on the back of a cloth. It is used to stitch together two cloths, or as a decorative motif. In the Indian tradition, this technique was invented to stitch together textile leftovers, which would have otherwise been useless. Afterwards, the skills and creativity of Indian women turned it into a refined embroidery that illustrates short stories.

15 By Federica Vacca, Politecnico di Milano, INDACO Department, Milano Italy.

skills according to market trends; on the other hand, between different working areas there is an exchange of know-how, applications, codes and languages that leads to a renewal of local traditions, both in terms of project and in terms of product. It is crucial to define a specific strategy that can combine memory and local identity with innovation, according to new codes of expression. In turn, these new codes of expression can activate cultural changes that produce innovation and development, and which bear positive consequences for the local territory. Indeed, the greatest advantage of this action is precisely the involvement of local communities with shared identity, which actively contribute to cultural change.

This process is the starting point to obtain an innovative product, both in its material aspect, improved by a specific design, and in its immaterial aspect by adding new meaning and new progress perspectives. Moreover, the emotional dimension of tradition creates an evocative context within which the product is also an expression of local history.

Antonio Marras[16]

"Tradition is not a model to be copied, but the support upon which ideas take shape. There is no modernity without tradition". This is Antonio Marras' philosophy, an artist/craftsman/fashion designer who pioneered the recovering of Sardinian handicrafts. Marras was born in Sardinia and there is where he decided to live and work, getting away from big fashion centers like Milan and Paris, where Marras presents his prêt-à-porter collection and Haute Couture collection for the Maison Kenzo. Marras style is very attractive and based on a distinctive creativity, connected to tradition but also linked to other cultures and epochs. Marras' style is dominated by manual skills and knowledge, and is characterized by layers of fabrics, embroideries and decorations. Therefore, his items of clothing are often unique as the creations of ancients dressmakers. In Marras' collections, details and decorations are so many that the poorest materials become rich through intersections, additions and overlaps. Free seams and tangled threads, inspired by Maria Lai's work[17], are some of the elements that define the essence

of Marras' style: incompleteness, irregularity and hand-made quality. As a consequence, techniques becomes fundamental and ornament becomes the leitmotif of Marras' idea of clothes.

"Through ornaments, form 'becomes expressive' and conveys emotionally-involving messages, more than the mere structure could do" (Altea, 2003, pp. 48–50).

The *Antonio Marras* collection is produced by the textile manufacturer Gibò, from Florence. Among its clients, John Galliano e Viktor & Rolf. The *Antonio Marras* collection is accompanied by another collection called *Laboratorio*, half way between *prêt-à-porter* and *haute couture*, a limited series produced entirely in Sardinia and then distributed all over the world, with sales peaks in Japan.

Therefore, Marras needs the handicrafts skills he finds in the women-tailors from Ittiri, a small village near Alghero, heirs of the Sardinian art of embroidery. Thanks to their work, Marras re-discovered ancient techniques such as folding[18], and revived those kinds of ancient know-how threatened by mass production.

With his fashion shows, Marras tells us about a journey through time, and about an encounter of memories; he tells us insights from his own life and that of people around him, mixed with quotations from art and theatre. Together with Sardinian culture and the recovery of manual skills, these are the founding elements of Marras' unique creative language.

Marras is the narrator of his own land, of abandoned and unguarded traditions. His attitude towards the past is that of recovering forgotten elements and bringing authentic stories back to life, with strong roots in their place of origin (Mancinelli, 2006, p. 73).

Narration is a fundamental element in Marras' collections. Behind them there is always a narrative cue that inspires visual connections and original encounters. The narrative potential of clothes and ornaments is enhanced by the catwalk setting, a stage that introduces the public to an emotional narrative told with truly spectacular performances.

---

16 This paragraph is based on the interview made by Federica Vacca (Politecnico di Milano, INDACO Department, Milano Italy) to the head of Antonio Marras' press office, and on several press release texts and other documents from the Circolo Marras private archive, in the Antonio Marras Showroom, Milan.

17 Maria Lai. Sardinian artist who studied sculpture with Arturo Martini. In the core period of her career in Rome, she pursued a very personal search for community ethics and the myth of narrative. Her interest towards feminine manual skills and towards popular culture inspired some of her fascinating works such as *Geographies*, maps embroidered on fabrics and velvet, and *Sewn Books*: at first undecipherable writings, they then become fairy-tales told through sequences of images and patchwork.

18 Folding is a textile technique that consists in the creation of small, identical folds. Folding was handmade by applying horizontal basting with strong cotton thread at 2 cm distance. The basted skirt (*infilada)* was then soaked in warm water so that the fabric could slightly felt and the folds could settle in. The basting was only removed, and the skirt finally worn, after several years. When folds would naturally wear out (*s'iscorriolaìada*), or after any washing or dyeing with darker colors, a new basting had to be made.

"When I prepare a collection, I always start from the desire of telling a story. I choose the fabrics I like and I gather ideas that are turned into what I would like to tell, as if they were a script" (Mancinelli, 2006, p. 73).

Sardinia, therefore, becomes Marras' source of inspiration and something to be expressed through his clothes. Above all, Sardinia becomes the basis of the fashion designer's project. The constant call to origins is no longer expressed by memories of an ancient culture narrated through visual and narrative images; rather, it becomes Marras' *modus operandi*.

Indeed, Marras' recent collections were inspired by more global places and figures; in the 2006 Spring/Summer *Boots* collection there is reference to the music of Chopin and Tchaikowsky, and to the atmosphere of the Bolshoi theatre. In the Fall/Winter 2008/2009 collection, and in the Spring/Summer 2009 collection, he took his inspiration from Chagall's paintings and from Parisian's sculptor Camille Cloudel.

In this *different* context, the art of Antonio Marras is no longer based on the permanent evocation of his homeland, but on the techniques that he applies to his creations: the refined decorations, the overlaps of textiles and the use of handicraft embroidery that is the characteristic of his design. Now, it is precisely his acknowledged style that evokes local identity and culture. Traditional *know-how* can tell new stories through its codes of expression- new tales associated with a fluid conception of the past and with the designer himself.

Fig. 4: Antonio Marras. FW Collection 2006/07.
http://www.style.it [12/09]t

Analysis of the model[19]
The analysis of the model and of the best practices connected with "tradition" are aimed at understanding if design can effectively revive handicraft processes, and how can these actions influence local networks.

The first aspect is to be found in the (Re)projected approach, in which the designer tends to coincide with the figure of the craftsman/artist. Through his or her work, traditional techniques are re-interpreted and re-elaborated both in their form and in their concepts, thus detaching them from their original culture. In this context, it is more appropriate to talk about a re-definition of traditional processes, rather than about an enhancement of cultural contexts. The connection with territory is replaced by new modes of expression; traditional processes are renovated by the design attitude of the craftsman/artist. Instead, the production of goods is now inscribed in an artistic and creative perspective. It underlines *"an ethnical aesthetics, or an aesthetical ethnicity, which usually lacks any practical purpose and sometimes pretends to be aimed at the production of single pieces (…), while at the same it claims a direct connection with traditional techniques, materials and styles"* (Angioni in Caoci, Lai, 2007, p. 11).

In the other two models, instead, design seeks to rediscover local contexts, and the cluster of material and immaterial values connected to them. This approach is more clearly oriented towards the recovery of techniques and experiences that come from an implicit know-how[20] (Polanyi, M., 1966) typical of a certain territory.

A *shared knowledge* (Nonaka I., Takeuchi H., 1997) relationship is possible when the dialogue between design and crafts is based on a true exchange, capable of creating a new kind of knowledge without undermining the nature of each of the parties involved. Such relationship combines the *explicit* planning nature of design with the manual skills and *implicit* knowledge of the craftsman; designer and craftsman would therefore work in constant collaboration in the product creation and development.

In (Re)interpreted tradition, renovation actions are *explicit*, because they create a net of relations between different approaches and know-how (artisans and designers). On the other hand, in (Re)innovated tradition they are *implicit*, as they try to interpret local identity and to involve the local community in this process.

In both cases, the figure of the designer and the figure of the craftsman are separated. Each in his or her own way, they work together towards the production of a final product that encompasses not only the designer's planning attitude, but also the manual skills and personality of the craftsman. The product obtained, therefore, "belongs" to its territory as it embodies all the symbolic, evocative and emotional values of local culture.

---

19 By Federica Vacca, Politecnico di Milano, INDACO Department, Milano Italy.

20 A crafted object is the outcome of a *implicit* knowledge (Polanyi, M., 1966), internalized by the craftsman, whose skills cannot be easily conveyed through verbal communication. The *technical* aspect of such *implicit* knowledge consists in the know-how needed to master a specific technique, as well as the processes that are the expression of a way of working and "making" objects linked to specific local territories and historical traditions.

In these two approaches, the implicit know-how of the craftsman is not undermined by the explicit knowledge of the designer. On the contrary, there is an exchange of skills and attitudes between these two figures, in order to create a new kind of common knowledge for a common experience that could be repeated in time.

In conclusion[21]

The choice of analyzing handicrafts in the light of a discipline like design, had its roots in the need of contributing to the project culture, to its promotion and fruition.

The insights outlined in this article are to be viewed as a preliminary, theoretical analysis of the necessity of reviving traditional techniques. Indeed, they could be a powerfully distinctive element in the *object society*, a source of new and original modes of interaction between the two disciplines of design and handicrafts. Through this process, the codes and languages typical of traditional techniques and culture are re-structured. The project and productive processes of goods are renovated, while the skills and techniques associated with local material culture are given new value.

Such renovated production processes can potentially be repeated in time, provided that the positive interaction between design and handicraft is explicitly codified, and that new, non-univocal models capable of initiating this kind of processes are proposed.

The core idea of this article, and its most significant contribution, is the proposal of "operative models" and the analysis of their potential, positive consequences on the system of relations between design and handicrafts.

Federica Vacca
PhD | Research fellow with a temporary position | Politecnico di Milano
INDACO Dept., via Durando 38/A,
20135, Milano, Italy.
federica.vacca@polimi.it

Paola Bertola
Associate Professor | Politecnico di Milano
INDACO Dept., via Durando 10,
20135, Milano, Italy.
paola.bertola@polimi.it

References
Adamson, G., *Thinking Through Craft,* V&A Publications, Londra, 2007.
Altea, G., *Antonio Marras* (In Italian.), Ilisso ed., 2003
Barthes, R., *The Fashion system*, Einaudi, Torino 1970.
Baudrillard, J., *The System of Objects*, Bompiani, Milano, 1972
Bauman, Z., *Liquid Modernity*, Laterza, 2006.
Becattini, G., *From Industrial Districts to Local Development: An Itinerary of Research*, Bollati Boringhieri, Torino, 2000.
Becker, H. S., *Art Worlds*, Il Mulino, Bologna, 2004.
Benjamin, W., *Angelus novus* , Einaudi, 1995.

Bertola, P., Conti, G., (a cura di), *La Moda e il Design, il trasferimento di conoscenza a servizio dell'innovazione* [Fahion and design. Knowledge transfer for innovation] (In Italian.), Edizioni POLI.design, Milano, 2007
Bertola, P., Conti, G., (a cura di), *Moda e Design: Cross Fertilization per l'innovazione* [Fahion and Design. Cross-fertilization for innovation] (In Italian.), SDI Design Review n°4, ed. Poli.design, in www.sistemadesignitalia.it/sdimagazine/
Bertola, P., Manzini, E. (a cura di), *Design multi verso* [Multi-verse Design] (In Italian.), Polidesign Editore, Milano 2004
Bertola, P., Sangiorgi, D., Simonelli, G., (a cura di), *Milano distretto del design* [Milan design district] (In Italian.), Il Sole 24 ore, Milano, 2002.
Branzi A., "Sette gradi di separazione" in Catalogo della Mostra The New Italian Design, La Triennale di Milano, Milano, 2007.
Brogli, L., "Atlas of Emotions", in *Aria Magazine*, n.1, giugno 2005, pp. 14–29
Caoci, A., Lai, F., *Gli oggetti culturali* [Cultural Object] (In Italian.), Franco Angeli, Milano, 2007.
Castells, M., *The Power of Identity: The Information Age*, Edizioni UBE, Milano, 2004.
Celaschi, F., Deserti, A., *Design e innovazione* [Design and Innovation] (In Italian.), Editore Carocci, Roma, 2007.
Corbellini E., Saviolo S., *La scommessa del Made in Italy* [The bet of Made in Italy] (In Italian.), Etas, Milano, 2004
Eco, U., *Art and Beauty in the Middle Ages*, 4 ed., Bompiani, Milano, 1995
Eco, U., *La struttura assente* [The Absent Structure] (In Italian.), Bompiani, Milano, 1968
Ferrè, G., *Embroidery italian fashion,* Damiani, 2006.
Floch, J. M, *Semiotics, Marketing and Communication*, Milano, Franco Angeli, 1992
Frisa, M.L., *Antonio Marras* (In Italian.), Corraini ed., 2007
Hannerz, U., *La diversità culturale*, Il Mulino, Bologna, 2001.
Harvey, D., *La crisi della modernità*, Milano, Il Saggiatore, 1997
Lucie-Smith, E., *The Story of Craft*, ed. La Terza, Roma, 1984
Mancinelli, A., *Antonio Marras* (In Italian.), Marsilio ed., 2006
Marshall, A., *Industry and Trade. A study of industrial technique and business organization*, Macmillan & Co, London, 1919.
Miller, D., *Material Culture and mass Consumption*, Oxford, Basil Backwell, 1987
Naj-Oleari R., La città segreta [Secret City] (In Italian.), Guido Tommasi Editore, Milano, 2004
Nonaka, I., Takeuchi, H., *The knowledge-creating company*, Guerini e Associati, Milano, 1997
Norman, D., *Emotional Design*, Apogeo, Milano, 2004
Panghaal, J., "New artisanship for new communities. Frugal Design as the way of the artisan in the new world". *Atti del convegno internazionale Changing the Change*, Torino 10 – 12 Luglio 2008, Umberto Allemandi & Co, 2008
Pine, J., Gilmore, J.H., *The Experience Economy*, Etas, Milano, 2000.
Polanyi, M., *The Implicit Dimension,* Doubleday Anchor, New York, 1966
Porter, M. E., *Competitive Advantage,* FreePress, New York, 1985.
Serlenga, L. (a cura di), *Fashion Details*, Edizioni Tessili Vari, s.l., 2007
Simmel, G., *Fashion and Its Social Agendas*, Editori riuniti, Roma 1985
Strada, N., *fashion and Design*, Editoriale Modo, Milano, 1998.
Turkle, S., *Evocative Objects: Things we think with.* MIT Press, 2007
Vivarelli, M., Pianta, M., *The employment impact of innovation – Evidence and policy*, Routledge, London, 2000
Wingler, H. M., *Bauhaus: Weimar, Dessau, Berlino 1919–1933* Feltrinelli Editore, 1987

---

21 By Federica Vacca, Politecnico di Milano, INDACO Department, Milano Italy.

Jacqueline Otten and Michael Krohn

Regional Knowledge and Global Design

Or: The Better You Look, the
More you see…

Abstract

Despite the fact that modern design seems global, the structures of the design process reflect a differentiation of cultures. Starting in the second decade of the new millennium, a re-orientation of aesthetics results with new boundaries is being drawn. For design, this signifies a revival of traditional forms and materials, and at the same time though, it strengthens the integration of popular culture in order to react to the Modern Age.

If this sets the "mass production" of unique pieces in motion, "New Regionalism" is the counter-movement to mass customizing and marketing – and thus undermines the philosophy of brand identities. It brings "true creativity" into the product culture. It is a given fact that in this paradigm shift the role of the designer will undergo great change. This paper attempts to resolve design development into a number of perspectives that involve the rediscovery of crafts and an exchange among different cultures of knowledge.

Author Key Words: design; globalization; hand craft, regional and global culture

Regional Knowledge…

Toward the end of last century, Bret Easton Ellis wrote an anti-novel novel, Glamorama, which expresses his cultural pessimism: With the rise of the masses there are no longer protagonists; there are only chorus. What Ellis meant with this, is a loss of innovative potential and a loss of the personal handwriting. Why this?

With the entrance of the industrial revolution, the speed of change could be realized as a principle of design. It is the speed in our society that results in a double matrix of desire and obsession, and even when a design line is almost timeless, it boasts with the paradox of speed. Viktor Horsting from the Dutch fashion design duo Viktor & Rolf comments on this in a newspaper: "it is a doubling, we want to participate, but at the same time escape." [1]

In this last decade designers do attempt to escape from that what they had provoked for themselves: actuality, seriality, consuming. Design succeeded to establish a venue for "deceleration" and viability – and I would like to look into the future to see if this development perhaps results in a new serial design, which, nevertheless, is subject to the dictates of the market. It is about the antagonism when *wishing* to create and *needing* to produce, as Francois Baudot found out [2]. He describes this phenomenon as the two antagonistic poles of our (design) culture. Despite the fact that modern design seems global, the structures of the design process reflect a differentiation of cultures, the fact that we live in an age of globalization makes us obviously more aware that a true use of local identities can give us strength.

When local and regional identities dissolve, we like to grasp the essence of herited roots, for example traditional skills. A good example is Yamane Hidehiko, a professional dressmaker that uses traditional textile techniques in his label "Evisu". Jeans are being produced on old looms, in traditional colour techniques. Each piece is unique, a contradiction as precisely jeans wear is a garment that is highly recognized as mass production and uniform *perse*.

With this change of perspective, the interest in the materials and in the process itself, but also the "creating of meaning", has increased. The 21st century has developed a philosophical age with completely new approaches and qualities in design. From this, a re-orientation of aesthetics results with new boundaries can be drawn and in this, we truly can learn from Asian designers. Their products signify a revival of traditional

forms and materials, and at the same time though, it strengthens the integration of popular culture.

Culture is defined as being not in a static state, but rather as a process of expropriation and appropriation. From the perspective of globalization people no longer live in separate cultures but they live culturally, and several terrains are interacting simultaneously and with one another (music, sports, but most of all the media), they form parallel trends. This culture reflects the aspect of the production of meaning, endowment of life, and identity construction. And it abolishes the separation of the design- and production processes. Starting with perceptions, products are transformed or modified. "Aesthetic experience" could be the new design term. The structure is extremely individual, rejecting mainstream cultures, difficult to objectify, and appears to be in contradiction to our world of mass production, where globalisation is converted into an every-day aesthetic.

Our history or herited roots – and how that history is understood – are of important influence in contemporary design culture and international relations. To examine history and its interpretation works as a navigator for making sense of contemporary society. I would like to resolve this development into a number of perspectives that involve scientific and economical aspects. In the association of craft with life style the question arises whether the consumer appears to be the creator, and how the designer defines culture. It is a given fact that role of the designer and the designs themselves will undergo great change. It frees the way back from the series to the single piece. If this sets the "mass production" of unique pieces in motion, then the counter-movement to mass customizing and marketing – and thus the undermining of brand identities starts. It brings "true creativity" into the product culture.

In design education we draw 3 territories that are important because they add and drive forward this change, as they are the platforms where we globally can find together and bring in our local perspectives:

1. The Slow Design Movement
2. Design Thinking Complexity
3. Bricolage

1. The Slow Design Movement: Handwork

In a society that is rich in terms of money and poor in regard to time, it seems a contradiction to invest lots of time on hand work, especially when it is possible to buy those goods in a proper quality to a descent price. But a re-orientation on craft skills and regional aesthetics seems to be needed in a world of complex design systems and subjective consumers' needs.

The rediscovered art of handcraft is celebrated in for example stitches and fabric of quilts. Slow design is a reaction against modern ways of living and con-

sumer patterns. It focuses on low-tech procedures and craft production methods, espouses environmental concerns and counters today's throw-away culture with a make-do-and-mend mentality. The handcraft itself, like stitching, can be an activity of calmness and meditation, and this experience is new to a generation grown up in fast-lane life styles.

"The repetitive co-ordination of eye and hand aid contemplation, as does the investment of time" says Sue Prichard, curator of the V&A show on British Quilts, in an interview with the Financial Times [3].

Stitching and knitting suddenly become more visible, more inclusive and performative; it is not a hidden activity in the home anymore but enters professional ateliers. It also implicates social activities that were presumed lost as a result of both industrialization and modernism. The movement needs to be seen in the context of an increasingly global and impersonal economic world, in which the individual feels disenfranchised.

It is the internet that reveals the *global* enthusiasm for e.g. quilts, bringing together quilt festivals in Tokyo and Houston. This Universal design is safe and simple and tells us that though we are all different, it needs things that can be used by everybody. This trend is only seemingly rejecting technologies; glocal knowledge can be exchanged in worldwide subcultures *because* of technology.

2. Design Thinking: Brain work

Paradoxically, because of digital media, the slow design movement can be combined with the rapid design interventions as they were developed in "design thinking". This methodology addresses social problems, not as the Bauhaus movement understood, but as for example the company IDEO is looking at wider social issues. Design thinking takes an interdisciplinary approach to achieve its aims within a limited timeframe and with simple regional resources. It enables site-specific research to be done more quickly and in more depth, by demonstrating key changes to users who experience them rather then simply discuss them.

Here the design process shows a concatenation of problem specifications, planning phases, and design results with functional simulation, synthesis, and final realization. As in the design process the "why" and "how" are clarified in solution-seeking processes, the "what" represents the innovation factor and can turn back to traditional crafts.

Surely it is of danger, when handcraft stands for a self-referential system, relates only to itself and does not answer the question concerning the "what" as innovation. But when the initial object "what" is analysed in the context of its use and/or usefulness, the material as well as the form and the perception can profit from the results of the analysis. It is not to trivialise complex

situations, it is about separating complex questions to give useful answers.

"Local craft techniques can help because they are multi-layered, complex signifiers of personal and collective narratives and experiences", it says on the Japan Society website [4]. The author Rose George, together with Gunnar Baldwin, water efficiency specialist, explores high tech and eco innovation in the Japanese bathroom, and the prospects for their wide adoption in new designs.

Design thinking as a new strategy can formulated as limited planning, adaptiveness, with an emphasis on "do it yourself" which asks for small teams with multiple skill sets. Added to this is a small budget and the release of the project in due time, which means as soon as possible.

It is the opposite of the large scale and top down-organized projects that need Gantt charts and too many stakeholders, projects that often lead to escalating requirements and complex dependencies High risk, big teams and almost scary budgets are the opposite of design thinking.

3. Bricolage: Personal intuition

Panagiotis Louridas stated that in design as bricolage "anthropology meets design thinking"; it is an identity formation [5]. Both traditional and contemporary designs are forms of bricolage. The re-evaluation of traditional techniques and skills can create products that have a universal appeal. In "the culture of knitting" Joanne Turney describes bricolage as: "reference from a variety of existing visual sources, collecting and collating them to create a "new" visual whole, which remains open to interpretation" [6, p.77].

Machines produce products cheaply and quickly. But machines cannot copy the human hand work, the production is evenly. "In our days, the bricoleur is still the one who works with his hands, using indirect means compared to those of the craftsman… It is important that the incidental, in the guise of the use of indirect means, is the notion that has been retained: the bricoleur makes do with what's there, with what he encounters. In that, he differs from the engineer", Louridas states. Bricolage can be seen as a subversive act, a socio-political commentary through creativism and Do it Yourself culture. It has something to do with being part of a guild system on one hand, but largely independent workers on the other. Workers that are occupied in their own homes or studios, dominated by seasonal rhythms and needs instead than by the market.

As part of the symposium "Technology & Tradition in Contemporary Japanese Architecture" on February 2004, craftsmanship & the use of old & new materials was discussed with panellists Kengo Kuma, and architect, and Terunobu Fujimori, Professor at the Institute of

Industrial Science, University of Tokyo. Question: "Both of you make unexpected use of materials. Is there anything you'd like to try that you haven't tried yet?" Mr. Kuma: "a plastic curtain. The shredded kind used in the factory or warehouse that is soft, like the skin on the body." And Prof. Fujimori gave the, for me, most far going and border crossing idea: Fire. "In Japan when there is a fire, it will be big, because wood is used in houses. But after a fire, we can see a new building. I do not know how it can be used, but I would like to try."

A Design University is not only interested in results, we explore how design methodologies influence the culture of goods, crafts and industry. Having all previous stated observations and developments in mind the question occurred, how in design education the different attempts of creative processes affect the regional or global design culture. In a long-term collaboration (5 years) with Design Universities in China we observed and compared regional cultures, wisdom and the globalization effect on design thinking, the use of media and the creativity of students. How is craftsmanship connected to the design process? Which use of materials? Is there a significant difference in use in the eastern and western culture?

To find answers to these questions, video observation and interviews with students continuously accompanied the creative work phase. The observation revealed significant differences in negotiating ideas when generating design concepts: both Chinese and Swiss students use objects, sketches and gestures to communicate ideas, but instead of verbal argumentation, Chinese design students sought proof in visualizing and adding alternative propositions.

Conclusion:

Designing is a transformation process that deals with the physical presence of an object: the new approach on crafts, overlooked until now, has the power to bring us to a stop, to make us focus and be more aware of what is surrounding us. Its obvious existence in our everyday life has the ability to transform us. The questions of bricolage, slow design, and design thinking – even irony and kitsch, open new perspectives on the crafts movement as a modern tool, then it seems that future oriented solutions demand simplicity, integration in every day life and some kind of personalization, which makes designers eager to adopt traditional techniques as well as the latest production methods.

Design nowadays means teamwork, and if these teams are internationally configured, it can make design more successful. The inspiration from the other cultures results in unique shapes, new functions and contexts, patterns or meanings.

This knowledge gives us one more way to look at things and it symbolizes the beginning of a new design

era. "The better you look, the more you see": The essence of New Regionalism in Industrial Design in Asia and Europe is that innovative design results from the connections between societies, globally and across cultures. And the tension between global and local is about people, not merely about craft techniques.

Jacqueline Otten, Michael Krohn
Prof., Head of Design Department,
University of the Arts Zürich,
Ausstellungsstrasse 60 8005 Zürich, Switzerland
jacqueline.otten@zhdk.ch

References
1 nrc Handelsblad, Holland, 18.7.1998.
2 Baudot, François: Die Mode im 20. Jahrhundert. Schirmer/Mosel, München 1999.
3 Financial Times, London, 13.4.2010.
4 http://www.japansociety.org/content.cfm/powder_room_boom
5 http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6V2K-3XNT226-2&_user=4233536&_coverDate=11%2F30%2F1999&_rdoc=1&_fmt=high&_orig=search&_sort=d&_docanchor=&view=c&_searchStrId=128808539 3&_rerunOrigin=google&_acct=C000049044&_version=1&_urlVersion=0&_userid=4233536&md5=1c2429ba78f204dbf9478400d71f0e4d
6 Turney, Joanne: The Culture of Knitting. Berg Publishers, Oxford 2009.
7 www.japansociety.org/craftsmanship_and_materials

Stuart Walker

Design, Aesthetics and Spiritual Values

Exploring technology and meaning through propositional objects

Abstract

This practice-based research explores a design approach that is consistent with sustainability and understandings of inner meaning. This requires that all aspects of an object are in accord with notions of the common good, social responsibility, and environmental care. A theoretical framework is developed, supported by precedents, that seeks aesthetic harmony between the natural and the technological, the cultural and the utilitarian. A series of propositional objects indicate a direction for design that is consistent not only with sustainability but also more profound notions of meaning. These objects extend the author's previous design explorations in *design for sustainability* to more specifically address understandings of meaning and spiritual values (Walker, 2006).

Keywords

Aesthetics, sustainability, spiritual values, technological products, design-centred research.

Introduction

Through our design decisions our philosophy of economics and ethics and our spiritual values find expression in the aesthetics of the mundane. Such decisions reveal our attitudes to the environment, each other and ourselves. When the norms of design are linked to environmental damage, social exploitation and spiritual aridity it is time to reconsider our conventions. To do this, we can adjust our decisions incrementally in response to those things we perceive to be amiss or we can develop a fundamentally different path, but this latter course requires us to recognise the systemic inadequacies of our current approaches. Production of greenhouse gases and unmanageable e-waste is the inevitable consequences of a larger story, one that has become normalised and virtually unassailable. This is the story of progress and growth as a basis for human realisation (Korten, 1999, 67; Taylor, 2007, 716). We attempt to invoke change while maintaining this overarching narrative, which rests on technological advance and consumerism and is at odds with finite environmental capacity, social equity, and deeper understandings of human fulfilment.

This study begins with a discussion of the role of practice-based inquiry in developing a more benign and more meaningful material culture. This leads into a consideration of aesthetics and functionality, and their relationship to environment, ethics and spiritual values. Selected precedents reveal critical aspects of these interrelationships and demonstrate how depth of meaning can affect the creation of the tangible. These precedents contrast markedly with today's mass-produced, electronics-based products, which are remarkably short-lived and associated with severe human and environmental costs (Schluep *et al*, 2009, 6, 41).

This provides a basis for developing new priorities that broaden our understanding of products beyond instrumental factors. Such priorities have to be realised via new forms of expression that convey new sensibilities. Therefore, this inquiry includes a series of propositional objects which:

- were informed by tacit understandings and aesthetic contemplation,
- integrate the creative process in the progression of ideas,
- are a means of synthesising the findings,

- acknowledge that, with microchip-based products, the bond between function and form can be loosened, opening a space to address aspects ill-represented within virtual environments.

From this it becomes clear that the aesthetic expression of an object can be linked to broad environmental and ethical concerns as well as to substantive notions of meaning. These connections are becoming increasingly important today, when the production of technological devices is evidently unsustainable and their use is in danger of eroding our spiritual selves (Lanier, 2010, 20–22).

Beyond Words

Wittgenstein once asserted that there are propositions in ethics, aesthetics and metaphysics that lie beyond the realm of the sayable (Biletzki and Matar, 2009). Many traditions, including Buddhism (Juniper, 2003, ix) and Sufism (Williams, 2006, 8) also recognise that some aspects of knowing lie beyond words. Such tacit understandings can be perceived internally but cannot necessarily be adequately expressed through words (Polanyi, 1966, 4). This insight is important for practice-based creative disciplines. It is especially important here because this discussion centres on propositional design that explores the nature and aesthetics of functional objects in relation to social and environmental considerations and substantive notions of meaning. Recognising that some understandings lie beyond words is important when developing discipline-appropriate research to address contemporary concerns.

Creative activities demand deep immersion in process – what Borgman calls 'focal practice' (2003, 22) and Csikszentmihalyi refers to as 'flow' (1990, 55–56). Such modes are akin to spiritual teachings that speak of humility, (Okakura, 1989[1906], 98; Matthew 18:4), single-pointed attention (Nhat Hanh, 1995, 10–11) and 'at-one-ment' (Shibayama, 1970, 28). Accomplishment rests on practice, perhaps over many years, the outcomes of which will be works that offer some kind of aesthetic expression. Decisions and actions are often made intuitively, via a discriminating judgements based on contemplation of the emerging aesthetic. The aesthetic experience of the developing work will be a product of the sensory experience of its intrinsic properties combined with contemplation of it as a thing of significance and value; that is, as a thing considered worthy of attention within a particular culture (Muelder Eaton, 2001, 10). Such aesthetic judgements are made with reference to an overall, but not necessarily entirely explicit, intention and grounded in a broader contextual understanding. This may result in a work that, in terms of its aesthetic qualities, fulfils the intentions of the practitioner, even if he or she is unable to explain why, be-

cause, as noted, certain aspects of our understandings lie beyond words.

Functional Objects, Aesthetics and Spiritual Wellbeing

When a functional object is judged to have aesthetic merit, this ascribes to it some degree of intrinsic value, irrespective of its utility. A functional object also has value because of the practical benefit it offers. Both contribute to one's judgement of the object. There are other factors that are not so readily apparent, such as the environmental and social impacts of its production, use and disposal, which can also inform our judgement of it.

Furthermore, ethical understandings not only pertain to societal and communal wellbeing but also to our individual sense of spiritual wellbeing, which is associated with the affirmation of life in relationship to self, community and environment, as well as with one's sense of the transcendent (Arnold *et al*, 2007). Consequently, our knowledge of the effects of an object's production, use and disposal on the environment, on others, and on ourselves will influence how we "see" it. In turn, this will inform our ethical judgement of it, which relates to our sense of spiritual wellbeing. And while there may be no logically necessary connection between spirituality and ethics, or between spirituality and conceptions of what constitutes a worthwhile, meaningful and good life, it is the case that spiritual traditions have, for centuries, served as productive paths for addressing questions of human happiness and virtue (Cottingham, 2005, 140). As is discussed below, certain traditions draw strong connections between outer actions, aesthetics, ethics and spiritual wellbeing.

Hence, aesthetic qualities of objects can be linked to social, ethical and environmental factors and with spiritual wellbeing. This is a critically important association because it connects the nature of our material culture – appearance, materials, essential character – with an individual's core sense of meaning and inner harmony.

In terms of our currently dominant approaches, the economic and production requirements of any manufacturing system demand certain kinds of design decisions which, in turn, affect the nature of the objects produced. Unavoidably, the product's design is governed by the larger system of which the design process is a part. If that system is harmful, this will be inculcated into the nature of the product and reflected in its aesthetic qualities.

To change the course of our production systems, to overcome their severely damaging effects, the issues must resonate at an individual level and not be seen simply as a broader societal problem. In this, it is important to recognise the connection between the consequences of our current forms of material culture and our own personal sense of meaning. As has been demon-

strated here, this connection is made manifest through the aesthetic experience of the object.

Clearly then, to develop new forms of goods that represent new sensibilities we have to depart from current norms, and here it is useful to look at precedents from other cultures.

Design is usually framed in terms of problems and solutions but today these 'solutions', in the form of mass-produced products, are associated with serious harm and unfulfilling routes to happiness (Schor, 2006, 178, 187–8). If we believe we are developing 'solutions' to predefined 'problems' then the aim will be to design fully resolved outcomes – but such notions are untenable; advances in technology quickly render such products obsolete. This prevalent terminology of 'problems' and 'solutions' locks design in an outmoded ontological frame.

If instead we understand design as a *continual* process then we can view discrete outcomes are not 'solutions' but temporary manifestations offering fleeting benefit. By thinking of design outcomes in such terms, we place them within a larger frame of reference – one in which passing benefit is seen against longer term environmental degradation and social deprivation, as well as personal notions of meaning. In such a context, we can begin to conceive of functional objects not simply as utilitarian 'solutions' appended with the fragile attractiveness of newness, but as more holistic expressions of human meaning in an evolving field of understanding.

Design Precedents

Despite manufacturing advances, today's microchip-based goods are produced according to a rationale that remains anchored in the industrial practices of the 20th century. The obdurate conventions of these, now globalised, approaches prioritise short-term quantitative growth over longer term, sustainable strategies. The fundamental deficiencies of this rationale are proving especially harmful because the rate of technological development has served to reduce the useful life of goods to just a few years (Schluep *et al*, 2009). To pursue more conscionable directions, it is useful to look at precedents. The author has explored alternative design approaches in his own design-centred research (Walker, 2006), a innovative directions have been advanced by the Droog designers (Ramakers, 2004), and by Cuban designer Ernesto Oroza (de Bozzi and Oroza, 2002). While many examples could be cited, four have been selected here that embody aspects of the human condition generally ill-represented in contemporary technological objects.

A Zuni carving and the Wabi Sabi aesthetic exemplify approaches rooted in spiritual sensibilities and relationships with the natural world. An Industrial Revolution water dam is an example of technology and engineering that finds harmony with nature *in situ*. Lastly,

objects from Andrea Branzi's collection Grandi Legni exemplify a contemporary approach that transcends conventional boundaries. Consideration of these, and the ideas they embrace, provide a starting point from which to explore more judicious directions for the design of technology-based goods.

Zuni Fetish Carving
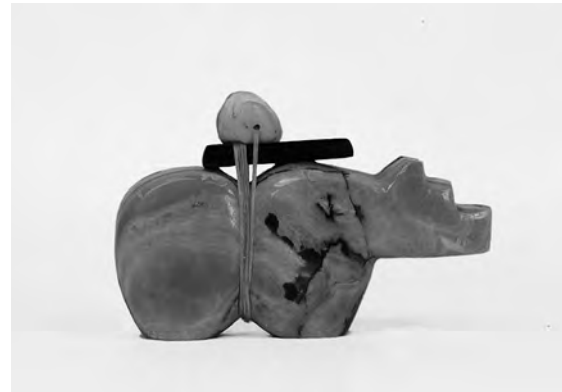
Figure 1: Zuni bear fetish carving "Seasons" by Bernard Liawakete, USA, with permission of Cherry Hill, www.horsekeeping.com.

The bear fetish carving entitled "Seasons" by Bernard Liawakete of the Zuni tribe in the American Southwest (Figure 1) is a modern example of an ancient object type that expresses values and ideas far removed from today's utilitarian, electronic devices. For certain indigenous peoples of North America, these kinds of objects symbolise mysteries observable in nature. The can represent animal or other spirits and are used to invoke the wisdom or protection of those spirits and to affect the course of events (Whittle, 2006, 6).

In modern, economically developed cultures such beliefs are often dismissed as superstition. However, they represent long standing ideas within complex traditions aimed at keeping a balanced outlook and harmony among the different facets of nature. To do this, the society's stories and laws emphasised cooperation, moral behaviour, and respect for ancestors. Key elements of this worldview were the interrelatedness of all things (*Ibid*, 13).

Zuni fetish carvings represent an outward acknowledgement and expression of these ideas. Arrowheads, stones and shells make up the medicine bundles, secured to the carvings with sinew. These refer to different aspects of life such as hunting, sickness, or the harvest, and belief in the power of a fetish to affect events gives it meaning. However, traditionally, a critical aspect of their 'use' was that the object itself was not held responsible if a desired outcome was not forthcoming. Instead, fault was attributed to the behaviour of the owner. In this way, the fetish served as a tangible reminder of appropriate behaviour and moral values. Hence, the onus

was placed on the bearer – the object itself did not directly or 'magically' perform (Whittle, 2006, 15). Other traditional cultures ascribe similar meanings to objects (Bahti, 1999, 19, Papanek, 1996, 52, 234).

Wabi Sabi

Figure 2: Wabi 3 aesthetic, sake cup by Tomio Morimoto, Tanba Hyogo, Japan

The Japanese aesthetic philosophy of *wabi sabi* represents an attempt within the tradition of Zen Buddhism to express a love of life alongside an acknowledgement of its fragility and transience. It is founded on principles of humility, restraint, naturalness, and the inevitability of impermanence. It draws on perception rather than rationalistic understandings and recognises that all things are in flux. Wabi sabi expresses the ephemeral, melancholy beauty of existence – that brief period which occurs between the birth and the passing of a thing (Juniper, 2003, ix, 1; Koren, 1994, 15, 18).

Koren suggests that the characteristics of wabi sabi are virtually the polar opposites of those of post-war modernism. The latter, distinguished by its minimalist perfection, still dominates much of the landscape of consumer goods and contemporary architecture. It is an aesthetic that expresses the cool, precise rationalism of technological progress through pure geometric forms and synthetic materials – an aesthetic of clarity, reductionism and control. In contrast, objects that embody the wabi sabi aesthetic tend to be characterised by a lack of artifice, rough textures, a faded, imperfect elegance and asymmetry but, unlike Zuni fetish carvings, they have no symbolic connotations. Rather than being homogenous and mass-produced, such objects are earthy, variegated and individual – as shown in the ceramic cup from Tanba Hyogo, Japan (Figure 2). Wabi sabi implies an intuitive sensibility that is firmly located in the present and, in stark contrast to today's widely-accepted supposition, it assumes there is no such thing as progress. The use of natural materials and organic shapes allows decay and corrosion to be absorbed without detracting from the overall aesthetic; indeed, deterioration tends to add to the object's expression. This aesthetic also suggests a broadening of sensory appreciation rather than a reduction, as it comfortably accommodates ambiguity and impermanence. However, unlike most contemporary approaches, function and utility are not of primary importance (Koren, 1994, 25–29).

These aesthetic characteristics are not merely a preferred style – one fashion among many – but are the outward expression of a comprehensive approach that includes metaphysical understandings, spirituality, well-being and ethical behaviour. Wabi sabi is rooted in observations of nature, and the idea that all things are transient (*Ibid*, 41, 46). It emphasises an intuitive, direct communion with the nature of things as they are at this moment and attests to the import of the fleeting, everchanging present. Appreciating the nature of ordinary, mundane things in this way does not mesh with a system of efficiency, measurement and targets. At such moments of absorption there is a sense of transcendence that lies beyond words in which the mundane and the spiritual are of equal importance – no distinction is made (Okakura, 1989 [1906], 70,101). Therefore, while wabi sabi is not necessarily concerned with explicitly spiritual objects, as was the case with the Zuni fetishes, this aesthetic philosophy recognises the importance of spiritual values in the creation and nature of material things. It draws strong connections between outer, concrete actions, aesthetic expression, ethics and inner meaning.

In developing less damaging approaches to contemporary product design and production, the implications of wabi sabi are significant. Accepting the constantly changing nature of existence, both of living things and human-made artefacts, highlights the importance of process over product. Acknowledging that artefacts are, and can be designed to be, in a state of continual flux reveals the limiting nature of terms such as 'definition', 'completion', and 'solution'; terms that represent a cessation of change (Okakura, 50–61). Furthermore, stressing process over product implies a certain humility. It suggests that a definitive, lasting solution is not actually attainable. Instead, human-made artefacts are considered to be in a continual state of becoming – with elements corroding, being damaged or outmoded, and being replaced, renewed or in some other way altered.

Abbeystead Dam

In contrast to the previous examples, Abbeystead dam is a technological artefact built on strict engineering principles. Despite its utilitarian foundations, however, its use of materials, type of construction, and scale, as well as the sensitivity given to its siting, all go to show that even large, highly pragmatic projects can be executed in ways that are sympathetic to and respectful of nature.

Abbeystead dam (Figures 3, 4, 5) is located on the River Wyre in an area known as the Forest of Bowland in the heart of rural Lancashire. It was constructed in 1855, at the height of the Industrial Revolution, and later enlarged to supply water to factories further down the river (Farrer, W. and Brownbill, J. (eds), 1914).

It is an example of a human-made artefact that has been inserted into the natural environment – it is bonded to it and dependent upon it. It can be appreciated not merely for its practical purpose but also for its accumulating, ever-changing existence as a thing. It is being continually scoured by flowing water, ice and the elements. Its surfaces alter – discolouring, eroding, accruing woodland detritus and budding growths in the interstices, becoming encrusted with evaporites and lichens and cushioned with mosses. Its enduring form has enabled it to absorb these accretions of time and acquire the patina of age, yielding an artefact both functional and beautiful.

Figure 3: Shaded vale under Abbeystead Dam, Forest of Bowland, Lancashire.
Figure 4: Upper overflow – Abbeystead Dam
Figure 5: Lower overflow with overhanging leaves – Abbeystead Dam

Hence the Abbeystead dam is an example of an artefact that is unified with locale. In the fullness of its present utility and aesthetic, it creates a particular character of place that is replete with evocations, ideas, history and culture. It is a place where the unavoidable, pragmatic needs of our physical humanity – expressed through creative endeavour in the form of a rationalised, technological construction – find harmony with the natural environment. While there is necessarily a change in that environment, we cannot avoid the fact that human needs inevitably demand intrusion into and alteration of nature. Here, however, it is done with empathy for place and in a way that, in many respects, enhances the natural environment – creating new kinds of habitats, in the form of a lake and wetlands, for fish, waterfowl and plant life. The Abbeystead reservoir might not be a spiritual place in the way we normally think about spirituality and its associations with religious meanings. However, as in wabi sabi, the mundane and the spiritual exist together through a harmonious integration of utility, beauty and empathy with nature.

Architect Christopher Day suggests that four levels of place are essential to the creation of a harmonious 'built' environment. These comprise physical substance, time continuum or flow, mood, and essence or inspiration. Day argues that these levels recognise that our world is more than simply material; it is also living, being populated by sentient animals, and by human beings who can be inspired and stimulated by ideals (2002, 29). All these elements are manifest in Abbeystead dam.

Grandi Legni

Italian designer Andrea Branzi's collection Grandi Legni comprises a series of large, enigmatic objects that are not easily classified – two examples are shown in Figures 6 & 7. Occupying a place that lies somewhere between architecture and furniture, they are constructed from old timber beams, larch wood cabinets, metal brackets and even a bird cage.

They have an archaic, mythological character and are evocative of ancient, forgotten truths that lie beyond the veil of memory and recorded history. Essentially, and surprising as it may seem, these pieces are a response to the capabilities offered by micro-chip technologies. However, Branzi is not seeking reconciliation between the virtual and the material, but rather a somewhat distanced complementarity. In a time when digital utility has rendered material functionality largely impotent and its design theories irrelevant, Branzi sees the conventions of design as being outmoded and design practice as endlessly repeating variations on a theme – regurgitating forms that fail to respond to the seismic changes brought about by the new technologies (2009). These virtual environments and digitized functionalities have liberated physical objects from the

constraints of utility, enabling them to address more substantive matters. Physical design becomes a mediation between the mundane and the meaningful – a conduit for retrievals and expressions of histories, myths and human spirituality. Freed from prosaic function, design can address those very things that virtualisation lacks – the real and the tangible, scale and weight, the textured and tactile, the patinas of age, weathering and corrosion, connection to earth, and the indefinable bond between the ever-decaying corporeal and the spiritual. Through these unique, unrepeatable qualities of concrete materiality, Branzi attempts to draw connections between the physical world and deeper, sacred aspects of our humanity.

A Basis for New Design Directions

The Zuni fetish of the American Southwest, the Wabi Sabi aesthetic of Japan, Abbeystead dam of Industrial Revolution England, and Andrea Branzi's 'Grandi Legni' all stem from different cultures and time periods. While each emphasises particular aspects of material culture, collectively they suggest a strong direction for design that is intimately related to contemporary concerns – particularly the environmental, social and ethical issues associated with sustainability, as well as substantive matters of human meaning, including spiritual understandings and values.

Insights and reflections drawn from these kinds of examples can inform and help steer product design in new, more positive directions – directions that attempt to find greater accord between our utilitarian needs and those things that are so poorly attended to in our current production systems. Clearly, these considerations must become intrinsic systemic elements rather than optional add-ons that are too readily and too frequently avoided. Even more importantly, but intimately linked to environmental and ethical considerations, we must find ways of imbuing design with substantive notions of meaning.

It is also important to recognise that in practice-based disciplines such as design, the creative process itself must be integral to the development of new directions. Converting the above ideas into defined axioms, objectives or criteria becomes less important than absorbing the tenor and spirit of the ideas and allowing them to inform the design development.

Propositional Objects

Design explorations were conducted concurrently with the theoretical ideas and the investigation of precedents, Figure 8. The resulting objects are only tangentially associated with specific points and conclusions from the preceding examples but intimately associated with and, it is hoped, reflective of, their overall nature and disposition. The approach is, therefore, one of synthesis
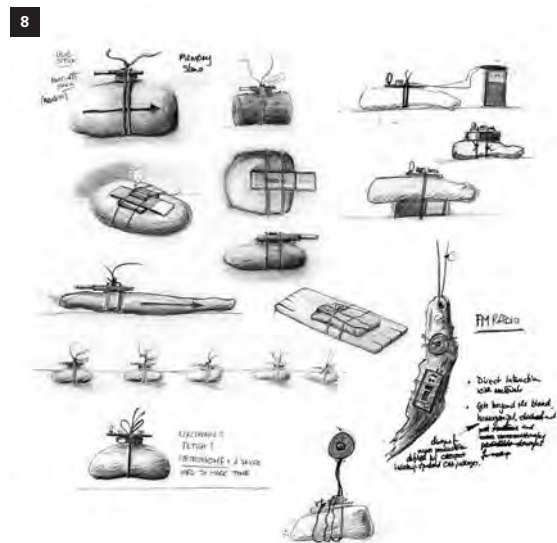
Figure 6: Grandi Legni GL 01 by Andrea Branzi. Old beams, wrought iron, larchwood cabinets. L300 x W18 x H205. Reproduced with permission; photo by Rui Teixeira, 2010
Figure 7: Grandi Legni GL 02 by Andrea Branzi. Old beams with larchwood cabinets. L320 x W28 x H270. Reproduced with permission; photo by Rui Teixeira, 2010
Figure 8: Propositional designs – development sketches

rather than analysis – entirely appropriate for a design-centred inquiry and consistent with the wabi sabi philosophy (Richie, 2007, 33).

These propositional objects address issues of sustainability and meaning related to electronic products; unlike the Grandi Legni pieces of Branzi, they incorporate these technologies. Through creative practice, the aim was to find locally achievable, harmonious aesthetic relationships between mass-produced electronics and minimally-processed or entirely natural elements – not by seeking an integration but through a loosely attached juxtaposition. This results in an aesthetic synthesis characterised by a visual separation between the local and the mass-produced, the natural and the artificial; a separation that acknowledges the divisions that exist between these very different types of components, including those of production scales, process and impact. It also allows for their physical separation after use – for benign return of the natural elements to the local environment and for re-use or re-processing of the mass-produced elements.

This addresses two critical aspects in the development of a meaningful material culture, which imply both incremental improvement and radical change:

1. It acknowledges the necessity, transience and impact of mass-produced components in delivering functionality, while recognising that their useful life of these components can be prolonged through design for disassembly and reuse, and impacts can be reduced through incremental improvement in manufacturing practices.
2. It recognises the potential benefits of localisation in sourcing elements and in adaptation, repair, and upgrading. This points to an entirely different system for the creation of our material culture and a new vernacular that combine mass-produced and locally sourced elements. Such objects would become meaningful in ways that surpass mere functionality, important as that may be. They represent employment, local materials and skills, and become indicative of a culture's creativity and values. Hence, the material culture becomes an embedded, meaningful element of the culture as a whole.

These propositional objects are not presented as alternative design 'solutions' to contemporary mass-produced products. Culturally meaningful objects cannot be mass- produced. Instead they suggest a potential direction, one that must emerge and evolve locally. The particular function of these objects is of only secondary importance. The main concern is aesthetic synthesis and, consistent with the previous examples, a broadening of both sensory appreciation and object meaning:

- 'Tempo I' (Figure 9), an electronic metronome combines electronics with local Sunderland Point stone and an organic hemp binding.
- "Tempo II' (Figure 10), circuitry, battery and hanging cord are attached to forest floor wood from the Trough of Bowland.
- 'Lagan Bell' (Figure 11) a wireless reception bell – circuitry mounted on Cumbria driftwood and the bell-push bound to a Bowland river stone with hemp cord. Shot silk attests to the once prominent local silk industry.
- 'Wireless' (Figure 12) combines electronics with Cumbria coast pebbles and shot silk.
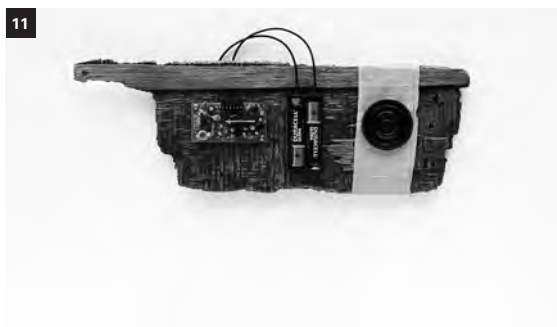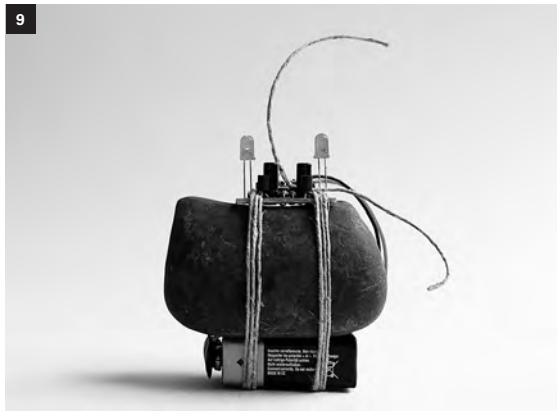
These objects are concrete visualisations of the ideas discussed earlier but offer layers of expression that go beyond verbal description.

Conclusions

Within conventional, mass-produced notions of 'product', sustainability can be addressed through incremental changes in materials, processes, packaging and so on. However, as presently conceived, large production systems for global markets are incapable of incorporating local contributions, materials and preferences to any significant degree. While contemporary electronic goods may be adapted to individual needs in terms of their software and applications, the essential manufacturing construct remains firmly in an industrial age that is proving extremely destructive. As is clearly evident from the aesthetics of contemporary products, the physical objects themselves are, for the most part, anonymous and un-located – designed in a manner that is suited for anywhere, everywhere and, arguably, nowhere.
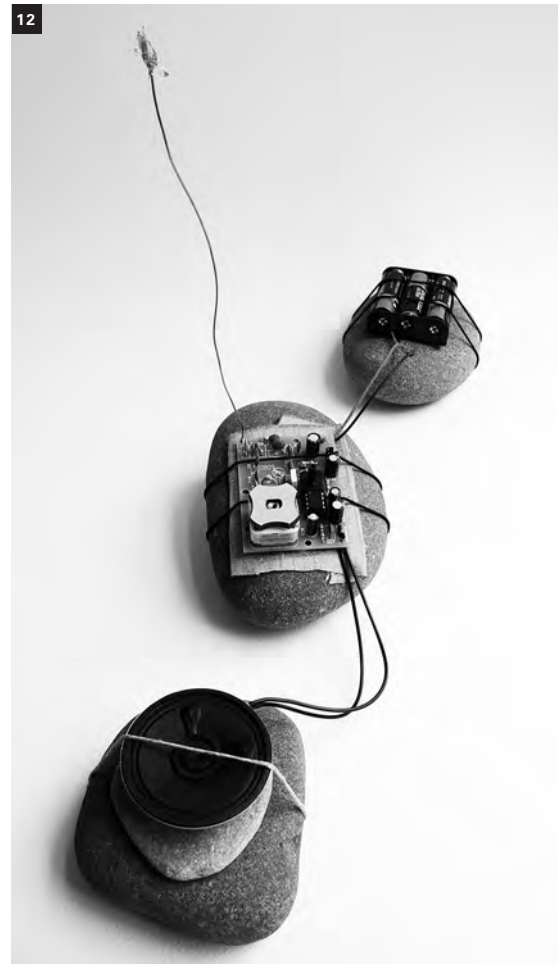
In contrast, the propositional designs presented here are suggestive of a more radical change that includes much greater emphasis on localization and which combines product manufacture with the development of a range of local services. With regard to the nature of the functional object, this becomes intimate to and emerges from place in terms of its materials, aesthetics and essential qualities as a thing. Such a direction demands a letting go of ego along with externally imposed notions of style so as to allow 'place' to inform and become part of the object's definition – in its materials, surface qualities and manufacture. In addition, the functional elements are all visible and explicit, rather than hidden within, often arbitrarily styled, casings. This includes the batteries, on which so many contemporary products depend, and which are so environmentally problematic. These too become visible and therefore more acknowledged in our everyday lives – perhaps prompting us to seek alternatives.

These propositions are very much concerned with the present context – not the past or the future. Such

Figure 9: Tempo I: metronome with adjustable speed LEDs. Electronics; Sunderland Point stone; hemp cord
Figure 10: Tempo II: metronome with adjustable sound and LEDs. Electronics; climbing cord; forest floor wood from the Trough of Bowland, Lancs.
Figure 11: Lagan Bell: wireless reception bell. Electronics; Cumbria coast driftwood; Bowland river stone; hemp cord; shot silk
Figure 12: Wireless: AM/FM Radio. Electronics; Cumbria coast pebbles; shot silk; cords (various)

present-oriented design has to be ephemeral, partly because technology is always moving on and partly because today's concerns and sensibilities will not be those of tomorrow; tomorrow will need its own expressions for its own time.

In a more localised, continually changing material culture, the object can be tailored to cultural and individual requirements. As long as its production, use and after-use are not damaging, and parts that cannot be benignly returned to the natural environment can be re-used, the object need not last forever. To conceive of technological goods in such terms allows for a lightness of touch that is lacking in the more considered, consequential world of mass-production. It offers space for artistic and cultural expression to pervade material goods and to reflect and express contemporary sensibilities. In so doing, there is an opportunity not only to reinvigorate design, for it to become truer to the creative imagination that lies at its heart, but also to imbue mundane, functional goods with meaning, thereby contributing to cultural and spiritual wellbeing.

Stuart Walker
ImaginationLancaster, Lancaster University
Professor of Sustainable Design
and co-Director of ImaginationLancaster
s.walker@lancaster.ac.uk

References

Arnold, S., Herrick, L. M., Pankratz, V. S., and Mueller, P. S., (2007) *Spiritual Well-Being, Emotional Distress, and Perception of Health After a Myocardial Infarction*. The Internet Journal of Advanced Nursing Practice. Vol. 9, No. 1. Retrieved from http://www.ispub.com/ostia/index.php?xmlFilePath=journals/ijanp/vol9n1/health.xml accessed February 12th 2010.

Bahti, M. (1999) *Spirit in Stone: A Handbook of Southwest Indian Animal Carvings and Beliefs*, Tuscon, Arizona, USA: Treasure Chest Books.

Borgman, A. (2003) *Power Failure; Christianity in the Culture of Technology*, Grand Rapids, MI, USA: Brazos Press.

Biletzki, A. and Matar, A. (2009) *Ludwig Wittgenstein*, Stanford Encyclopedia of Philosophy, Metaphysics Research Lab, CSLI, Stanford University. Retrieved from: http://plato.stanford.edu/entries/wittgenstein/ accessed: February 14th 2010.

Branzi, A. (2009) *Grandi Legni*, Milan, Italy: Design Gallery Milano and Nilufar, for "Grandi Legni" exhibition, Galerie Alaïa, Paris, Dec. 10, 2009 to Jan. 16, 2010.

Cottingham, J., (2005) *The Spiritual Dimension: Religion, Philosophy and Human Value*,

Cambridge, UK: Cambridge University Press.

Csikszentmihalyi (1990) *Flow:The Psychology of Optimal Experience*, New York, USA: HarperCollins.

Day, C. (2002) *Spirit and Place*, Amsterdam, the Netherlands: Elsevier.

de Bozzi, P. and E. Orzo (2002) *Objets Réinventés: La Création Populaire à Cuba,* Paris, France: Editions Alternatives.

Farrer, W. and Brownbill, J. (eds) (1914) 'Townships: Over Wyresdale', *A History of the County of Lancaster*: Volume 8, pp. 76–79. British History Online Retrieved from: http://www.british-history.ac.uk/report.aspx?compid=53269 accessed: February 6th 2010.

Juniper, A. (2003) *Wabi sabi: the Japanese art of impermanence*, Boston, MA, USA: Tuttle Publishing.

Koren, L. (1994) *Wabi-Sabi for Artists, Designers, Poets & Philosophers*, Berkeley, CA, USA: Stone Bridge Press.

Korten, D. C. (1999) *The Post-Corporate World: Life After Capitalism*, co-publication: San Francisco, CA, USA: Berrett-Koehler Publ. Inc. and West Hartford, CT, USA: Kumarian Press Inc.

Lanier, J. (2010) *You Are Not A Gadget*, London, UK: Allen Lane, Penguin Group.

Matthew (1978 trans.) *New Testament*, Holy Bible, New International Version.

Muelder Eaton (2001) *Merit: Aesthetic and Ethical*, Oxford, UK: Oxford University Press.

Nhat Hanh, T. (1995) *Living Buddha, Living Christ*, New York, USA: Riverhead Books.

Okakura, K. (1989 [1906]) *The Book of Tea*, Tokyo, Japan: Kodansha International.

Papanek, V. (1996) *The Green Imperative*, New York, USA: Thames and Hudson.

Polanyi, M. (1966) *The Tacit Dimension*, Garden City, New York: Doubleday and Company Inc.

Ramakers, R. (2004) *Simply Droog,* Amsterdam, The Netherlands: Droog.

Richie, D. (2007) *A Tractate on Japanese Aesthetics*, Berkeley, California, USA: Stone Bridge Press.

Schluep, M., Hagelueken, C., Kuehr, R., Magalini, F., Maurer, C., Meskers, C., Mueller, E., and Wang, F. (2009) *Recycling – From E-Waste to Resources,* United Nations Environment Programme & United Nations University. Recovered from: http://www.unep.org/PDF/PressReleases/E-Waste_publication_screen_FINALVERSION-sml.pdf, February 25th 2010.

Schor, J. (2006) Learning Diderot's Lesson: Stopping the Upward Creep of Desire, Chapter 13, *The Earthscan Reader in Sustainable Consumption*, ed. T. Jackson, London, UK: Earthscan

Shibayama, Z. (1970) *A Flower Does Not Talk: Zen Essays*, Tokyo, Japan: Charles E. Tuttle Co. Inc.

Taylor, C. (2007) *A Secular Age*, Cambridge, MA, USA: The Belknap Press of Harvard University Press.

Walker, S. (2006) *Sustainable by Design: Explorations in Theory and Practice*, London, UK: Earthscan.

Whittle, K. (2006) *Native American Fetishes, Carvings of the Southwest*, Atglen, PA, USA: Schiffer Publ. Ltd., 2nd edition.

Williams, A., trans. (2006) *Rumi – Spiritual Verses: The First Book of the Masnavi-ye Ma'navi*, London, England: Penguin Books.

Figures

1 Native American bear fetish carving "Seasons" by Bernard Liawakete of the Zuni tribe. Photo reproduced with permission of Cherry Hill, www.horsekeeping.com.

2 Sake cup exemplifying the wabi sabi aesthetic, made by Tomio Morimoto, Tanba Hyogo, Japan.

3 Shaded vale under Abbeystead Dam, Forest of Bowland, Lancashire.

4 Upper overflow – Abbeystead Dam.

5 Lower overflow with overhanging leaves – Abbeystead Dam.

6 Grandi Legni GL 01 by Andrea Branzi. Old beams, wrought iron, larchwood cabinets. L300 x W18 x H205. Reproduced with permission; photo by Rui Teixeira, 2010.

7 Grandi Legni GL 02 by Andrea Branzi. Old beams with larchwood cabinets. L320 x W28 x H270. Reproduced with permission; photo by Rui Teixeira, 2010.

8 Propositional designs – development sketches.

9 Tempo I: metronome with adjustable speed LEDs. Electronics; Sunderland Point stone Lancs.; organic hemp binding.

10 Tempo II: metronome with adjustable sound and LEDs. Electronics; climbing cord; forest floor wood from the Trough of Bowland, Lancs.

11 Lagan Bell: wireless reception bell. Electronics; Cumbria coast driftwood; Bowland river stone; hemp cord; shot silk.

12 Wireless: AM/FM Radio. Electronics; Cumbria coast pebbles; shot silk; cords (various).

Unless otherwise stated, photos are by the author, as are designs in figures 8–12.

Session 3

Socio-Economics & Design

Keneilwe Munyai and Mugendi M'Rithaa

Local indigenous cultures and modern design innovations: a South African perspective

Abstract

Under the theme of *sustainability and social innovation*, this paper looks at how indigenous knowledge can be applied in the production of organic products that are suited for modern designs. South Africa's indigenous groups offer alternative methods of production that are informally produced, sustainable and ecologically friendly, by using indigenous natural materials. Through an ethnographic study the paper investigates how indigenous methods could be used to design for modern trends. Participant observation in *indigenous knowledge systems* (IKS) serves as an apprenticeship in knowledge transmission. The study looks at IKS and how sustainable design can be achieved through the application of IKS to informal production. Indigenous knowledge in this context is not viewed as a replacement to technology, but rather as an integral part of the solution to help deal with environmental concerns in product production. Informal production has the capacity to transform small scale operations to large ones. IKS promotes respect for environmental resources to orientate society towards more sustainable ways of doing with respect to modern products in a global setting.

Key Words:

eco- friendly production processes; globalisation; indigenous knowledge systems (IKS); informal production.

Introduction

This paper posits that we should be looking at local wisdom and cultures for alternative production methods that might be beneficial for achieving sustainability and social innovation. Subsequently, social innovation that places emphasis on collaboration between individuals to come up with solution to design problems, environmental problems and economic problems by producing products using locally available materials is explored in this paper. The paper interrogates the manner in which indigenous knowledge systems (IKS) could inform various social innovation projects that will help with preservation of culture while achieving sustainability. Indigenous knowledge is described as "knowledge that has been acquired through lived experience and has been proven through the years of apprenticeship" (Agrawal, 1995).

This study however, recommends promotion of social collaborations between indigenous crafters and designers to help come up with social solutions. Indigenous people produce products using indigenous methods of production which are intrinsically more ecologically friendly and sustainable in material usage in a local context. Further, the use of materials is linked to how indigenous people relate to their surroundings, culture, and beliefs. The production process of their products is informal and localised that makes it sustainable – that is more important today as humanity grapples with the pressing issues of social, economic, environmental, and technological sustainability (Vezzoli & Manzini, 2008).

Sustainability is a key issue in the 21st century that organisations, governments, NGO, individuals are trying to deal with, as it affects our generation and if left unattended to will destroy the capacity of future generations to fend for themselves (*ibid*). According to the Kyoto Protocol adopted in 1992 in Japan, there are three pillars of sustainability – environmental, economic and social sustainability (Kates *et.al.*, 2005).

The use of available materials by humans to create products that are practically suitable has always been an essential activity of indigenous people in many different cultures. Through working with indigenous people for this study it has been discovered that some indigenous people generate income through producing craft products that are produced using indigenous methods of production. Participant observation is employed in the studies of indigenous knowledge in the form of an apprenticeship in knowledge transmission as well

as to validate the information given by participants on production processes which serves as an apprenticeship in knowledge transmission. Participant observation serves an apprenticeship and helps with education and knowledge transmission amongst indigenous people (Ohmagari & Berkes, 1997).

Indigenous Knowledge Systems

Local wisdom refers to traditional knowledge that is gained by people through lived experiences, living with nature and understanding nature while trying to survive using their ritualistic and cultural bases for the sustainability of their communities. Indigenous people came up with ways of adaptation using local traditional practices for humans as well as ecosystem management. Indigenous people see ecosystem as integral to them and therefore deserving of better treatment and possibly as much respect as humans (Berkes *et.al.*, 2000). Turner *et al.* (2000) suggest that "caring for lands and resources relates directly to the wisdom of acknowledging the spirituality and influential powers in all things including earth".

Nomadic tribes for many centuries perfected ways of surviving and created cultures and value systems that showed great respect for the environment and their surroundings. Throughout time, people have pruned, harvested, gathered, cultivated, transplanted, propagated, sowed, burned, and weeded to increase chances of human survival (Martinez, 1993). Due to those value systems indigenous people are continuously finding ways of surviving in the rural areas based on what nature provides to them and solutions that they can come up with. Some of these solutions include using culture to produce items that they can sell to generate income while managing the environment and show respect to our ecosystems. Indigenous people continue showing respect to the environment by hand producing valuable items that durable.

There is an opportunity for designers to come up with innovative projects which incorporate indigenous methods of production. This is not to suggest that the process should be bias towards indigenous people, in order for the innovation to take place in such a way that everyone could benefit it is vital that we recognise traditional knowledge based on the acknowledgment of the rights of indigenous people – this forms the fundamental basis underscoring tenurial security of local communities and will promote mutual learning between local people and designers (Panday, 2003).

Indigenous production process is based on culture, tradition, society, and belief systems. Their methods are sustainable because they have been proven and improved upon through generations and the changes in the environment. Indigenous craft products are seen as only cultural ethnic items however, the skills and

techniques of indigenous can be applied to modern designs. Their culture is also dynamic as people change so does the culture of producing craft and the selection of materials. This makes it easier for indigenous people to work and translate modern designs to beautifully crafted products (Lufele, 2009). Indigenous crafters have the ability to work with various kinds of materials, and have the ability to interpret various designs (Shapiro, 2008).

Traditional processes and techniques have the potential to last for generations to come because, these skills are passed down generations through culture and the techniques can be applied to various materials. The importance of incorporating indigenous methods of production to modern design has been emphasised by most European product designers at the 2010 Design Indaba in observing that indigenous people understand the materials and have the ability to translate designs into beautiful objects using sustainable materials (Design Indaba, 2010).

Dutch product designer Tord Boontje believes that "modernism does not mean minimalism. That contemporary does not have to forsake tradition, and that technology does not have to abandon people and senses" (*ibid*). While Thomas Kral a product designer from Switzerland believes that observing people's needs and combining traditional materials with revolutionary technology is ideal. However, combining tradition and technology is necessary and vital if it empowers and improves human life, and brings solutions to social problems and to create more problems, but helps create sustainability (*ibid*).

Role of Culture on Sustainability

Culture is defined as a ordered system of meanings and symbols on which social interaction takes place (Geertz cited in Bell, 1992). Culture helps indigenous people to construct identity for themselves, make meaning of their world and environment. Indigenous people view the land as a substance endowed with sacred meanings that define the existence and identity including non living organisms which they view as highly personal beings that form part of their spiritual universe (Burger, 1990).

Culture therefore is seen as a set of customs, values, and traditions and serves as a way of life of a society, clan, tribe, community or individual (Moreno *et al.*, 2004:8). Indigenous people base their lives on strong beliefs that are in harmony with their surroundings, living and none living organisms. It is therefore vital that designers with their knowledge work with local communities to enhance the capacity of local communities without taking away their rights by moving them away from their cultural norms (Panday, 2003).

Culture is the way things are done based on the traditional indigenous ways of the ancestors. Culture is

the resource that people draw on in relation to ever-changing circumstances and shifting identities (Davison, 2005). Culture today plays an important role in the survival of many indigenous people who live in the rural areas. Because of their culture they are able to continue with the cultures and traditions of their forefathers including taking care of the environment and their surroundings and be able to create a survival mechanism with their families and be able to generate income from the products they produce from various materials that nature has provided to them. As Koti (2008) clearly states, "culture is the way or a set of rules in which we follow to live our daily lives and helps us to protect our surroundings".

Culture is useful in organising society. It helps in setting the rules for those who believe in it to follow, as a result of their culture Xhosa speaking people of South Africa of the Eastern Cape Province have a good sense of their surrounding and place greater effort in protecting it during their production methods. According to Lufele (2009), "culture is the way we have come to organise ourselves in relation to nature. Culture means following tradition and doing things like my forefathers did".

Culture offers a sense of guidance and direction to many indigenous people. It helps people find a way to organise themselves. Their everyday activities reflect awareness of their environment as well as the impact of their actions on the environment. While also promoting self reliance amongst indigenous people and social innovation where a family or a group of community members work together to create items that are beneficial to the society using materials that are available, while allowing them to earn an income working informally.

Informal Production for Social Innovation

Chen, Sebstad and O'Connell (1999:603), described the term informal labour as "referring to activities that are not protected by labour legislation or organised by formal trade unions". Shifts from formal to informal employment have seen a rise in informal employment and these are a common feature of many transitional economies like South Africa (Macharia, 2006). However there is lack of government support within the informal sector in both rural and urban areas. Chen *et al.* (1999) noted that in developing countries there is lack of promotion of the informal sector, regardless of official reports showing that 80% in developing countries and 40% in developed nations operation in informal and rural markets.

European definition of informal labour is that of persons who carry out manual work on their own account, often helped by family members, friends or apprentices, even workers with whom they keep personal contacts, which generate a community of intellect and attachment to the craft (Moreno *et. al.,* 2004). According

to indigenous people the production process is society based and is based on cultural traditions. They produce products that are needed in their society.

However, indigenous methods of production currently fall under the informal (or 'second') economy in South Africa, which makes it unprotected by labour laws of the country, which makes it vulnerable to exploitation by outsiders seeking to benefit economically by exporting these ecologically produced products (du Toit & Neves, 2007). Working with indigenous people in the villages the first author learned some skills and gain more knowledge on how to produce items that ecologically friendly using what we have available to them. It is especially important to try and understand why they use certain materials, create the kind of products they do, and why it is important for humans to respect their environment.

Producing things locally enables us to follow the entire process of the production and know what has been used in the garment or product; it enables us to deal with issues that may arise, such as running out of materials. Their crafting skills have been amongst traditional tribes as a non-verbal code of communication that is significant to people of a particular group. Symbolism is an integral aspect of South African craft – traditional crafts express the communal nature of society. Symbols are also used to provide cultural context of traditional craft production. Materials that were used to produce craft were generally locally available. Crafts are often highly decorated, with complex abstract and representational signs that send messages, tell stories, record histories, reflect beliefs and express power within the community (Sellschop *et al.*, 2002). Subsequently, it is important to develop methods of mutual learning between young designers and indigenous crafters/artisans, as this can lead to collaborations which in turn will create more employment opportunities as well as self-reliance. This will promote integration of indigenous methods in modern designs in participation with local communities while reviving traditional methods of production using materials that are uniquely available to a particular area. This is not to say the products should be prescriptively ethnic, rather they should be of a competitive international standard with the indigenous skills applied as an added value. It also helps in promoting social sustainability, and cultural sustainability.

According to Belz *et al.* (2007), ecological production involves "social and technical system and this stage includes problem solving". Traditional methods of leather tanning used natural materials, and those methods are highly considerate towards the environment. However, traditional methods of production are said to be time consuming and labour intensive. Baker *et al.* (1993), suggest that developing countries like South Africa have a comparative advantage in labour-intensive production processes. Some indigenous people are still involved

in the process of making leather. This offers an opportunity for young designers to collaborate with handcrafters to learn new skills which could in turn lead to new social innovations, while simultaneously offering economic opportunity.

Handcrafted products involve cleaner production which is a continuous application of an integrated preventive environmental strategy processes to increase efficiency and reduce risks to humans and the environment. Handcrafting involves human interaction as the products are made by hand from start to finish. When designers work with indigenous people can learn about management of resources, eliminating toxic raw materials, and reducing quantified wastes before the product leave a process production is required in order to reduce impact of waste on the entire life cycle of products, to ultimate disposal of products (Panday, 2003). The reduction of environmental impact of services provided over the entire life cycle, from system design and use, to the entire consumption of resources required to provide the services (UNIDO, 2002). Shapiro (2006) suggests that countries like India, Italy, China and Spain are some of the countries that produce handcrafted items in large volumes. As a result those countries' handcrafting industries employ large numbers of people (*ibid*).

Eco- friendly Production Processes of Craft

Ecologically friendly or cleaner production is mainly used as an overcharging environmental management concept to deal with environmental issues in the production process (Hilson, 2002). Ecological transition translates into the ways in which humans decide to make use of their environment; they create culture which will guide them in their ways of daily living (Brandt, 2007). However, there is no clear boundary between the environment and ecology. Craft is a utilitarian or contemplative objects made by hand, have received renewed attention in the past two decades.

People have become aware of the negative impact of mass-produced products on the environment as some of the products are not biodegradable and this leads to landfills that cause pollution (Margetts,1989). Crafts serve as part of indigenous knowledge a skill transfer and helps with the preservation of traditional knowledge. South African crafters possess exceptional skills and indigenous knowledge in manipulating a variety of available materials to create products (Shapiro 2006). These crafters belong to the various groupings of indigenous people that are found in South Africa's nine provinces. However, their work is regarded as informal labour which means that it is not legislated and is not protected by South Africa's labour laws. Chen, Sebstad and O'Connell (1999:603), described the term 'informal labour' as referring to "activities that are not protected by labour legislation or organised by formal trade unions".

Most Latin American, South Asian countries have experienced a slowdown in the growth of formal sector employment while African countries have experienced growth in informal labour sectors (Macharia, 2006; du Toit & Neves, 2007). Shifts from formal to informal employment have seen a rise in the latter – these are a common feature of many transition economies like South Africa. However there is lack of government support for the informal sector in both rural and urban areas. developing countries there is lack of promotion of the informal sector, regardless of official reports showing that 80% in developing countries and 40% in developed nations operation in informal and rural markets (Chen *et al.*, 1999).

Before the introduction of industrially manufactured products, indigenous people made products that were driven by society, raw materials and the environment; products made out of hides and bone which had been in lasting personal possession (Jabbar *et al.*, 2002). Grass which grows in certain parts of the country was harvested and used to make mats, brooms, sifts, place mats and baskets (such as those depicted in Figure 1).

Below is an illustration (Figure 2) of a piece of traditional attire called *miwenda* worn by Venda women from the Northern Province of South Africa – this attire is worn in pairs; one on across the shoulder and one on the waist. The *miwenda* is made out of cotton fabric and is embroidered in multiple colours and accessorised with matching bangles and anklets.

Today some indigenous people still make use of high quality materials and make products that are informed by indigenous people's beliefs, culture and nature. The products are made out of durable materials because they are made to last – traditionally they are passed on from one generation to the next. It therefore becomes very important that IKS be supported because it aligns itself to the UN Millennium Development Goals. It is based on sustainable methods that inherently consider the needs of future generations.

The products created are practical and can be used to enhance their daily lives. Indigenous people are aware of every stage of production of the products they make, they relate to their environment and good stewardship of the same is second nature to them. Indigenous knowledge in this context is not viewed as a replacement to technology, but rather as an integral part of the solution to help deal with environmental concerns in product production. Informal production has the capacity to transform small indigenous production operations to larger capacities. IKS promotes respect for environmental resources to orientate society towards more sustainable ways of doing things with respect to contemporary products in a modern market setting.

Their methods of production can be replicated to the design industries where designers can work with lo-

cal community groups to make handicraft such as embroidery, beadwork and appliqué as these form part of modern design techniques. It is important for designers to collaborate with indigenous crafters so that they can gain skills and ensure that knowledge as well as culture is preserved. It is local designers who are well aware of cultural and political landscapes in which they live and work, that gives an advantage of understanding the social problems and issues that face the community. It therefore becomes their role to participate in developing solutions in collaboration with the communities in which they live. Using readily available materials and equipment can help promote participation towards the growth of the economy while creating income generation mechanism for women in rural areas. In order for designer's gain better understanding of indigenous knowledge systems, it is important that young designers participate in local community crafts so that they can gain skills and wisdom in craft production. This is important for preservation of local cultures, knowledge, skills and create sustainability of the environment and lives.

Since 1996 the South African government introduced the Reconstruction and Development Programme (RDP) which is part of poverty alleviation programme under the investing in culture program. The government is trying to deal with the issue of an unusually high unemployment rate in the country. This is done through financing organisations and institutions such as Technology Innovation Agency (TIA) at the Cape Peninsula University of Technology (CPUT), which is the initiative of the Department of Science and Technology. TIA is involved in other partnerships which include SEDA Western Cape, Cape Craft and Design institute and the Cape Town Fashion Council which serves as a link between urban crafters and designers, CCDI is also part of CPUT Initiative which is supported by the Western Cape Provincial government.

With the support of the above Technology Innovation Agency (TIA) in collaboration with crafters the first author was able to come up with prints that are inspired by the crafters to come up with non-cultural designs that become a good selling point for the crafts. The design industry places emphasis on the supply chain, while the craft industry places emphasis on skills and techniques. Through the process of working with crafters young designers gain a deeper understanding of indigenous materials while they give an input on product development. Crafters learn to follow modern measures for the market, the aim of this project was to help the crafters learn new skills. These have been some of the critical outcomes of projects such as those of Prevailing/ Solaka andThandeka based in Cape Town where the first author worked with previously socio-economically disadvantaged and marginalised women to develop

a range of items that could be sold to high end retail stores with the support of TIA and CPUT. Below are some of the products that the first author worked on.

This project shows that promotion of indigenous knowledge does not mean coming up with designs that are too tribal based, instead it focuses on promotion of knowledge of materials andv skills. IKS also helps with meaning making in the process of coming up with designs. However, all these programmes need to be expanded into the rural areas were there is no easy access to the mainstream economy. Issues such as globalisation and the impact they have on the promotion of indigenous knowledge needs to be looked at.

Impact of Globalisation on sustainability of resources

Foreign direct investments as a means of globalisation occurred so that developed economies can gain access to the raw materials of developing countries – resulting in gains from the resources benefiting more developed nations. Moreover, international institutions and corporations acquire increasingly greater power and influence through the agency of collaborating leaders in industrially developing nations (Baker, 1993). The alluring pull of such multinationals draws significant numbers of younger people from rural areas in hopes that they will benefit from formal employment opportunities in urban settings. In reality though, the vast majority of these young people can not secure formal jobs and end up living in poor conditions in the cities, without any prospects of gainful employment. Arguably, no country can truly escape the pervading influence of international financial markets and multinationals as most parts of the world have an insignificant share in the benefits accruing from the restructuring of the global economy (Went, 2000).

Globalisation promotes outsourcing of production and labour into developing countries and this often results in a skewed net income distribution between developed and developing nations (Mostert, 2003). As a result there is fierce global competition amongst developing nations for the supply of cheap labour to more developed economies. In this regard, globalisation can be argued to be an internationalisation of production. The internationalisation of production comes at a great cost to local cultures and their sustainability is being threatened.

Millions of crafters who live in rural areas are unable to access the benefits of globalisation. It now becomes critical that government, NGOs and local institutions should promote IKS alongside other developmental prerogatives so that the said crafters can gain market access through initiatives such as TIA.

Concluding Remarks

This paper discussed the important role that IKS plays amongst the custodians of such knowledge. Further, it has also pointed out the pivotal role that indigenous knowledge can play within the contemporary creative world in the preservation of natural resources as well as perpetuating pertinent aspects of culture and traditions. Indigenous methods of production are inherently more sustainable vis-à-vis eco-design and related environmental concerns and much of this knowledge and sensitivity could be harnessed to promote greater self-sufficiency as well as to inform more progressive production and consumption patterns in the broader context.

Finally, this paper supports the view that a greater emphasis should be placed on promoting IKS, job creation, investment in, and expansion within the so-called 'second' economy as this sector is more responsive to geopolitical realities in industrially developing economies with surplus semi-skilled labour on offer. By encouraging more research in this area, policy makers would be better informed in developing appropriate context-sensitive solutions that would offer their people enhanced social equity and cohesion. By referencing IKS and similar sources of inspiration in the face of prevailing forces of globalisation, progressive developing economies could help orientate their societies towards a more sustainable future for all.

Keneilwe Munyai
Postgraduate Researcher
Faculty of Informatics and Design
Cape Peninsula University of Technology
Munyaik205@yahoo.com

Mugendi M'Rithaa
Department of industrial Design
Faculty of Informatics and Design
Cape Peninsula University of Technology
MugendiM@cput.ac.za

Bibliography

Agrawal, A. (1995). Dismantling the Divide between Indigenous and Scientific Knowledge. Turlington: University of Florida.

Bell, C. (1992). *Ritual theory& Ritual practice.* New York: Oxford University Press.

Belz, F.M., Silvertant, S., & Pobisch, J. (2007). Consumer integration in sustainable product innovation process. *EU's 6th frame work program* (pp. 131–150). Paris: Worksop of sustainable consumption Research Exchange SCORE.

Berkes, F., Colding, C., & Folke, C. (2000). Rediscovery of traditional ecological knowledge as adaptive management. *Ecological society of America*, 5:1251–1262.

Brandt, L.K. (2007). *Cultural analysis and navigation of complexity.* London.

Burger, J. (1987). *Report from the frontier.* London: Zed Books.

Chen, M., Sebstad, J., & O'Connell, L. (1999). Counting the Invisible workforce: The Case of Homebased workers. *World development ,* 27(3): 603–610.

Davison, P. (2005). *Introductory reader on heritage museums and galleries.* London: Routledge Publishers.

Design Indaba 2010. (2010). *Design Indaba 2010.* Retrieved May 24, 2010, from design Indaba 2010 conference speakers: http://www.designindaba.com/conference/speakers

Du Toit, A. & Neves, D. (2007). In search of South Africa's Second Economy: chronic poverty, economic marginalisation and adverse incorporation in Mt Frere and Khayalitsha. Chronic Poverty Research Centre. CPRC Working Paper 102. www.chronicpoverty.org/pdfs/102duToit_Neves.pdf [19 April 2008].

Hilson, G. (2002). Defining cleaner production and pollution prevention in the mining context. *Science Direct*, 16: 305–321.

Jabbar, M.A., Kiruthu, S., Gebremedhin, B. & Ehui, S. (2002). *Essential action to meet quality requirements of hides, skins and semi-processed leather from Africa.* Amsterdam: common fund for commodities.

Kates, R.W., Thomas, M. P., & Leuseriwutz, A.A. (2005). Environmental science and policy for sustainable development. *Sustainable Development ,* 47(3): 8–12.

Koti, D. (2008, June 24). Indigenous leather production processes. (K. Munyai: Interviewer). Mbekweni Village, Eastern Cape , South Africa.

Lufele, N. (2009, April 23). Indigenous knowledge and leather making. (K. Munyai: Interviewer). Queenstown, Eastern Cape, South Africa.

Macharia, S. (2006). *The urban 'informal economy' in the Global South: a feminist postempiricist study of policy discourse in sub-Saharan Africa.* www.yorku.ca/ishd/SM.Kenya.Report.field.pdf [9 May 2008].

Margetts, M. (1989). *Classical crafts a practical compendium of traditional skills.* London: Conran Octopus.

Moreno, J.L., Santagata, W., & Tabassum, A. (2004). Material cultural heritage, cultural diversity, and sustainable development. *ACEI, 13th International Conference on cultural economics.* USA: University of Illinois at Chicago, Department of Economics.

Mostert, J. (2003). The impact of globalisation on developing countries. *European Social Simulation Asociation conference* 19–23 September(p. 35). Somerset West, Cape Town: Google Scholar.

Ohmagari, K., & Berkes, F. (1997). Transmission of indigenous knowledge and bush skills among Western James Bay Cree women. *Human Ecology,* 25 (2): pages 197–222.

Panday, N. D. (2003). *Traditional knowledge systems for biodiversity.* Indian Institute of forest management. India: IUFRO Research group.

Sellschop,S., Goldblatt, W., & Hemp, D. (2002). *Craft South Africa.* Pietermaritsburg: Interpak Books.

Shapiro, L. (2006). *The craft industry South Africa today.* Retrieved March 17, 2008, from craft culture.org: http://www.craftculture.org/archive/shapiro

Turner, R.K., Oearce, D., & Bateman, I. (1994). *Environmental economics: an elementary introduction.* New York: Havester Wheatsheaf.

Vezzoli, C., & Manzini, E. (2008). *Design for Environmental Sustainability.* London: Springer-Verlag.

Went, R. (2000). *Globalisation neoliberal challenge, radical responses.* London: Pluto Press.

Anne Flemmert Jensen, Mette Mikkelsen, and Poul Rind Christensen

Between User Driven and Design Driven Innovation

Towards a New Innovation Concept?

1. Abstract

Key words: User needs; Consumption studies; opportunity creation; cultural signification; User driven innovation; design driven innovation, interaction driven innovation

In this paper we discuss the conceptual foundation of user-driven innovation (UDI) as well as design-driven innovation (DDI), based on the hypothesis that user needs are not revealed but created through a dynamic meaning making process among users, companies, designers, media and marketers.

The key points in the paper will be exemplified by results from a user-centered innovation project called "etrans". The project aims to turn electric vehicles and other forms of sustainable transportation into a market success in Denmark.

The objective of the paper is to propose a framework for analyzing the existing divide between user-driven and design-driven innovation – and to propose a new concept: interaction driven innovation.

2. Introduction

Over the past decade, the term 'user-driven innovation' has made its triumphant entry into both executive boardrooms and academia (Lettl, Herstatt and Gemunden, 2006). In academia, UDI has been inspired by the work of Von Hippel (1986 and 2005). The concept has since blossomed significantly as part of a strategic move in the business and policy communities who are fighting to survive and flourish in a steadily more competitive and saturated global market with a relentless demand for novelty and uniqueness, and in an environment where disruptive new technologies arise every minute (e.g. Nyholm and Langkilde, 2003; Inside Consulting and Oxford Research, 2004; DTI Global Watch Mission; 2004).

At this point, though, current definitions of the concept generally remain too simplistic and contain many inherent paradoxes (Basulto, Dominic, 2005; Simonsen & Kensing, 1997; Spivey Overby, 2005), which need to be addressed in order to gain a more complex and operational understanding of the opportunities and limitations that UDI offers. UDI spans across several research fields, most notably including consumer and consumption studies, technology studies; anthropology, design research, and innovation management. Thus it breaks with the traditional trajectories of reasoning and working in academia, where research disciplines and fields are strictly divided. Gaining a more complex understanding of the concept calls for researchers with the courage to draw meaningful connections between otherwise divided research disciplines.

Naturally, it is not within our scope to address all perspectives and paradoxes entailed in the concept of UDI. Our contribution will focus on the following areas:

1. Promotion of a more complex understanding of the concept of the consumer as defined by his or her user 'needs' and how they arise. We subscribe to the latest paradigm shifts in consumer research; more specifically consumption studies (Belk, Ger & Askegaard, 2003; Østergaard & Jantzen, 2000) and consumer culture theory (Arnould & Thompson, 2005).
2. To discuss what that more complex understanding of the epistemology and rise of needs means to the role of designers and design in UDI (drawing on e.g. Verganti, 2008; Ehn, P.,1992; Sanoff, 2006)
3. Proposition of an optional 'third place' between user-driven innovation on one hand, and design-driven innovation on the other – which we suggest calling 'interaction-driven innovation'.

3. Method

The key points in the paper are illustrated by the results from a UDI project called "etrans", which aims to support the adoption of electric vehicles and other forms of sustainable transportation among Danish car consumers parallel with the technological development and gradual market launch.

The project focuses on research as well as art-based design work, acknowledging the fact that interesting and groundbreaking innovations emerge in the tension field between the two domains. The empirical research methods applied range from anthropological user studies to participatory design, in addition to other qualitative and quantitative methods of analysis.

The project is steered by a team of researchers and designers working closely together with partner enterprises from the business community as well as public stakeholders and NGOs. User insights form the platform for innovation and new design solutions in a carefully orchestrated design/innovation process, which includes anthropologists, consumer and design researchers, designers, and a wide selection of business partners and NGOs.

3.1 About the Anthropological Field Study

In the early stage of the project, we realized that a successful launch and diffusion of the electric vehicle on the Danish automobile market was dependent on an in-depth understanding of how the car can be incorporated into the everyday lives of Danish car users. To this end, etrans conducted an anthropological field study among 50 car users in Denmark. The field work was conducted in the spring of 2009 and was followed by a first round of analysis and business application during a 6-day workshop in June 2009.

Each of the 50 field visits lasted at least five hours. They were conducted in the period April 7 to May 29, 2009 (for further reading, see Ulk, 2009). During the visits we tried to blend in with the normal everyday activities of the respondents, including time spent with them at work, at home, and during transportation.

A wide variety of methods and techniques were utilised in the study, including participant observation, semi-structured interviews, visual anthropology, guided tours, shadowing clips, user journals, prioritisation games, and pictorial card games.

3.2 About the Innovation Process

Our objective was to incorporate the insights from the anthropological study into an organic, multidisciplinary process in which different professional fields could enrich each other. Therefore, business people, designers, technicians, stakeholders from the political arena, and researchers were invited to participate on equal terms in a 6-day workshop aiming to develop business ideas and

perform analyses of car users based on the anthropological insights (for further reading, see Jensen & Mikkelsen, 2009). These insights were coupled with studies regarding socio-cultural trends as well as market insights.

Our objective was for the design process and the individual designs to be research-based while having the design process drive the transformation from insight to concept. The process was divided into two phases, each lasting 3 days:

- During the first phase, the purpose was to introduce the participants, on equal terms, to the insights gained from the user study, and ensure that everyone became familiar with the findings. By forming groups of mixed competencies we thought we would obtain a wider and more nuanced understanding of the role the car plays in the everyday lives of different users; we also tried to assess the beliefs and values of different users towards transportation, energy, sustainability, and consumption in general.
- In the second phase of the workshop, we maintained the mixed competency groups for mutual enrichment and inspiration. Some groups concentrated on analysing the data material with the aim of categorising users into ideal types, while others worked with the data material seeking to develop design principles and business concepts.

During the research and concept development phase, researchers made systematic observations in order to gain experiences from working with UDI in multi-disciplinary teams. The objective of this paper is to share the experiences and results from these observations and to frame and discuss them in a wider theoretical context.

4. Results

4.1 The Illusion of Uncovering Latent Needs

UDI has received increasing attention from business communities for the past decade, not least in Scandinavia where the notion of democratising the innovation process is consistent with existing cultural paradigms (Granlien, 2009; Rosted 2005).

Several different definitions of and approaches to UDI co-exist. Von Hippel (2005) focuses on user-innovators – a cornerstone of user-centered innovation where lead users design their own innovations and share them in communities with other lead users within the same field.

However, there seems to be a growing tendency among government agencies and research units (e.g. EBST/Fora, Nordic, OECD), to use the term UDI when innovation is more or less driven by the end-user or centered around insights into the so-called explicit (i.e. recognized and conscious) and latent (i.e. unrecognized
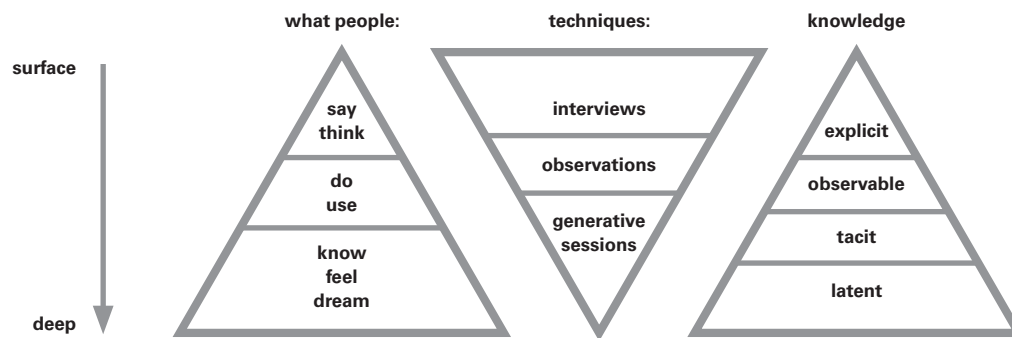
Figure 1: Different Levels of Knowledge about the Users are Accessed by Different Methods. Source: Sleeswijk Visser et al., 2005

and unconscious) needs of the consumer or user. Such a definition is, for instance, evident in this statement from the Nordic Council of Ministers in 2006:

"To sustain a competitive edge, more focus must be given to meeting users' needs…and not simply those explicitly stated in market research – but rather those latent user needs which can be revealed by alternative analytical methods, and by the users themselves. This is what user-driven innovation is all about – determining a more systematic way to understand and develop solutions that respond to user needs", (TemaNord, 2006).

Definitions like the one above tend to give the user an almost divine status as a direct and genuine mediator of cultural meaning. Implicitly they draw on models such as Sleeswijk, Visser et. al. (2005), who claim that different levels of knowledge about the informants can be uncovered by using different techniques. The needs may be explicit or latent; but the very presumption that 'needs' exist per se, is never questioned.

We allege that there is something *inherently* wrong about these presumptions. Not because the attempt of 'meeting the needs of the users' is not noble or worthy of praise. But because such a statement takes it for granted that individuals are equipped with certain sets of needs – explicit or latent – which are just waiting to be revealed and 'unlocked' by a clever consumer researcher using the right tools. We suggest that this main-stream version of UDI is founded on the belief that needs are present in the market ex ante and simply have to be brought out into the open. Similar thought patterns are found in related fields of research (Shane and Verkanan, 2000).

4.2 From a Utilitarian Logic to a Logic of the Sign

In accordance with e.g. Belk, Ger & Askegaard (2003), we propose an alternative theoretical framework for understanding how the demand for certain objects and services arises, namely the theory that needs don't ex-

ist per se but are socially constructed – they are created not revealed. Furthermore, in line with e.g. Korsgaard et al. (2009), Sarasvathy (2007), and Verganti (2008) we propose that this construction of 'needs' is turned into innovation through experimental action and interaction in a confined social space consisting of different actors, who all subscribe to and participate in a social game of shared signification, and who all bring their expertise, interests, political agendas, and perspectives into that mutual game.

The criticism of the concept of 'needs' was introduced as early as 1969 by Baudrillard, with "The Ideological Genesis of Needs" (Baudrillard, in Schor and Holt, 2000), and has gained growing significance for the past 10 years within that particular field of consumer research called *consumer culture theory* (Arnould & Thompson, 2005) and *consumption studies* (Østergaard & Jantzen, 2000). Baudrillard claims that the idea of the absolute existence of consumer/user 'needs' is a myth. Instead he introduces 'the logic of sign value', claiming that it is a *desire for signification* that drives consumption – and hence the market – *not* a set of *inherent needs*.

In 'the missing streetcar named desire' (in Ratneshwar, Mick and Huffmann 2003), Belk, Ger and Askegaard advocate the notion of replacing the concept of 'needs' with the concept of 'desire'. The notion of 'needs', they state, derives from a utilitarian logic obsessed with control; a logic which has been in sync with a Western market discourse: "Needs are anticipated, controlled, denied, postponed, prioritized, planned for, addressed, satisfied, fulfilled, and gratified through logical instrumental processes" (op cit, p. 99), they claim. Desire, on the other hand, "awakens, seizes, teases, titillates, and arouses" (op cit, p. 99). While the concept of needs speaks to the causal reasoning, with its cause and effect logic, desire speaks to the affective reasoning (Sarasvathy, 2007) with its judgmental reasoning, action and experimentation.

In sync with this, we propose that needs and markets are cultural constructions, *created* through a dynamic,

common meaning making process involving end-users, designers, media and marketers who are all players in the same game: The game of signification. In that game we play different roles. But we are all 'users', namely users of the game of signification. This opens up a whole new definition of what a 'user' is.

4.3 The Lack of Needs in Etrans
In the innovation processes that we have orchestrated at etrans, we have deliberately used this mutual game of signification as a platform for innovation. Insights developed from the user study have been used systematically as a common frame of reference – a platform from which to create shared meaning. But the aim has never been to *translate* insights in a linear fashion from 'subjects' (informants) into 'objects' (design solutions) using the concept of 'needs' as the binding glue. Rather, the aim has been to subscribe to the existing sign languages guiding the transportation habits and routines of different users, and use them as a stepping stone for creating new sign languages that have the potential to titillate and arouse desire.

One core issue is clear: We have to tap into a culturally saturated context in which notions of transport and energy are dominated by a well-established universe of signs. A well-functioning market and identification context has to be replaced by entirely new systems, habits, and socio-cultural meaning. The project has to CREATE a demand for electric vehicles among end-users in a market where it is obvious that none exists. In order to convince consumers to accept something as radical as a fundamental change of their existing transport and energy habits – and thus create a radical innovation – subscribing to the existing universe of signs is absolutely vital; in terms of signification, we have to balance carefully between novelty on the one hand, and redundancy on the other.

In contrast to Verganti (2008), we suggest that the systematic inclusion of insights from end-users in the innovation process remains crucial. What we need to reconsider is the interpretation of what user insights are – and what they can be used for. According to the logic of sign value, user studies cannot and should not be used for *revealing and fulfilling needs*. Yet, they can be used for gaining insight into the complex systems of meaning that make up different people's consumption habits. Such insights are absolutely vital if the aim is to change that cultural system of meaning – as are insights about socio-cultural trends, business strategies, and market and technological trends.

4.4 Towards a New Role of Design and Designers in User Driven Innovation
The classical definition of UDI, based on the myth of the utilitarian logic of needs, infers a reductionist role of

design. Here, design is often considered a competency which is only applied as an add-on when a solution needs to be materialised.

When applying that perspective the designer works within a well-defined framework and with well-known and tested methods. The most important role for the designer is to translate the needs of the subject into new objects by means of colours, materials and form.

According to this logic, the end-user is elevated to a hegemonic being with an almost divine status – a being from whom all truth flows directly, while the designer (and everybody else) is reduced to a faithful servant, whose only purpose it is to fulfil the needs of the omnipotent consumer.

As a counterbalance to UDI, Verganti (2008) has introduced the concept of Design Driven Innovation (DDI); putting design at the absolute forefront as the driver of the innovation process. It is founded on the notion of Krippendorff (1989) stating that 'design is making sense (of things)', and thus closely connected to the logic of sign value presented earlier in this paper, and the notion within consumer culture theory (Arnould & Thompson, 2005) that all human beings are engaged in a game of cultural signification.

DDI does not start with user insight, but a vision of a radical change of meaning in the socio-cultural context. It is not a response to a user need, but rather a transformation of users' habitual interpretation of consumption embedded in the established socio-cultural order.

This new perspective cannot be understood by looking at the users, Verganti states, since it develops over time after the user understands the radically new approach and gives it meaning within the user's own socio-cultural context. Radical changes in meaning are linked to radical changes in socio-cultural systems and can only be experienced across a certain span of time.

Hence, Verganti considers user-driven innovation to be regressive, because the users represent an existing cultural meaning. Instead, he claims, the designer should be given a more central role as the one defining who in the surrounding society has a relevant perception about the meaning making of the future (Verganti. 2008. p. 445). From Verganti's point of view, the focus is moved from user needs to socio-cultural models. The ability to negotiate using tools and methods is replaced by knowledge sharing, and development is replaced by research.

Yet, although Verganti's own definition of design as 'making sense of things' is similar to the notions inherent in the 'logic of the sign' – meaning that consumers are driven by a desire to signify and that the design and innovation challenge is to tease, titillate and arouse desire, rather than fulfill 'needs' – Verganti's critique of UDI is to some extent based on the utilitarian 'logic of use value'; and thus on the assumption that the aim with conducting user studies is to unveil, identify and ful-

fill needs. That might be the way that some UDI projects work with user insights in practice. However, that doesn't make it less of a misconception. It is our distinct experience that user insights should be included for different reasons: Most notably because they are a vital part of the universe of signs that people subscribe to in order to 'make sense of things'. Radical innovations can be introduced, but they only become meaningful (also over time) if they partially subscribe to an existing universe of signs; thus flux elegantly between novelty and redundancy.

If we accept that 'needs' are social constructions, and thus nothing but 'desires that have become socially instituted as necessities' (op.cit.), as Belk, Ger and Askegaard suggest, we also have to recognize from a methodological point of view that working with consumer insights is not a matter of a simple translation of 'needs' into form. If it were, working with user insights as the platform for innovation *would* indeed be regressive by nature, and *would* reduce designers, researchers, and marketers to mere translators and servants.

But according to Baudrillard's order of signs, the UDI process is transformed from being a simple translation process between subject (the consumer) and object (the offer) to being a complex game of signification that involves users as well as a wider community of stakeholders of key importance for turning new signs into sustainable opportunities. Creating consumer insights becomes an attempt to try to understand the complexity and order of codes and signs which make up different people's everyday lives. The innovation challenge becomes an attempt to invent, mix, and re-mix social codes or systems of meaning with new aesthetic, functional or ideological forms or wholes, thus striving to arouse the desires of a sufficient number of people at a certain point in time.

This assigns a very central role to design as well as the individual designer in the innovation process. In many respects, design is the very playground of signification – a playground where the unexpected and the new can meet the safe and the well-known and new paradigms can be formed that arouse people's desires. The logic of signs is the home ground of design; and arousing people's desires by mixing and merging existing and new signs and introducing them in different contexts is what designers do best.

4.5 Interaction Driven Innovation and Design

The conventional view that design is problem solving has long been criticized for the simple reason that in practice design problems are not obvious. They depend on how stakeholders, users and the wider society interpret, articulate and respond to perceived problems. Schön (1983) introduced the notion that designers are

problem setters. In other words, they not only solve the puzzle, but also generate it and visualise it in order to create a presence of the future.

In this creation process the parties involved in the innovation process must recognise their role and obligations to their respective organisations. Using cultural values, meanings, and signs on a general level as a point of reference creates a common base for negotiations – but also for excitement. In this process it is again possible, from a design standpoint, to refer to Baudrillard's positions and realise that throughout the ENTIRE innovation process it pays to navigate from a set of (company) cultural signs and meanings which are prerequisites for success. Representatives from a company, organisation or research position are not just negotiators in a given external context; they are also ambassadors for a culture where changes have to be implemented.

Following Sarasvathy (2007), who uses a metaphor from Kerala, India, where women traditionally bring together their bits and pieces of coloured cloth for quilt making, the shaping of new opportunities and visions is more like a crazy quilt than a puzzle, in the sense that a puzzle is fixed and solved by deliberate search, while the crazy quilt is not deliberately designed, but created from the bits and pieces of cloth displayed by the women joining the quilt session. The quilt is thus the outcome of action and interaction and takes shape through small steps of trial and error and discussions and negotiations of how to combine the bits and pieces into a whole. It is a process of social and material exchange and mutual adaptation, where none of the stakeholders foresee the result, but rely on the value of the unexpected.

The quilt-making process can thus be seen as a metaphor for the practical innovation process in open innovation systems (Chesbroug, 2003), where a number of stakeholders with different positions, outlook and interests join forces, and where the whole becomes more than the single elements put together.

Stakeholders impose restrictions on each other along the process, which induces ambiguity in the process and forces actors to reconsider their pre-conceived perspectives and deliberate strategies and visions. These restrictions are out of the designer's control and thus force him or her to formulate problems. In turn this leads to a process – as noted by Gedenryd (1998) – of give and take; speak and listen; act and perceive. This mutuality of adaptation and influence breaks up causality and predictability no matter how deliberately the innovation process is planned and staged. Gedenryd characterizes this process as one of 'interactive cognition' – a process in which actors are forced to change perspectives on sustainable opportunities.

In the etrans project, we recognize the metaphor of the quilt and find that innovation arises as a result of the mutual interaction, negotiation and inspiration among
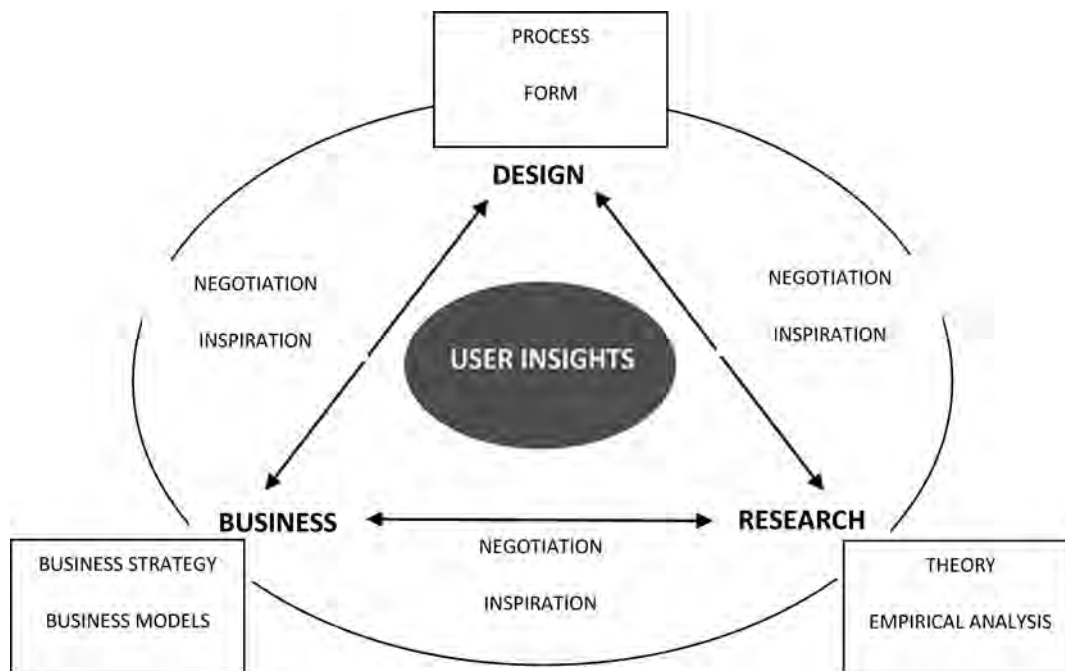
Figure 2: The design process as a mutual meaning making process

different stakeholders with different perspectives. The notion of power, though, and most notably the power balance between the stakeholders, is also relevant, and calls for more research. Building on Krippendorf's (1989) assumption that 'design is making sense (of things)', user insights in this process are the basis of:

1. "Making shared sense of things". The anthropological data have been interpreted in a set-up where people with different cultural, age-related and professional backgrounds evaluate episodes from their daily lives and in a guided process project this insight into an analysis about the transport habits of the future.
2. "Making common sense of things". Ideation leads to the creation of business opportunities and innovation platforms which are not all viable.

One of our observations is that many of the insights from the user study are ignored because they have no perceived relevance or viability for the innovation parties. Obvious ideas are not promoted in the relevant organisations and nurtured internally, if for example they cannot be incorporated into already established business systems or strategies and thus be implemented in established organisations.

Meanings, signs, desires and needs are thus socially constructed in a complex collaboration or exchange between different stakeholders, and so are the opportunities linked to the creation of future needs.

In conclusion, the theoretical framework of UDI as well as that of DDI have a strong focus on the role of the individual actors (the user and the designer, respectively) and tend to disregard other stakeholders of key importance to the innovative dynamics; including e.g. business stakeholders, experts, and researchers. UDI and DDI in particular disregard the dynamics of exchange and the adaptation processes embedded in the interaction among the engaged stakeholders and thus also the critical role played by those resources built into and embedded within the network of stakeholders. Our suggestion is that there is an optional 'third place' between UDI, focusing on the user, and DDI, focusing on the designer; namely 'interaction driven innovation', focusing on the dynamics of the interaction itself.

5. Discussion

In this paper we have tried to address and frame some of the many paradoxes inherent in UDI. Most notably, we have attempted to puncture the misconception that what takes place in UDI is a direct and linear translation of user needs into objects that act as a direct representation of those needs.

In line with new paradigms in consumer research, most notably consumer culture theory (Arnould & Thompson 2005), and design research (Verganti 2008), we have proposed that innovations occur in social interaction between different actors – including end-users, designers, researchers, and business strategists – who all participate in a complex and never-ending game of

cultural signification. According to this logic, working with user insights or any other form of insights is *not* a linear act of translation, but becomes a platform for mutual *meaning creation and transformation.*

This has been very obvious in a project like etrans, where the need among end-users for the electric car is clearly non-existent – and the 'need' from a larger societal point of view of *creating* a demand, is equally clear. But we suggest that the challenge is the same even in fields where the lack of needs is not so immediately obvious: Namely to gain an understanding of the universe of signs or cultural meaning reflecting and forming a certain consumption field – in our case the field of transportation, energy and sustainability – and to subscribe to that universe of signs in order to expand it or transform it. In our experience, insight into such universes of meaning implies working with user insights as well as socio-cultural trends, business plans, and market and technology insights. It is a synthesis of all of these insights that should work as a frame of reference for creating and implementing new intriguing design solutions in mutual interaction between different actors.

Defining the innovation platform as a platform for mutual *meaning creation and transformation,* and *not* a linear act of translation, means that the designer adopts a much more central role in the creation process. The designer is no longer reduced to being *a translator of needs into objects;* on the contrary, the designer is promoted to being an *advanced orchestrator of signs*. Thus we suggest working with user insights is not what reduces the designer and design to sexy ad-ons and need-providers. Rather, it is the myth that user 'needs' exist per se and can be *identified, addressed and fulfilled* in a linear and instrumental manner.

We suggest that the notion that the innovation process is *driven* by the user is nothing but a myth. The term 'user-driven innovation' puts a natural focus on a particular target group, namely the user, and supports the misconception that the end-user is a source of direct information that just needs to be translated into objects.

Although we agree with Verganti's definition of the innovation process as a common meaning making process between different parties subscribing to socio-cultural signs, we find that replacing the term user-driven innovation with the term design-driven innovation does nothing but shift the problem, since the focus is still on a particular group of people and a particular professional discipline.

Our experiences in etrans shows that innovations arise through exchange and adaptation processes among different actors. Unexpected insights into the interaction process arise, when actors work from a common platform of insights and inspiration in order to create cultural meaning. Based on these experiences we sug-

gest a new concept: interaction-driven innovation. The focus of this concept is not on a particular type of actors driving the process, but on the interaction – exchange and adaptation – processes that take place among the different actors. According to Gedenryd this, in turn, forms the cognition process among the actors and eventually results in innovation.

In this paper, we have tried to paint the *contours* of a new innovation concept, that we call 'interaction driven innovation'. Yet, the scope of the paper did not allow for diving more deeply into an analysis of the specific nature and different elements of the cultural interaction process. Much more research is called for in order to gain a better understanding of the different roles that different stakeholders take, and what it takes to facilitate such an interaction process in order to eventually end up with an interesting and intriguing offer.

Anne Flemmert Jensen
Associate Professor, Ph.d.
afj@dskd.dk

Mette Mikkelsen
Designer, MA and Head of the "etrans" Project
mm@dskd.dk

Poul Rind Christensen
Professor and Head of Research
rind@dskd.dk

Kolding School of Design, Denmark

References
1 Arnould, Eric J. & Thompson Craig J. (2005), "Consumer Culture Theory (CCT): Twenty Years of Research", in Journal of Consumer Research; March 2005, Vol. 31, Issue 4, p. 868–882.
2 Basulto, Dominic (2005), "An Innovation Roadmap", in *TCS Daily*, December 19, 2005.
3 Belk, Russel W., Ger, Güliz, and Askegaard, Søren (2003), "The missing streetcar named desire", in Ratneshwar S., David Glen Mick, and Cynthia Huffman (eds.), *The Why of Consumption – contemporary perspectives on consumer motives, goals, and desires,* London: Routledge, pp. 98–119.
4 Bettman, J.R., Luce, M.F. and Payne, J.W. (1998), "Constructive consumer choice processes", *Journal of Consumer Research* 25 (December): 187–217.
5 Chesbrough, H. (2003), *Open Innovation: The New Imperative for Creating and Profiting from Technology*. Harvard Business School Press, Boston, Massachusetts.
6 Cox, George (2005), *Cox Review of creativity in Business: building on the UK's strengths*, a review commissioned by the Chancellor of the Exchequer, HM Treasury, December 2005, London. www.hm-treasury.gov.uk/ independent_reviews/cox_review/ coxreview_index.cfm
7 DTI Global Watch Mission (2004), *Innovation through people-centred design – lessons from the USA*, Pera Innovation Limited on behalf of the British Department of Trade and Industry, London.
8 DTI (2005), *Creativity, Design and Business Performance*, DTI Economics Paper No.15, November 2005, London.

9 Ehn, P. (1992) Scandinavian design: On participation and skill, in P. Adler and T. Winograd (eds.) *Usability: Turning Technologies into Tools*, Oxford University Press.

10 European Commission (2005), *European Innovation Scoreboard 2005*, DG Enterprise, European Trend Chart on Innovation, Brussels.

11 Fournier, S. (1994), "A consumer-brand relationship framework for strategic brand management", PhD Dissertation, University of Florida.

12 Granlien, M.S. (2009). "Refleksioner over brugerdreven innovation og tilhørende udfordringer", Roskilde Universitetscenter, unpubl.

13 Gedenryd, H. (1998), How designers work, Ph.D. dissertation, Lund University

14 Inside Consulting and Oxford Research (2004), *Brugerdreven innovation i dansk erhvervsliv*, Danish Council for Trade and Industry, Copenhagen.

15 Halse, J. (2008), *Design Anthropology: Borderland Experiments with Participation, Performance, and Situated Intervention*, Copenhagen: IT University.

16 Jensen, A.F. and Mikkelsen M. (2009), "A design manual for the electric car market", report 1, Denmark: etrans, Kolding School of Design

17 Kensing F., and A. Munk-Madsen (1993), "Participatory Design: Structure in the Toolbox". In Communications of the ACM, vol. 36, no. 4, pp. 78–85

18 Kleine, II, R.F., Kleine, S.S. and Kernan, J.B. (1993), "Mundane consumption and the self: a social-identity perspective", *Journal of Consumer Psychology,* 2 (3): 209–35.

19 Koerner, Brendan I. (2006), "Geeks in Toyland" in *Wired News*, January 4, 2006 (and Wired magazine's February 2006 issue).

20 Korsgaard, Thrane, C.; S. Blenker, P. Christensen, P. R. et al (2009), En ny agenda for entreprenørskabs-forskningen: Dansk forskning i entreprenørielle muligheder. Ledelse & Erhvervsøkonomi no. 01 20.

21 Krippendorff, K. (1989). On the Essential Contexts of Artifacts or on the Proposition that "Design Is Making Sense (of Things)". In *Design Issues,* 5(2), (Spring), pp. 9–38.

22 Lettl, C. Herstatt, C. and Gemuenden, H. G. (2006), "Users' contribution to radical innovation: evidence form four cases in the field of medical equipment technology, R&D Management 36, 3, 251–272.

23 Markus, H. & Ruvolo, A. (1989), "Possible selves: personalized representations of goals", in L.A. Pervin (ed.), *Goal Concepts in Personality and Social Psychology,* Hillsdale, NJ: Lawrence Erlbaum Associates: 211–42.

24 Nussbaum, Bruce (2004), "The Power of Design" in *Business Week*, May 17th, 2004. http://www.businessweek.com/pdf/240512BWePrint2.pdf

25 Nyholm, Jens and Lotte Langkilde (2003), *Et benchmark studie af innovation og innovationspolitik – hvad kan Danmark lære?*, FORA, Copenhagen.

26 Rosted, Jørgen (2005), *Brugerdreven innovation – Resultater og anbefalinger*, FORA, Copenhagen.

27 Sanoff, H. (2006), Multiple views of participatory design, METU JFA 2006/2, *131–143,0pen source paper: http://jfa.arch.metu.edu.tr/archive/0258-5316/2006/cilt23/sayi_2/131_143.pdf)*

28 Schor J.B. and Holt, D.B. (2000), *The Consumer Society Reader,* NY: The New Press.

29 Sarasvathy, S.D. (2001): Causation and effectuation: Toward a theoretical shift from economic inevitability to entrepreneurial contingency. Academy of Management Review, Vol. 26, No. 2: 243–264.

30 Shane, S.; Venkataraman, S. (2000): The Promise of Entrepreneurship as a Field of Research. *Academy of Management Review*, vol. 25, No. 1, 217–226

31 Simonsen, J. and F. Kensing (1998): "Make Room for Ethnography in Design". In ACM-SIGDOC – The Journal of Computer Documentation, vol 22, no 1, 1998.

32 Simonsen, J. and F. Kensing (1997), "Using Ethnography in Contextual Design". In *Communications of the ACM*, vol. 40, no. 7, July.

33 Sleeswijk, Visser et. al. (2005) -à Contextmapping: experiences from practice. CoDesign, Vol. http://www.informaworld.com/smpp/title~db=all~content=t716100698~tab=issueslist~branches=1 – v11, No. 2, 119 – 149

34 Spivey Overby, Christine (2005), *Consumer-Focused Innovation*, Forrester Re-search, Inc., Cambridge.

35 Ulk, Rikke (2009), "Data Report: Anthropological Field Study in Connection with the etrans Project", *etrans, Kolding School of Design.*

36 U.S. Council on Competitiveness (2004), *Innovate America*, National Innovation Initiative Interim Report.

37 U.S. Office of Science and Technology Policy (2006), *American Competitiveness Initiative*, Washington D.C.

38 Verganti, R. (2008), Design, Meanings, and Radical Innovation: A Metamodel and a

39 Research Agenda. *Journal of Product Innovation Management;* Vol.25, 436–456

40 Von Hippel, Eric (2005), *Democratizing Innovation*, The MIT Press, Cambridge.

41 Von Hippel, Eric (1988), *The Sources of Innovation,* N.Y.: Oxford University Press

42 Østergaard & Jantzen, 2000, "Shifting Perspectives in Consumer Research: From Buyer Behaviour to Consumption Studies", in Suzanne C. Beckmann & Richard H. Elliot (eds.), *Interpretive Consumer Research: Paradigms, Methodologies, and Applications",* Cph: Handelshøjskolens Forlag, pp. 9–23.

Dr Yanki Lee and Dr Denny Ho Kwok Leung

Designing with People

Developing a digital platform for knowledge transfer and exchange of inclusive design methodology

Abstract

In this paper we report our experiences of asking how to educate designers to engage Inclusive Design (ID) thinking. Our experiences gained from organising and managing ID activities in each area are very promising and could serve as a precedent to demonstrate what we mean by employing reflexivity to make better participations. Through reviewing the process of constructing a web tool, *www.designingwithpeople.org*, we aim to show how both designers and participants can acquire design ability and knowledge through digital means and become more inclusive and creative in Participatory Design (PD) processes. In developing this webtool, our main question is *'how real exchanges between designers and participants happen in design processes'*, a logical question informed by our ideal of 'Designing with people'. We also reflect on this way of knowledge transfer and exchange to examine the feasibility of using websites for the purpose of social education. Based on our reflexive questions from ID experiences and explaining the ethos of developing the web tool, we suggest that practitioners in design community should be more reflexive about their own practices and put more effort on formulating different user involvement processes in order to improve the quality of participation.

Keywords: Design tools, design thinking, people-centred design, design education, inclusive design, participatory design

Introduction: From 'Users' to 'People'

In 2004, a research report issued by the UK Government Department of Trade and Industry (DTI) about user-centred design (UCD) suggested the replacement of the term 'users' with the term 'people'. The researchers visited top design consultants in the USA to track the transformative trajectory of the design field from user-centred design (UCD) to people-centred design (PCD) because *'…UCD is often thought to be purely about 'usability' or making things 'easy to use…'* Frequently, UCD becomes merely 'user testing' and is brought in at the end of the product development cycle. Users are often conceived in a task-centric way that fits into current technology-led business models' (DTI, 2004). It appeared that the term user-centred design has been challenged but this revealed a tendency in the design field to put more attention on the role of people in the process of design.

This is certainly a good social indicator showing a belated awareness of the necessity for people's participation in designing our world. As Sanders (2006) suggested that pioneers in design development from the developed world have been pushing the concept of people-centered design in order to replace the ethos of the market-driven era. In fact, a number of private enterprises have relegated part of the design tasks to their customers, e.g. Nike's trainers and Colnago's custom-built bikes. However, customers' involvement in commodity design remains at 'the end of the production cycle. There is insufficient attention put on the significant role of people through the process of design and production. Drawing from our effort in investigating the role of people in design, our experience may provide some ideas for those who are concerned with people's involvement in design. We are sure that, in this new socio-economic ethos, which put 'people' at the centre of design world, designers should know more about the ways of working with people.

Inclusive Design: our platform for designing with people

Inclusive Design (ID) is a response to design exclusion. It took the form of the ID movement, influenced by the US's Universal Design and European's Design for All ideology, and started in the 1990s from the UK. Over the years, working with people who are socially excluded by design profession has proved to be an effective way of developing inclusive design for society at large (Cassim, 2007). A distinct practical approach has proved its contri-
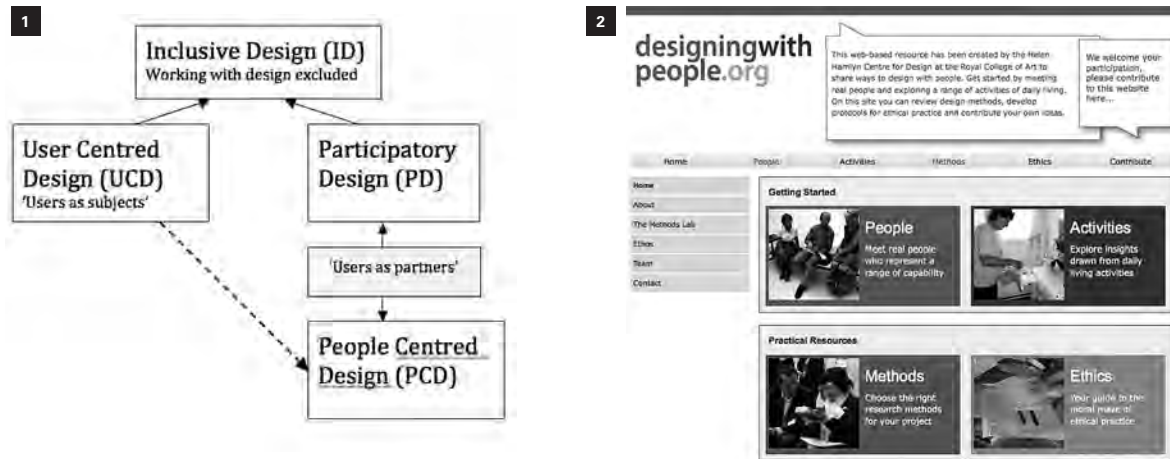
Figure 1. Terminologies table **Figure 2.** Screen shot of the content page of the www.designingwithpeople.org

bution to inclusivity in society (Macdonald, 2006). In the light of this, through engaging people who are excluded by design, people are invited to participate in interactive design sessions. They are termed as 'user forum' which represents a form of interactions different from 'focus group' methods that used in market research: 'User forums are not simply discussions between users but regular meetings between designers and users. Their advantages are that the two groups get to know one another and become comfortable with one another over time. One disadvantage is that the users may develop some design awareness and so perhaps become less useful as research 'subjects' (Coleman, 1999).

However, in order to make 'user forums' more participatory in nature, the first step should not regard participants as 'research subjects' but as 'active design partners' (Lee, et.al, 2009). This aligned with Sanders and Stappers' (2008) distinction between user-centered design and participatory design: the former approach refers to 'users are subjects' while the latter to 'users are partners'.

Engaging people who are excluded by design, ID aims to generate mainstream designs for all. But treating people as partners people are able to show their innate 'designerly ways of doing'. Thus, People-centred Design (PCD) has also re-oriented to treating 'users as partners', which is aligned with PD's concept and becomes a new level of UCD (Fig.1). From our view, ID is an ideology, which is supported by different forms of methodologies and methods in the process of people involvement in design. User-centred Design (UCD) and Participatory Design (PD) are two of them.

New web tool for new learning in inclusive design

Cross (2006) has argued that '[w]e often overlooked the fact that people are naturally very good at design. What designers should do is to help bred the core features

of design ability that are said to be latent in everyone.' To us, the idea of design as an educational means has been put to test through constructing the web tool, www. designingwithpeople.org (fig.2). In fact, this idea has its conceptual link to the Inclusive Design endeavour from the UK.

Since its emergence in the UK in the 1990s, ID has been promoted as an important element of business strategy (Coleman et al., 2003) and recently there has been more focus on discussion of the subject in design education (Dong et al., 2009). One of the core developments of ID in the UK has been the i~design project, a ten-year collaboration between key players in the field, with other UK collaborators from different sectors. It started in 2000 and has centred on three successive research collaborations, funded by the UK's research council.

Table 1 shows the evolution of this major UK academic collaboration regarding ID to date. This has led the way in developing the concept and influenced policy makers by issuing white papers and formulating tools for both business and design communities. Here our web tool is also informed by the general tenets of the ID to educate designers by asking specific question of practice, i.e. question of 'how to be inclusive'.

Our website *www.designingwithpeople.org* (fig.2) aims to act as an education tool to encourage designers to develop their own ways to make connections, not only within their subject area but also beyond it, to be able to generalise and transfer the principles of inclusive design into their own practices.

The construction of this web tool is based on the answers to five questions as to 'how' to indicate that the ID movement is moving towards a new era of rigorous redefining of terminology and attitude, methodology and collaborative practice. The five questions are:

Project	Research question	Deliverables
i~design 1: 2000–2004	What is inclusive design?	A knowledge base for inclusive design through the identification, development and testing of models, tools and theories, e.g. BSI definition of inclusive design
i~design 2: 2003–2007	How to enable industry to carry out inclusive design?	Develop mechanisms and approaches for inclusive design; resulted in a series of business case studies that highlight inclusive design processes and professional models, www.inclusivedesigntoolkit.com
i~design 3: 2006–2010	How to enable designers to design with people more effectively?	(Expecting) Exclusion calculator, www.designingwithpeople.org, etc…

Table 1. The development of i~design projects

1. How to shift from the term 'user' to 'people'?
2. How to move from designing for to designing with?
3. How to balance the user-centred and people-centred approaches?
4. How to identify and apply different inclusive design methodologies (e.g. grounded theory versus action research theory)?
5. How to transfer knowledge from academic research and practice to the real world for the benefit of people?

Five principles for using the web tool are presented in the following subsections, along with some our reflections of practicing and researching ID.

1) How to shift from the term 'user' to 'people'?

Deciding on the correct term to describe those who use the results of design has been a long-term argument (Lee, 2007). Designers, architects, planners and policy makers create products, services, systems, or environments through design processes. 'Users' is the general term used to describe those whose lives are directly affected by the material outputs of design processes. What does the term 'users' mean and how does it relate to other terms that are used to objectify different people? Within many design disciplines, 'user' is the common term to describe the unknown person who is going to use the objects and systems, such as those in the 'user manual' for computer software.

Forty (2000) quoted from Swain's publication that many designers now prefer to use the term 'people' rather than 'users'. 'People' denotes the population as a whole and is a more general term than 'user'. On the one hand, using the term 'people' can show a bigger vision of design. On the other hand, using such a general term responds to Forty's criticisms by suppressing all the differences which exist between specific labels such as 'customers', 'clients' or 'inhabitants'.

One recent argument suggested that the missing information that would enable designers to practice Inclusive Design is the anthropometric data on potential and specific users (Dong et.al 2007). It further urged development of supports to help designers to address existing anthropometric data through the three categories of Usefulness, Usability and Desirability of the user data set (Nickpour et.al, 2009). The approach of www.designingwithpeople.org has been derived from conversations with designers who have been practicing inclusive design or working on humanitarian projects. They said:

'tools like anthropometric data and persona can only give general impressions of users; they cannot replace interactions with real people'[1].

Furthermore, most of the interviewed designers added:

'it is more difficult to know how and where to find the 'users'[2]

Therefore, this web tool is designed as an inspirational tool rather than a substitute for interactions with real people during design processes. It aims to act as the first step and one-stop learning tool for designers to explore and find their own ways to design with people. All these comments by designers were key to developing the tool. This web tool encourages designers to go out to meet

---

1   Interview with Adrian Berry of Factorydesign and John Corcoran of Wire Design, London, Jan 2007
2   Interview with Madlene Lahtivuori and Elisabeth Ramel-Wahrberg of Ergonomidesign, Missionsvagen 24, Bromma, Sweden, May 2009

people for their design process. One important element of meeting people face-to-face, especially older and people with disabilities, is the change of attitude from sympathy to empathy, which is crucial to the interactions. All people are people, but each has a different character.

2) How to move from designing for to designing with?

After terminology and, one hopes, attitude have changed, it is important to align these changes with actual practice. The shift of preposition from 'designing for' to 'designing with' is essential. The web tool will show how the change can be made.

The web tool contains four parts: METHODS, PEOPLE, ACTIVITIES and ETHICS. Among them, the METHODS section is the structure of the tool. The consideration of the people who are going to benefit from design processes is not a new concept; many humanitarian designers have emphasised this relationship. The best examples include design classics like *Designing for People* (1955) by industrial designer Henry Dreyfuss and *Designing for the Disabled* (1976) by architect Selwyn Goldsmith. However, these relationships between designers and design users have in the past been mainly restricted to a quantitative approach based on measuring people's bodies and analysing the usability of designs in relationship to people's abilities or disabilities. Gradually, this 'designing for' approach has been challenged.

Our web tool carries the ideal of 'Designing with people' which is believed to serve as the common platform of design participations projects, i.e. it is more about the actual interactions rather than those between 'products' and users. This conception also informs our rationale behind the construction of the website which offers the 'midway' between the traditional mode of designers-users relationship, i.e. design for people, and the future mode, i.e. design by people. Our aim is to link both sides, i.e. 'for' and 'by' approaches, and collates all of them into a comprehensive tool to let newcomers to understand the practice and develop their own appropriate approach.

This rationale is in line with the ideas suggested by pioneer designers/design researchers who seek to position design profession in social frontier. Mau's (2005) has made a provoking statement, 'It's not about the world of design'. It's about the design of the world'; and Sanders' (2006) suggested a highly critical distinction between traditional design disciplines that focus on the designing 'products' and the emerging design disciplines of design for a purpose. These kinds of attempts in re-defining the nature of design are definitely pointing to the changing landscape of design practice. Jane Fulton Suri (2005) from IDEO has presented the model of 'for>with>by' as a new democratic design development that encourages designing 'with' people and even 'by'

them. This argument is supported by a quotation from an older adult, who was involved in the *Presence* Project:

'We don't need your patronising help, you designers. If you've come here to help us, you're wasting your time; we don't want to be helped, thanks just the same. Yet we do have some interesting observations to make about our daily lives, about our lifestyles, about our communication, and about all of their attendant dysfunctions. If you could kindly change your attitude and help us explore how we will live, then perhaps we can do something together.'

This was a research project looking at and for new media for researchers to urge designers and design researchers to reposition themselves at equal footing in their relationship with 'users'. Thackara (1995) suggested that the practice of design should actualize an essential shift from designing 'for' to designing 'with'.

In light of this, we advocate here that designers should change their attitude accordingly and most important is to help the people to 'explore how we should live'. Here we need to do more knowledge transfer. In other words, we expect to know how to educate designers to educate. Drawing from our experiences in designing and managing ID projects, we have designed three tasks of ID development activities, namely: educating designers to design, encouraging social focus of collaboration in design and enabling civic education through ID processes. In this paper, we focused on the design education by developing this web tool to transfer design knowledge to the people as well as providing resources for designers to reflect on their practice.

METHODS – Designing *with*, not designing *for*

In the METHODS section, using the 'for>with>by' as the framework to classify user research methods in design. Unlike the Helen Hamlyn Centre (HHC)'s Methods Lab (1999), IDEO's Methods Card (2000) and Engineering Design Centre (EDD)'s Cluster analysis of design methods (2004), we offer a new way to look at methods by classifying methods with their methodologies. It shows at table 2 that other classification approaches are based on 'what' and 'how' we used the methods.

In our METHODS section, we aim to show how reflexive design events can enable responsive participations. These activities were informed by the general concept framework of the nature of inclusive design, which focus on the relationships between designers and the users, and on the relationship between designers and people who would be affected by the adoption of the new design. The framework is three-tier of 'why' we include people:

	HHC's Methods Lab (1999)	IDEO (2000)	EDC (2004)	www.designingwithpeople.org (2010)
WHAT	**1.** Matrix (the Methods Map): • visual qualities Vs functional qualities • designer centred Vs user centred **2.** Typology quotations and definitions by practitioners	–	6 clusters (2 about user involvement)	–
HOW	Output Input: Expertise, time, staff, cost, setting Used in conjunction with: Further reading Links	4 types (LEARN, LOOK, ASK, TRY) > How to use > Why we choose this method	–	Methods (based on real situation and resources) • Expertise • Time • Staff • Costs • Stages: Need > Understanding > Requirement > Concepts > Solutions Based on explanation of 'Design Process' by John Clarkson at www.inclusivedesigntoolkit.com
WHY	–	–	–	Methodologies (based on user interactions): three types • Design for people • Design with people • Design by people

Table 2: Classifications of user research methods for design

1. Design for People (Current practice)
Designers control the whole process while people are treated as passive subjects
2. Design with People (Emerging practice)
Designers share the process with people who are act as active participants
3. Design by People (Future practice)

Under each tier, there are examples identified with name, description, aim, methodology (research approach), input requirement and background. More important, there are examples about each method which users could 'click' the web links to related website in order to consult the documents of the related workshops for learning how to design with people (fig.3).

3) How to balance user-centred and people-centred approach?

The other two sections at the web tool are: ACTIVITIES and CHARACTERS (Fig.4). The combination of them provides different ways for our 'users' to meet their future users virtually before meeting 'real people'. Over the decade of inclusive design development, different ways to design inclusively have emerged. This ACTIVITIES and PEOPLE approach represents the two poles of the practice, suitable for different situations.

ACTIVITIES – Starting from everyday lives

The ACTIVITIES part is based on the user-centered model, which is driven by the Activities of Daily Living (ADL). The need for information regarding people comes later in the process. The first set of insights is from our ten-year track record of ID projects. All the user interaction records from a wide range of design issues are distilled into ACTIVITIES. The first set of activities is from the Helen Hamlyn Centre's rich track record of people-centred and inclusive design projects, over ten years. All the user interactions from a wide range of projects are distilled from the design issues and include four themes of Personal Care, Household, Work & Money and Communication.

PEOPLE – They are people, not users

The PEOPLE section is based on a different model where people's contributions come first. This is the essence of PD design. CHARACTERS contains a series of character profiles that loosely represent the spectrum of abilities and disabilities within the UK population, based on design exclusion data from the Engineering Design Centre (EDC), University of Cambridge. These are our examples of 'active design partners', i.e. individuals with special situations such as disability or ageing. The characters represent a diverse range of individuals with a

Fig.3 METHODS at www.designingwithpeople.org

spectrum of capabilities related to: Vision, Hearing, Dexterity, Mobility and Cognition. Both the data of capability and the lifestyles of these characters are mapped. They are different from conventional virtual personas in that they are drawn from the actual design cases that inspired them, and users of the web tool can contact the 'real' people afterwards.

Its main aim is to encourage a holistic way to engage & understand people. Each character links to 4 supplementary elements:

• Basic information: (Photo, First name, Data entry year, City, Age, Approximate height, Gender, Ethnicity
• Capability data with population data
• Design Lifestyle data
• Inspired design projects

4) How to identify and apply different inclusive design methodologies?

Another clear distinction between the different practices in the inclusive design movement is the academic research methodology with which they are associated.

The user–centred approach is linked to the Grounded Theory, which is a social science systematic qualitative research methodology emphasising collecting data to generate theory during the process of conducting research. The people-centred approach is closer to Kurt Lewin's Action Research model, as outlined in his 1946 paper 'Action Research and Minority Problems.' In this he described action research as 'a comparative research on the conditions and effects of various forms of social action and research leading to social action;' this uses 'a spiral of steps, each of which is composed of a circle of planning, action, and fact-finding about the result of the action'. Both of them are qualitative research methodologies but the main difference is the relationship between the researchers and the researched. Balancing the agenda of researchers and participants is one of the essential elements in the new development of inclusive design.

ETHICS – Two-way exchange

Finally, the ETHICS section aims to imply a simple structure of three 'Cs' of user research to design community:

Fig.4. ACTIVITIES and PEOPLE Pages at www.designingwithpeople.org

Consent, Confidentiality and research Conduct (Higgins, 1992). There contains step-by-step procedure on the interactive web pages to suit designers from different levels to understand the principles of ethics of user involvement. The three Cs become the three levels of questions for design researchers to address during the process:

• C1: Consent
  – the essential procedure for all researches
• C2: Confidentiality
  – data and information protection on collaboration
• C3: Conduct
  – wider responsibility for researchers

Each 'C' contains guidance of good practice to suit designers and design researchers from different levels to understand the principles of ethics in user involvement. There are three levels of practice depending on who the researchers are working with:

• Friends or family members
• Collaborators
• Vulnerable groups

5) How to transfer knowledge from academic research and practice to the real world and benefit people?

Since the term 'Inclusive Design' was introduced in the mid 1990s, the definition of the word 'design' is changing. There are a lot of different interpretations; for example, Sanders's differentiation of the traditional design disciplines focuses on the designing of 'products,' while the emerging design disciplines focus on designing for 'purpose(s)'. Similarly, Participatory Design, Emotion-

al Design, Inclusive Design or Design for Social Inclusion can be classified as the emerging design practices which focus on designing for a purpose and centre around people's needs or societal needs, with a different approach for longer investigation into larger scopes of inquiry (Sanders et al., 2008).

G K VanPatter, co-founder of the NextDesign Leadership Institute in New York presented another new classification of design at the EXPOSED 09 Conference, Arizona State University School of Design. He described four types of 'design,' from 1.0 to 4.0. The concept of 'Design 4.0, Social Transformation Design' is the latest development, which is focused on design thinking and the application of creativity to contribute to social development.

Expanded from this new understanding of 'design', we propose another way to look at 'design' (Lee et al, 2009):

• 'Design as a noun' is the traditional way of defining design in different disciplines.
• 'Design as an adjective' is about making better design through different processes such as inclusive design.
• 'Design as a verb' is based on Ray and Charles Eames' famous quotation, 'Design as a course of action,' which can make transformations in society and focus on design thinking as an approach to designing.

All these new definitions of 'design' align with the fundamental philosophy of inclusive design, which is to 'encourage designers to design inclusively and design for social inclusion and for those being excluded by design' (Coleman, 1994). The more specific question after more than ten years of development might be: how to transform our societies through design? There are

many ongoing discourses on this subject and it is not within the realm of this paper to discuss them, but the ETHICS section of the web tool contains information on related organisations and projects for designers to refer to. A common code of ethics is also part of the section. Most importantly, it is registered as .org rather than .com, with the aim of suggesting a community or organisation of active design partners in the design research process.

Discussion and Conclusion

After the final process of transferring our knowledge of inclusive design to the webtool, it will go public for the start of exchange process in the beginning of 2011. The process of creation and design should be understood as a process of conscious and unconscious deliberation between the designers and the 'active design partners'. As Bourdieu (1984) has pointed out, the existence of habitus would provide spontaneity without consciousness or will to inform our choices and practices in constructing our daily life. Both designers and 'active design partners' would embrace some burgeoning ideas arising from our desire to actualize our selves, which would be fragile and vulnerable in face of the domination of experts and professions. However, we found that their relationship should not be interpreted as social struggle, rather to a certain extent designers should turn their power into authorities that is the power granted by social institutions. If we regard ID is of social education in nature, the designers have the rights to 'educate' the people, and sometimes education needs to request the 'learners' to do something against one's own free will. This is needed by education, not out of any self-interested strategic action on the side of the designers. From our ID experiences, the 'active design partners' who are used to being design excluded, have shown their anticipation for more freedom and self-actualization. Not only that emancipatory politics is not enough to foster this pursuit, the people also need more design ability to help write their own biography and construct their own lifestyles.

We clearly need a holistic view to address Designing Participation, which focuses on design education, but also need to search for the right and effective ways of knowledge transfer and knowledge exchange. By doing so, we could carry out civic education through design as a counter balance to the processes of social exclusion in design. As this ideal is reached, we do believe that we could actualize the ideal of inclusive design in our current socio-economic context where the role of the people is enshrined.

Acknowledgments

Dr Yanki Lee
Research Fellow, Helen Hamlyn Centre,
Royal College of Art (UK)
yan-ki.lee@rca.ac.uk

Dr Denny Ho Kwok Leung
Associate Professor, Applied Social Science,
Hong Kong Polytechnic University (China)
ssdenny@polyu.edu.hk

References

1 Bourdieu P. (1984) Translated by Nice R. Distinction: a social critique of the judgement of taste, Harvard University Press
2 Cassim J. (2007) 'It's Not what you do it's the way that you do it: the Challenge Workshop a designer-centred inclusive design knowledge transfer mechanism for different contexts' Human Computer Interaction International (HCII) July 2007 Beijing, China, 2007
3 Coleman, R. (1999), in: Methods Lab|User Research Methods, Royal College of Art, p25
4 Cross, N.(2006) Designerly Ways of Knowing. London: Springler-Verlag. 2006.
5 Dong H and Vanns N.(2009) Designing an Innovative Pill Dispenser: An Undergraduate Level Case Study of Inclusive Design, in The Design Journal, Volume 12, Issue 01, March
6 The Helen Hamlyn Centre (1999) The Methods Lab
7 Higgins, R. (1992) Conducting user research: the three 'Cs' in Social Research Association Newsletter, Aug 1992
8 Ho D, Lee Y. and Cassim J. (2009) 'What if…users do not know how to be inclusive through design', in: proceeding, Include 2009, RCA, London, 2009
9 IDEO's Methods Cards: Four catalogues of user interactions (Learn, Look, Ask , Try)
10 Lee Y, Myerson J, Bichard J and Harrison M. (2009) 'www.designingwithpeople.org: A new web-based resource for implementing design for social inclusion', in proceedings, International Association of Societies of Design Research (IASDR), Seoul Korea, 18–22 Oct 2009
11 Lee Y and Cassim J. (2009) 'How the Inclusive Design Process Enables Social Inclusion', in proceedings, International Association of Societies of Design Research (IASDR), Seoul Korea, 18–22 Oct 2009
12 Lewin K (1946) 'Action Research and Minority Problems'
13 Macdonald, A. (2006) ' Universal Design in Japanese Technological Industries', in Designing Accessible Technology, Springer-Verlag London. P13, 2006
14 Mau, B., Leonard, J.(2004) and the Institute Without Boundaries, Massive Change, Phaidon Press Limited, London, 2004
15 Sanders, E.B.-N.(2006) 'Design Research in 2006', in: Design Research Quarterly (online), Design Research Society, V1:1, Sept 2006

16 Sanders E.B.-N. and Stappers P J.(2008) Co-creation and the new landscapes of design, in: CoDesign, International Journal of CoCreation in Design and the Arts, 4:1, 518,2008

17 Simmons, B. Blackmore T. and Bayliss P. 'Postmodern synergistic knowledge creation: extending the boundaries of disability studies' in: Disability and Society, Vol.23 (7): 733–745, 2008.

18 Schelly, D. 'Problems associated with choice and quality of life for an individual with intellectual disability: a personal assistant's reflexive ethnography.' in: Disability and Society, Vol. 23(7):719–732, 2008.

19 Thackara, J. 'An unusual expedition', in: Presence: New Media for Older People, Netherlands Design Institute, p7–9, 1995

Session 4

Old & Young

Ian McArthur

Creating Culturally Adaptive Pedagogy

Abstract

What happens when students in Sydney are immersed in a multidisciplinary collaborative process with their Chinese counterparts to address urban issues in downtown Shanghai?

A Chinese-born Australian faces a previously rejected cultural background by bathing in clay. Mapping the city a local and a visitor explore a dialogue through which a mutual understanding of the city emerges. An architect and a designer wander Puxi throwing chopsticks to the ground to divine the site of their next urban intervention.

In 2009 *PorosityC8 e-SCAPE Studio* challenged sixty art, design, and architecture students, practitioners and academics from The College of Fine Arts (COFA) and Donghua University (DHU) to interact online in a process culminating in an intensive two-week studio at DHU. This paper presents case studies highlighting profound transformations made real through blended cross-cultural studio collaboration.

Globalised economic and urban territories linked by network technologies and reconfigured geopolitical relationships impel art and design educationalists to develop innovative pedagogies relevant to the needs of students, the world community, and as yet unforeseen industries. Using integrated, adaptive processes, the teaching and learning model presented provokes students to share cultural identity and methods of practice to find the common ground shared by young and old cultures.

Key words: Education: cross-cultural multidisciplinary collaboration blended online

Introduction

Across the art and design industries creative practices are changing rapidly in response to unprecedented technological interconnectedness. Multidisciplinary modes of work are superseding the traditional silo-based professions and assumptions about creative practice and how to educate for it are now significantly challenged. The emerging global professional spaces demand that individuals be able to coordinate synchronised parallel processes immersed in complex unstructured problems (McArthur, McIntyre, Watson, 2007). Therefore collaborative strengths, cross-cultural literacy, conceptual thinking and high-order communication skills are mandatory for art, architecture and design graduates intending to successfully negotiate this ambiguous territory. Marginson and van der Wende (2007) argue that universities are no longer able to seal themselves off from global effects. Education itself must become more global (Normoyle, 2003). Given the rate of change, it is unsurprising that educationalists have been somewhat slow to respond (DiPaola, Dorosh and Brandt, 2004).

Increasingly, China's crucial role in the global industrial, political, cultural and ecologic landscape reveals an urgent need for culturally based education for both eastern and western students entering the networked world of work (Buchanan, 2003). Despite numerous initiatives exploring this, in reality, creating collaborative cross-cultural educational experiences between east and west that are *actually* collaborations is complex and challenging (McArthur, 2008).

This paper discusses student projects from PorosityC8 e-SCAPE Studio a blended collaboration between The College of Fine Arts (COFA) Sydney, and Donghua University (DHU) Shanghai. The case studies highlight pedagogy that constructs learning in multidisciplinary, blended (online and face-to-face), cross-cultural studio environments. The conclusions assert that successful cross-cultural learning is realised within open-ended adaptive processes addressing divergent knowledge domains, language difference, and culturally embedded expectations of education.

Porosityc8 e-SCAPE Studio

PorosityC8 e-SCAPE Studio combined two COFA initiatives, The Collabor8 Project (C8) and Porosity Studio in collaboration with DHU. It provided an important research opportunity to make comparisons between the effectiveness of previous fully online cross-cultural col-

laborations and what could be achieved between students who met in the "real" world as well as online. Strategically, PorosityC8 promoted more formal co-operation between cofa and dhu at the institutional level.

Ian McArthur initiated C8 in 2003 as a platform challenging design students in Australia and China to collaborate online. C8 has since evolved from a visual communications focus to include multidisciplinary practices. Its goal is establishing ways of teaching that facilitate common understandings between students from east and west as a basis for co-creation. To date participating universities and colleges have included Donghua University (dhu), Fudan University (siva), East China Normal University (ecnu), Jinan University School Of Applied Design, Shandong University Of Art & Design, Wuhan University, Beijing Institute of Technology, Beijing Communication University Of China, The University of Sydney, The University of Technology (uts), tafensw, and Raffles University. C8 operates within The Omnium Research Group (unsw) and uses Omnium Software™ for it's online interface.

Professor Richard Goodwin's Porosity Studio was established in 1996 to provide opportunities for students from the disciplines Fine Art, Design, Media Studies, Architecture, Urban Design and Engineering to explore multidisciplinary practice. Goodwin, an artist and architect, describes the studio (2009) as allowing students to "…test their practice at the scale of architecture and the city…The relationship between the city and public space remain key concerns for the studio – hence the name Porosity which speaks to the need for architecture to be porous in relation to public space." Porosity Studio has been held in Beijing at The Central Academy of Fine Art and Tsinghua University, Rotterdam at The Willem De Kooning Institute, Den Haag at Koninklijke Academie van Beeldende Kunsten, and Milan at the Milan Politecnico.

PorosityC8 e-scape Studio provoked students to explore a range of problems at different scales (the body, the cross-cultural object, the building, the street, the motorway) in downtown Shanghai and conceive a solution as an "e-scape" or new interpretation.

"The studio is not looking for Utopian visions for Shanghai. It seeks your engagement within the laboratory of interdisciplinary design and Shanghai as a city. This engagement involves the selection of a site or scale at which to work and for you to write your own brief for an imagined project… Fundamental to the overall philosophy of the studio are the principals of transformation, sustainability, questioning public space, and the primacy of art or poetic thinking." (Goodwin, 2009)

Aims, Structure And Process

PorosityC8 was conducted over cofa's 12-week semester. Its flexible structure adapted to dhu students working to own their academic calendar. Faculty on the project included four lecturers from dhu and four lecturers from cofa representing the disciplines Visual Communication, Design, Digital Media, Sculpture, Environments and Product Design from each school. Students, faculty, research grants and in-kind support from both universities funded the studio.

The aims pertaining to blended pedagogy in PorosityC8 included:

- observing and identifying factors influencing cross-cultural multidisciplinary collaboration (ccmc) between cofa and dhu students in both real and digital environments.
- integrating online technologies into ccmc as tools for research, conceptualization, documentation, and collaborative and social interaction.
- fostering deeper cooperation between Australian and Chinese academics and institutions to promote culturally appropriate blended approaches to teaching and learning.
- improving levels of ccmc in bilingual blended environments by leveraging C8 research findings to date.

PorosityC8 had three stages:
1. eight weeks of collaborative online research;
2. two weeks of intensive studio at dhu Shanghai;
3. two weeks of online reflection, peer review and documentation.

Initially students developed online profiles, discussed the readings provided, discussed research, documented mapping strategies, and conducted peer reviews of progress using a bilingual Omnium™ web interface. cofa students attended four face-to-face tutorials to plan, discuss research and hear lectures that were subsequently shared online as video to students in China.

In week eight twenty-five students and five cofa faculty met a similar number from dhu in Shanghai for the two-week intensive studio. All participating students had prepared two presentations. The first, a Petcha Kutcha-style introduction, was about their life and aspirations. Following the second presentation outlining their individual thinking about the brief, students were encouraged to find like-minded collaborators. Collaboration was consistently promoted but not demanded.

The first week featured lectures and workshops by visiting artists, designers and architects including Map-Office Hong Kong, ideo and Moving Cities. Concentrating on conceptual development the workshops facilitated collaborations in small groups with tutors and mentors. Video documentation of the proceedings was

shared online enabling remote access and review. The second week focused on highly intensive project production culminating in an exhibition at DHU. During the final two weeks of the semester, reflection, documentation, and peer review of the works and the studio process occurred online. Following PorosityC8 a second exhibition was held in Sydney showcasing and re-contextualized the work.

Old And Young

Although the relationship between China and Australia is strong there are crucial differences in culture, values and ways of being in the world. In this context it may be argued the relationship is defined by contrasts and relative cultural maturity. China is one of the oldest civilisations on earth. Despite undergoing an intense period of rapid transformation since the 1980's, China has 5000 year-old history of traditional practices and thinking which supports a strong sense of it's own identity in the face of globalisation.

"Instead of saying China is a big country with a large population my new friend … said, "China is a big family". Sort of blew my mind…" (COFA Student, 2009)

In contrast, Australia as a modern nation with a history of western settlement dating from 1778, a mere 232 years, is in an embryonic stage of cultural development. Although considered a western country contemporary Australia sees itself as a young society (notwithstanding the ancient and regrettably diminished indigenous culture) where cultural identity is still ambiguous, problematic and difficult to carve out (Castles, 1997; Marginson, 2002). Unsurprisingly, cultural identity appeared in the online discussions of Sydney students early in the PorosityC8 research phase.

"So what is belonging? What is my culture? What is it that makes me Australian? …my generation is the product of real cross-cultural contamination, cross-pollination and transformation in relation to the way heritage and tradition is reflected in our work. We are in the midst of a paradigmatic shift where notions of culture, place and our environment are becoming less about our historical cultural background and more about the cultural influences in our daily life, our habitus if you like. What we see, do, read, eat, think and hear are becoming our new cultures." (COFA Student, 2009)

Traditionally western logic has seen the individual as distinctly separate from their environment. Confucian Heritage Cultures (CHC) however reject Western duality in acknowledging that humans are intrinsically part of the complex ecologies comprising the planet and beyond. Gunaratne (2005) suggests that emergent levels

of connectivity lend credence to the invisible reality asserted by quantum physics that everything in the universe is interconnected, a central belief in CHC. To foreigners Chinese culture is somewhat mysterious despite the hyperbole we might often see presented as concrete 'knowledge'. The ambiguity inherent in much engagement with CHC is not familiar or comfortable to most western minds. Kishar Mahbubani suggests,

"The Western mind is a huge world, but even in that huge world, you are actually trapped in a mental box. For those who live in the West, you assume that you can understand the world just by looking at it through Western perspectives, which gives you a limited view of the world." Kishore Mahbubani (2004), Retrieved August 29 2009 from http://www.cceia.org/resources/transcripts/123.html

As Mahbubani (2004) asserts, if human society is to survive, a fusion of civilizations is required. The Hannover Principles for Sustainable Design (2000) developed for World Expo 2000 noted that humans must use new knowledge and ancient wisdom to manage "…the physical transformation, care and maintenance of the Earth." For contemporary educators the challenge is to equip our graduates for mobilising creative 'whole world' solutions to the complex issues human society faces. Through collaboration, young artists, architects and designers from east and west will see our world in new ways making the facilitation of such fusions a meaningful educational objective.

Culturally Adaptive Pedagogy

The cross-cultural multidisciplinary collaboration (cc-mc) within PorosityC8 is founded on approaches to learning that emphasise pedagogy over use of technology for its own sake. This ethos has inspired all C8 projects to date. Within C8 digital technologies are used to encourage community formation and build resources enabling very different groups of students to create new knowledge together.

Chinese students have consistently seen C8 projects as opportunities to practice English language. However, language in C8 has become a topic for debate with differing perspectives being expressed.

"Language and culture is no barrier – it's the level of people – in many cases I have less communication with my friends and family but doing this I am very happy – this is the most interesting and happy course during my university life…" (DHU Student, 2009)

"It's an issue but I think it is also an issue if you speak the same language, you get almost more miscommunications in your own language. And I always think you

can express yourself a lot with movement and emotions – we use actually way too many words – if you go back to the beginning when we started it was just ooh and aahh…you don't need so many words…and because there is so much space in the way you communicate here you can only smile at the end and you become really happy – because its actually really funny and there is no judgment or expectation…" (cofa Student, 2009)

A Shanghai based academic observed (personal communication May 27, 2008) that the real language challenge in C8 was not to the students, but to their teachers, who found the level of English difficult. Within teacher-centered chc contexts this limits student involvement and trust. Australian students and faculty also generally need translation assistance to communicate in Chinese. Locating translators versed in the language used within creative disciplines is however difficult. Integration of bilingual content is important even where students are bilingual as the specific meanings of words (especially terminology and conceptual language) may be unclear (Cassell & Tversky, 2005). Cognitive structures are impacted by cultural cues in addition to language and this influences even bilingual students' ability to collaborate. In C8 projects the students from Chinese universities have been the most bilingual.

"Translators are not necessary – we are all students studying design and art and we can understand each other well…sometimes translators cannot understand the meaning or the logic of art and design." (dhu Student, 2009)

"A lot of the burden of communicating the ideas lies very strongly on one half of our relationships…we have to work so hard to communicate and things come from that…" (cofa Student, 2009)

Diverse expectations of learning environments and processes have manifested within C8 as 'multiple realities' (McArthur 2008) experienced by students and faculty within the projects. Patterns of learning influenced by culture translate from the real into the digital and how students engage with lectures, discussions and briefs is shaped accordingly. PorosityC8 transformed many students' expectations of learning.

"…a lot of Chinese students usually follow their teacher's thinking…the teachers said what they must do… (the western professors) they don't tell me what I must do but …they let me think about my project…I think it is the most important thing I learnt." (dhu Student, 2009)

Like most Chinese students (Yunzhong, 1996), the Shanghai students' experience of lecture as a dominant mode of education sees them participating quite actively in silence. Sydney students used the online space for conversation, posting and discussion of research and responding to questions posted by lecturers. In contrast students and lecturers in Shanghai referred to the website as "the resources", and used it primarily as a text to study. Their discourse was limited, but their activity consistent. This 'active silence' (McArthur, 2009) corresponds with evidence of resistance to dialogue on the part of Chinese students in previous C8 projects and notions of boundary objects (Star, & Griesemer, 1989) in communities of practice.

In particular, these behaviours challenge assumptions that students in Shanghai and Sydney will interpret and use online and blended environments in the same way. Arias and Fischer (2000) suggest creating collaborative spaces that serve as boundary objects (shared objects to talk about and to think with) where different cultures can meet and collaborate. Open-ended processes are desirable because 'use' can rarely be predicted (Christiansen, 2005 p.3) so it is difficult to design boundary objects. In C8 sharing of images has consistently proved to be successful in promoting trust, communication and collaboration. During PorosityC8 sketching also emerged as a means for students to generate shared understandings.

PorosityC8 Case Studies

These selected projects demonstrate the transformative potential of the cross-cultural blended educational process. Creative development pathways are briefly outlined and supported by extracts from student interviews, lecturer observations and artist statements.

The Red Bucket: In an online post a Sydney-based student identified herself as being born in Beijing but raised in Australia from age seven. She revealed that:

"If you were to ask me what I was, I without hesitation would say that I am a true blue "Aussie". (You would agree if you heard my accent :P) In a way I feel like a traitor. I have the face of a Chinese, can speak the language, yet I know nothing about my heritage. I think I am possibly ashamed of my Chinese heritage… learning English, being teased in primary school for being a ching chong chang slanty eyed asian and trying so hard to be "Australian" has forced me to push my culture away and have nothing to do with it. Sometimes to belong, you force yourself to deny what you really are/were/am to 'fit' in…" (cofa Student, 2009)

What began as an investigation of 'face' 面子 (*mianzi*) had evolved into a journey of self-discovery. In order to embrace her Chinese cultural origins, the student proposed to bathe in mud symbolizing a return to the

earth of China. The notion of the red bucket emerged after reflecting on the common sight of individuals bathing in the street in buckets in some local communities. Site selection was crucial to a successful outcome and searching for an appropriate space to carry out the performance took almost a week before the top of a building near the university was decided upon.

"The bath is symbolic of a cleansing and rejuvenation of my Chinese heritage and my desire to physically associate with my mother country. It takes place in the privacy of the public rooftop, with the backdrop of the new China." (Artist's Statement)

"…I found a photo of me upon my return to Sydney… being bathed by my Grandma and Aunt. I nearly cried, when I saw that I had been bathed in a red bucket. I guess it was always meant to be." (COFA Student, 2009)

Although somewhat shocked that a student dare attempt such a project, a group of DHU students produced the video document of the performance and protected the student during the performance.

Cartographic Counterpoint: This collaboration examines the individual's dialogue with the city. When confronted with new cultural and urban contexts one's first impressions are often simplistic. The urban organism is too large and complex to process and sensory overload is the response.

"As a relationship develops with the city, patterns emerge and certain features become distinguishable from within the mass. A dialogue is opened up between the visitor and the space as rhythms and repetitions become apparent…" (Artists' Statement)

Slowly similarities and differences to other environments, other experiences, emotions and memories become apparent. Balance returns as the visitor begins to understand the complexity and intricacies however it is often experienced as contradictions of simultaneous renewal, destruction and construction.

The two collaborators brought knowledge, skills and ideas that complemented each other. In this project the knowledge is of Shanghai – each student understanding the city in different ways. These understandings were presented as those of a stranger to the city and one of its inhabitants, documenting their observations together as an exploration, dialogue and summary of experience, examining the city and the processes in which one finds their place. This mapping process,

"… became far more personal, and from two very different experiences of the city, one idea emerged – about

the poetry of contradictions. Using photography, illustration and small-scale models, we created a response at the scale of the cross-cultural object to resolve our perceptions at the scale of the city." (Artists' Statement)

Kuai Zi: An architecture student and a design student collaborated in an exploration of Shanghai influenced by the rhythmic chaos of the city, patterns of traffic, and the urban forest of junctions and freeways. Kuai Zi 筷子 (Chopsticks) is generated from a mapping process located within the Puxi area of Shanghai, through a series of wanderings. The itinerary was improvised by throwing chopsticks to the ground and following their directions, often leading to unexpected locations.

"The aim of the mapping process was to understand the environment that will host our physical structure. Street speed and subjective time feeling have been studied in order to locate those fragments of the urban fabric where we were more likely to keep the attention of the passer-by." (Artists' Statement)

Chopsticks are one of the most common throwaway items in Asia. The decision was taken to recycle them both conceptually and as a material for construction. A structure grew built from hundreds of chopsticks collected from the DHU canteen and restaurants around Puxi. When placed in different sites the structure inserted a random component in the urban fabric of Shanghai. Kuai Zi might be summarised as the sum of its elements:

"…embracing a new culture and experimenting with a self transformation process; recycling expendable objects and the symphony of chopstick waving during dinners in Shanghai; subjective feeling of time and speed while exploring Shanghai; the sculptural forest of highways all around the city; flow and speed crystallized in a gesture; chance and chaos as a way of interacting with cities and urban agglomerations nowadays; and improvised uses for random ephemeral structures." (Artists' Statement)

Conclusions

"If humanity is to be saved, we must focus on our affinities, the points of contact with all other human beings; by all means we must avoid accentuating our differences." (Borges, 1984)

Comparisons between levels and quality of cross-cultural collaboration in PorosityC8 with earlier online iterations of C8 reveal immersive blended processes as deeply transformational for students. By combining physical and digital environments educators can use

Fig. 1: The Red Bucket, PorosityC8 2009
Fig. 2: Cartographic Counterpoint, PorosityC8 2009
Fig. 3: Kuai Zi, PorosityC8 2009

the strengths of each to augment the weaknesses of the other (Arias et al., 1997) to provide learning experiences that, in the words of one DHU student, create "fire". The higher levels of interaction and CCMC achieved mirror collaborative processes in industry where remote teams meet to develop rapport, trust and collegiality.

Collaboration between people from different cultures is inevitably subject to communication breakdowns because their realities are comprised of differing norms, symbols, and representations reinforced through education (Snow 1993, Sussman 2000). Opportunities for students from east and west to engage in dialogue that deconstructs cultural difference within educational contexts are also rare and although the online environment in principle allows us to inhabit digital space together there are complex challenges to effective communication that can limit understanding. In addition to the fact that online environments diminish communication cues such as the paralanguage of body language, fa-

cial expression and tone of voice, when working with CHC online, interactions are also impacted by the cultural dynamics of trust (Watson, McIntyre, McArthur, 2009). In the CHC context trust development in particularly requires an investment of time not familiar to most westerners and many are unwilling to engage in this activity (Kwang-Kuo Hwang, 1987).

The augmentation of the online process with an intensive face-to-face experience challenges the notion of cultural otherness by confronting students with the realities of one's essential humanness. It is a moment when in the words of Zhang Longxi the self and the other meet and join together, a moment,

> "… *in which both are changed and enriched in what Gadamer calls "the fusion of horizons" …That moment of fusion would eliminate the isolated horizon of either the Self or the Other, the East or the West, and bring their positive dynamic relationship into prom-*

inence. For in the fusion of horizons we are able to transcend the boundaries of language and culture so that there is no longer the isolation of East or West, no longer the exotic, mystifying, inexplicable Other, but something to be learned and assimilated until it becomes part of our knowledge and experience of the world…" Zhang Longxi, (1988, p.131)

PorosityC8 collaborations were considerably strengthened during an IDEO led workshop where the challenges of cross-cultural interaction were brainstormed face to face. This opportunity for a facilitated exchange of ideas in small groups created a forum where student concerns, questions, experiences, expectations, divergent, and common perspectives on the learning process were aired and discussed.

A culturally adaptive pedagogy creates collaborative platforms and spaces where students, educators and institutions can begin to envision creative 'whole world' solutions to societal challenges via open-ended inclusive methodologies. Although clearly more research and engagement is required between faculties and institutions in the east and west and avoiding perceptions of imposing challenges to traditions in eastern education is important (Zhang 2007; Ziguras 2001), some progress is demonstrated in the case studies illustrating the pedagogy of PorosityC8.

Culturally adaptive pedagogical frameworks for CCMC should include attention to:

- developing supportive and collaborative input to the educational program and process by participating disciplines, faculties and institutions.
- inclusion of translation, bilingual online tools and studio content.
- deconstructing cultural difference by workshopping the challenges to CCMC and questions of how to build shared understandings and knowledge.
- the use of open-ended social environments and processes both real and online that recognise the influence of multiple realities, active silence, boundary objects, and culturally based expectations of learning and styles of knowledge production.

The widespread embrace of digital networks provides a viable site for CCMC to occur in education. However, intensive intercultural blended methodologies offer powerful augmentations to online communities by creating opportunities for drawing on both ancient and modern understandings and knowledge to form transformational immersive learning.

"It's a big challenge but it's also interesting…they need to use the different languages and build tools and build bridges and combine them together… sometimes the

students misunderstand each other but at the end maybe they find a new direction…a more interesting, more intuitive way to communicate…" (DHU Lecturer, 2009)

In fostering CCMC we also begin to deconstruct misperceptions that hold humans apart. By showing students themselves in otherness they not only share their realities they also experience fundamental commonalities all humans share. This process transforms perceptions of difference into cultural literacy preparing graduates to make constructive interventions as creative practitioners in an interconnected world.

Ian McArthur
COFA Online Undergraduate Co-ordinator,
Design Lecturer, School of Design Studies,
The College of Fine Art,
University of New South Wales (Australia),
ian.mcarthur@unsw.edu.au

References
1   Arias, E., & Fischer, G. (2000), Boundary Objects: Their role in articulating the task at hand and making information relevant to it, *Intelligent Systems and Applications.* 1–8
2   Arias, E., Eden, H., & Fischer, G. (1997), Enhancing communication, facilitating shared understanding, and creating better artifacts by integrating physical and computational media for design. *Conference Proceedings of the Conference on Designing Interactive Systems: Processes, Practices, Methods, and Techniques* (1997, Amsterdam, The Netherlands, Aug.18–20). 1–12.
3   Borges, J. L. (1984). Facing the Year 1983. In *Twenty-four conversations with Borges, including a selection of poems.* Trans. N. S. Arats et al. Housatonic, 12.
4   Buchanan, R., (Winter 2004), Human-centered design: Changing perspectives on design education in the east and west. *Design Issues*, 20(1) 30–39.
5   Cassell, J., & Tversky, D., (2005), The Language of Online Intercultural Community Formation, *Journal of Computer-Mediated Communication*. International Communication Association. 10(2), Retrieved September 12 2007 from http://jcmc.indiana.edu/vol10/issue2/cassell.html
6   Castles, S., (1997) 'Multicultural citizenship: A response to the dilemma of globalisation and national identity?', *Journal of Intercultural Studies.* 18(1) 5–22, doi: 10.1080/07256868.1997.9963438
7   Christiansen, E., (2005), Boundary objects, please rise! On the role of boundary objects in distributed collaboration and how to design for them. Retrieved September 2 2009 from http://redesignresearch.com/chi05/EC%20Boundary%20Objects.pdf
8   DiPaola, S., Dorosh, D., Brandt, G., (2004) *Ratava's Line: Emergent Learning and Design Using Collaborative Virtual Worlds*. Retrieved October 22 2007 from http://www.digitalspace.com/papers/sig2004-paper-ratava/index.html
9   Goodwin, R., (2009), Design Brief, *PorosityC8 (2009), e-SCAPE Studio*. Retrieved August 28 2009 from http://porosity.c8.omnium.net.au/outline/
10 Gunaratne, S.A. (2005). Public diplomacy, global communication, and world order: An analysis based on theory of living systems. *Current Sociology*, 53, 749–772.
11 Kwang-kuo Hwang, 'Face and Favor: The Chinese Power Game', The American Journal of Sociology 92, no. 4

(1987): 944–74, Retrieved July 14 2009 from http://www.jstor.org/stable/2780044

12 Mahbubani, K., & Myers, J. J., (2004), Can Asians Think? Understanding the Divide between East and West. *Carnegie Council for Ethics in International Affairs*. Retrieved August 29 2009 from http://www.cceia.org/resources/transcripts/123.html

13 Marginson, S. & van der Wende, M., (2007), Globalisation and Higher Education: Education Working Paper No. 8, *Organisation for Economic Co-operation and Development.* 5

14 Marginson, S, (2002), Nation-building universities in a global environment: The case of Australia, *Higher Education.* 43 409–428 p415

15 Marick, B., (2003), *Boundary Objects*. Retrieved September 2 2009 from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.110.3934&rep=rep1&type=pdf doi: 10.1.1.110.3934

16 McArthur, I., (2009), The Collabor8 Project: Realities within Design-Based Online Cross-Cultural Collaboration, *Design Principles And Practices: An International Journal.* 3

17 McArthur, I., (2008), East-West Collaboration in Online Education, *Conference Proceedings, DesignEd 2008, 9–10 Dec 2008*, School of Design, Hong Kong Polytechnic University.

18 McArthur, I., McIntyre, S., Watson, K. (2007), *Preparing Students for the Global Workplace: An Examination of Collaborative Online Learning Approaches*. ConnectEd Conference Proceedings. The University of New South Wales, Australia.

19 Normoyle, A., International Fashion Education Forum, Shanghai, 2003

20 Snow, C. P. (1993) The Two Cultures, *Cambridge, University Press*, Cambridge, UK.

21 Star, S.L. & Griesemer, J.R. (1989): Institutional Ecology, 'Translations' and Boundary Objects: Amateurs and Professionals in Berkeley's Museum of Vertebrate Zoology, 1907–39'. *Social Studies of Science*. 19, 387–420

22 Sussman, N., (2000), The Dynamic Nature of Cultural Identity Throughout Cultural

23 Transitions: Why Home Is Not So Sweet, *Personality and Social Psychology Review.* 4(4) 355–373

24 Watson, K., McIntyre, S., McArthur, I., (2009), *Trust and relationship building: Critical skills for the future of design education in online contexts*. ICOGRADA World Design Congress, 2009, Beijing

25 William McDonough & Partners (2000), *The Hannover Principles: Design for Sustainability.* Hannover: Author

26 Yunzhong, Y., (1996) How to be an effective teacher in China: A Chinese teacher's insight, *Amity Teachers Program Handbook*, *Nanjing University of Traditional Chinese Medicine*. Retrieved 21/06/2003, from http://www.amityfoundation.org/page.php?page=512

27 Zhang, J., (2007), A cultural look at information and communication technologies in Eastern education. *Educational Technology Research and Development*. Boston, Springer, 55(3), 301–314.

28 Zhang L., (1988), The Myth of the Other: China in the Eyes of the West, *Critical Enquiry*, 15(1), (Autumn 1988), The University of Chicago Press. 108–131 Retrieved August 13 2008 from http://www.jstor.org/stable/1343606

29 Ziguras, C., (2001) *Education technology in trans-national higher education in South East Asia: the cultural politics of flexible learning,* Education Technology and Society. 4(4) Retrieved September 12 2007 from http://globalism.rmit.edu.au/publications/CZ_EducationalTechnology.pdf

Katie Gaudion

The Multi-Sensory Environment (MSE)

Encouraging Play and Promoting
Well-being for all ages

The role of the Textile Designer

Abstract

The Snoezelen® or Multi-Sensory Environment (MSE) is a unique concept that was developed in response to the limited range of relaxation and leisure activities available for children and older adults with unusual sensory processing patterns, such as autism spectrum disorders and Alzheimer's disease. The environment is furnished with sensory props that are designed to stimulate the primary senses, which is fundamental to the MSE experience.

Occupational Therapists are investigating the MSE as a potential leisure resource for individuals with dementia and neuropalliative conditions. Research suggests that there is a correlation between Dr Jean Piagets stages of cognitive development (1952) with the cognitive stages of decline for adults with Alzheimer's disease (Ajuriaguerra and Tissot, 1968)[1].

It is thought that the final stage of regression for elderly with Alzheimer's is similar to the first sensorimotor stage of cognitive development of a child (Matteson, Linton & Barnes, 1995)[2]. With this the central dilemma is how do we provide activities and materials, which are both age and stage appropriate, as people grow older and the gap between chronological age and developmental stage widens?

Katie Gaudion is a textile designer whose MPhil research by practice at the Royal College of Art explores the history and design of the MSE. She supports her research through the development of non-age or stage specific sensory props to be used during the intervention of sensory integration therapy and the MSE.

This paper highlights the positive impact play and leisure has on our well-being and quality of life.

Key Words: Multi-Sensory Environment (MSE), Play, Leisure, well-being

Introduction

My MPhil Research by practice at The Royal College of Art was based on my own subjective experience of working in an Multi-Sensory Environment (MSE) (Figure 1). As a textile designer, I am naturally drawn to and interested in the interaction and response between the individual, the environment, materials and sensory props. Early in my career, it became clear that the props and equipment were tools that formed an important multi-sensory interface, and key mediators between the facilitator and the participant.

Figure.1 Katie interacting with props in the multi-sensory bus

My research investigates the role of textiles in designing for the MSE, seeking to assess whether low-tech props are as valid as the current mains power and battery-activated props of today. I suggest that the textile designer can offer new and effective sensory experiences which are interactive without the added complications and expense of power supply, space availability, or the need for expertise in setting up, maintenance and repair.

My research combines historical investigation into the evolution of the design of the MSE with an experiential account of current practice. The research is interdisciplinary, integrating ideas from occupational therapists, educationalists, designers, architects and new media artists, who have explored the areas of sensory stimulation, environmental well-being, leisure and play. This interdisciplinary approach is used to generate the knowledge which informs and guides my textile practice, into which I bring my work experience to inform my approach to the theory and philosophy of multi-sensory environments.

The Multi-Sensory Environment (MSE)

Cleland and Clark first developed the concept of the MSE in 1966, with a collection of sensory rooms described as a 'sensory cafeteria'. From this early approach the Snoezelen® concept was being developed across Holland in a number of institutions: firstly in 'Haarendael', in 1974, to promote relaxation. Later, in 1978, 'Piussord' introduced the concept at a 'Play' themed conference, and, simultaneously, the De Hartenburg Institute in Holland was experimenting with the concept in their summer fetes with activity tents, which later developed into the first permanent Snoezelen® in 1983 (Figure 2).

Two Dutch therapists, Ad Verheul and Jan Hulsegge, from De Hartenburg, coined the term 'Snoezelen'®, which derived from two Dutch words, the verb 'snuffelen' – to seek out and explore – and 'soezelen' – to relax. They are responsible for its ongoing success. The Snoezelen® trademark is now owned by ROMPA®, one of the leading Snoezelen® manufacturers. Today it is often referred to as the Multi-Sensory Environment (MSE). The founder Ad Verheul (2007) explains:

"In principle Snoezelen stimulates the five senses and aims at finding new ways of approaching people who due to their severe mental impairment are generally not capable of articulating independently. With our help Snoezelen wants to give these people the opportunity to choose activities for themselves. That is where Snoezelen originated from: How can a person with multiple disabilities 'communicate' with his environment?" [3] *(p.6)*.

Leisure, play and well-being are three inter-connected components of the MSE; a form of *leisure* activity that encourages *play*, which promotes *well-being*. The emphasis placed on 'leisure' was a major breakthrough: traditionally, leisure pursuits were limited to television and art and crafts, which were quite often beyond the individual's capabilities and comprehension. With more knowledge and research surrounding the senses, leisure, play and well-being in the field of occupational therapy, its user-base continues to expand and diversify.

"Snoezelen does generate well-being and has a relaxing effect. It calms people down, but also activates. It awakens interest, it guides and puts stimuli into order, it awakens memories, organises a person, takes fear away and offers a safe environment. It can guide a person, it binds and supports relationships, it is simply fun" (Roger Hutchinson, p.8) [4].

Since the late 1970s, the MSE has expanded into an international phenomenon and has gained a presence in hospitals, care homes, day centres, mainstream schools and prisons. In 2005 an Accident and Emergency department of a New York hospital installed an MSE to relax the staff, and health insurance companies in Holland finance the construction of MSEs in domestic environments.

With an aging population, the prevalence of dementia such as Alzheimer's Disease (AD) is increasing. Though leisure may not cure or eradicate AD, research suggests that the engagement of meaningful activities at all stages of AD helps to reduce boredom, offers a break from routine and enjoyment that will enrich their quality of life. With this, health care practitioners are now looking to expand the traditional leisure occupations of board games, puzzles, dolls, teddy's, and arts and crafts, by investigating innovative leisure activities that involve the stimulation of the primary senses, such as the MSE.

There is much research into leisure, play and well-being, although there seems no universal consensus for the meaning of each. The theories range across medical, social, historical and aesthetic disciplines. The text below briefly addresses each component in the context of the MSE.

Leisure

Leisure, for adults, is an activity that we independently choose outside working hours, involving active or passive engagement. It offers a form of entertainment and enjoyment – for example, shopping, going to the cinema, playing sports, and hobbies such as gardening, reading and socialising. Historical examples of cultures that have valued leisure activities can be found in the excavations of Roman cities in which the daily visit to the baths, as a complex form of socialising, relaxing, exercising, personal grooming and political networking, indicate that leisure far predates capitalism.

Individuals with disabilities are often unable to participate in work on account of their physical and mental needs and capabilities and, in this situation, leisure activity is often their primary occupation. In Judith Cavet's 1995 investigation of leisure provision in Europe, she begins her writing with a powerful quote expressed by a Belgian doctor about the needs of people with profound and multiple disabilities: 'They have to have leisure or they are not living' (p.49) [5]. Consequently, for individuals with disabilities the important meaning and positive implications associated with leisure may exceed that of able-bodied individuals.

The MSE has made a major contribution towards the provision of leisure for individuals with intellectual disabilities, who may otherwise face difficulties in participating in the leisure activities experienced by more able-bodied individuals. The user-base has now diversified and the MSE is developing into a universal leisure activity that is neither age nor gender-specific.

The acknowledgement of a rapidly ageing popula-

tion has instigated a new direction for research concerning the elderly. Occupational therapists are investigating the MSE as a potential leisure resource for individuals with dementia and neuropalliative conditions. Early research by Philip Woodrow in his study *Interventions for confusion and dementia 3: reminiscence* (1998) states that 'a trigger for interactive reminiscence can be anything that stimulates the senses, e.g. touch, taste, sight, smell, and hearing (p.1148)[6].

Research conducted in 2007 by DeLong, Wu and Baq, published in the article *May I touch it?* [7] compared early touch experiences of female respondents in Chinese and American universities. This study highlighted the important relationship between touch and memory, and interestingly the results revealed that early memories of touch were often associated with the fur of animals and textiles such as blankets and bedding. These studies suggest that the MSE could also be a suitable environment for reminiscence therapy in which textiles could play a major role.

The occupational therapist Dr Lesley Collier from Southampton University discussed her latest MSE research, *Multi-sensory stimulation to improve functional performance in moderate to severe dementia: interim findings from a randomised single blind trial*. As yet unpublished, the study compares participants' reactions and performance between the leisure activities of gardening and the MSE. It reveals that the functional performance in people with moderate to severe dementia is greater in the MSE[8].

In addition, an observational study by Cohn-Mansfield and others (1992) focused on the residents in a nursing home who were severely cognitively impaired. Over three months the study investigated the relationship between agitated behaviours and occupation. The data analysis revealed:

Our most striking finding is that these residents were engaged in *no* activities during 63% of our observations. Moreover, we found that these residents manifested *less* agitation when they were involved in structured activities (those designed to hold the residents' attention) than when they were unoccupied (p.119)[9].

With the growing concern that most nursing home residents with dementia have a problem with inactivity and boredom, the MSE could prove to be an important leisure resource for people with dementia. It is therefore a unique platform that requires playthings which are neither age nor gender-specific, and that appeal to both children and adults.

Play

With one word denoting, simultaneously, the process of playing musical instruments, dramatic performance, sporting activities, rituals and children's spontaneous process of learning, the concept of play is complex and multi-faceted. The fact that one word is still used, colloquially, to encompass all these processes indicates the extent to which our culture has neglected to pay serious attention to the phenomenon of play. But in the 20th Century, play has begun to be understood as a profoundly symbolic and cultural process, with central importance to the evolution of the human brain.

The 20th Century social theorist Johan Huizinga, in *Homo ludens (*1938), defines species as 'playing animals' and suggests that play is the foundation of culture. Similarly, 20th Century anthropologist Gregory Bateson, in *Steps to an ecology of mind* (1972), suggests that play is universal to all 'feedback loop' mechanisms such as the human mind, and therefore to the capacity for relationships.

The MSE is an environment furnished with multi-sensory props and equipment that initiates play activity (Figure 4). The sensorial qualities of the play materials trigger curiosity and activate the mind and body. Play motivates activity, as individuals independently explore and navigate their immediate world through movement and their primary senses.

Amongst occupational therapists, play has been described as 'exploratory in nature, and consisting of a variety of activities that involve movement and manip-

ulation in relation to the environment' (Robinson, 1977; Sutton-Smith, 1967, p.3)[10]. A. J. Bundy (2005) Professor of Occupational Therapy at Colorado State University, expresses the view that "playmates, objects, space, and qualities of the sensory environment are critical aspects for inclusion in an assessment of environmental supportiveness for play" (p139)[11].

The 19th Century educational developments such as the work of Maria Montessori and Friedrich Fröebel placed much importance on play for child development. Play was also central to the research conducted by the child psychologists Melanie Klein (1882–1960) and Donald Winnicott (1896–1971). Klein's development of 'the psycho-analytic play technique', in which she explored the view that "Play for the child is not 'just play' it is also work" (1979, p.39)[12], and Winnicott's research surrounding the 'transitional object', together support the important role of play and toys. For psychoanalysts since Freud, play is understood as the opposite of reality, as the childhood equivalent of work, and as the basis for all forms of symbolic exchange where an equivalence between different sensory experiences, imaginative ideas and symbols paves the way for language use, inter-subjectivity, and full social agency and responsibility.

In their writing on play materials, Carol Onvry and Suzie Mitchell (2006) state that "for people with profound and multiple disabilities suitable resources and conditions for play may have to be provided before the latent need, desire, interests and sheer effort required for play can be activated. The more complex a person's disability, the more individually designed their playthings may need to be, and the greater the attention that must be given to the context in which play is to happen in order to cater for their play needs" (p. 181)[13]. Onvry and Mitchell's response confirms my thoughts and observations that, unlike able-bodied people some individuals with disabilities may find it difficult to independently initiate imaginative, transformative, narrative, spontaneous, and social or objective play activity. Consequently the type of play activity they experience is dependent on their interaction with the play worker, together with the play worker's choice of toy and the design and sensory feedback of that toy.

Maria Montessori's experience of teaching children with disabilities enabled her to learn and make comparisons between their educational needs and play abilities and those of able-bodied children. As a result she noted that:

"The basic difference between a normal child and one

who is mentally inferior is that when they are placed in front of the same objects the deficient child will not show a spontaneous interest in them. His attention must be continuously aroused: he must be invited to observe and encouraged to act" (1912, p.178)[14].

Similarly, in the book *Toys and playthings* (1979, p.149)[15], John and Elizabeth Newson describe their observation between a blind and sighted child and their interaction with a toy ball. The description reveals that the sighted child immediately utilises its physical properties and actively bounces, rolls and throws it. However the blind child does not let go and explores the sensory qualities of the ball, engaging with the haptic experience of licking and rubbing it against his/her skin.

Well-being

In 1961, physician Dr. Halbert Dunn (1896–1975) published a small booklet entitled "High Level Wellness". Dr. Dunn saw 'wellness' as 'a lifestyle approach for pursuing elevated states of physical and psychological wellbeing'[16]. This dispels the idea of the purely medical condition of our bodies, and of curing the body as the main priority for human well-being, by highlighting the important condition of our minds and our emotional state. This sense of well-being also relates to Buddhist teaching on meditation, as described in the book *Change your mind*: *a practical guide to Buddhist meditation*: 'Meditation concerns not the mind so much as the body, although this is really just a way of talking, as you can't separate the two. They are not two separate systems operating together, but two ways of talking about the one system which is us' (1996, p.11)[17].

The MSE, with its focus on the activation of the mind and body, exemplifies this notion of well-being. A 2010 study by Hutcheson and others, *Promoting mental well-being through activity in a mental health hospital,* reveals that activities such as sports, art groups, music, dance groups and badminton promote mental well-being for patients in acute psychiatric wards.

Though not a medical term, well-being is a concept that is beginning to receive much attention in healthcare, design, architecture, psychology and education. For example Anthony Seldon (2007) headmaster of Wellington College, a school in Berkshire, introduced 'Well-being' as part of the school's curriculum, suggesting that:

"Children are born with our bodies, yet schools do not provide our young with an "owners' manual" on how their bodies, minds and emotions work. We now have the information on "positive psychology", and schools such as my own, Wellington College, are teaching well-being or happiness in association with academic institutions"[18].

Figure.2 The first MSE in De Hartenburg, Holland, 2008
Figure.4 Adrian interacting with fibre optics and bubble tubes, 2007

State schools have replaced 'civics' with 'citizenship, social and personal development.

Play, Leisure and the Elderly

There are two significant events which may have played an important role in changing attitudes towards play, and put play into the framework of the UK Government's 'Every Child Matters' programme, prompting the development of 3,500 new or refurbished play areas in the UK between 2008 and 2011[19].

These events both took place in 2009, and include the Kindergarten Crisis Report which was released by the Alliance for Childhood[20] and the e-petition sent to 10 Downing Street which stated that 'We, the undersigned, petition the Prime Minister to make the provision of play services a statutory obligation for local authorities in the UK'[21].

The reform in ideas about play has opened up design opportunities, and in 2008 a 156-page document was published, *Design for play: a guide to creating successful play spaces,* funded by the National Lottery and supported by the Department for Children, Schools and Families and the Department for Culture, Media and Sport[22]. The revival of interest in the traditional toy was marked in 2005 with a succession of exhibitions. The exhibition 'Philosophical Toys' held at Apexart, New York, displaying Friedrich Fröebel's original educational gifts, or learning toys. 'Kid Size: The Material World of Childhood' was organised by the Vitra Design Museum in Germany. In the same year Marina Warner curated the exhibition 'Only Make-believe: Ways of Playing', at Compton Verney, Warwickshire. These exhibitions are interesting as they combined both traditional and contemporary play objects that drew together the important social, psychological, historical and educational aspects of play and its impact on creativity.

Though toys are still often associated with children, toys for adults are not a new phenomenon. Google uses LEGO and play activities in its headquarter offices. Their innovative interior design is not so dissimilar to the interior design of Kindergarten schools. Interestingly, the sensory activities offered in the MSE also have a connec-

Figures.5 & **6** Low-tech textile and screen based sensory props
Figures.7 & **8** Observational drawings in the MSE
**Figure.9** Occupational Textiles: Springy-Thingy
Figures.10 & **11** Occupational Textiles: Mabelous and Tip-Tap-Touch
Figure.12 Occupational Textiles: Tactile Journey

tion with Montessori activities and studies have begun to investigate the positive role of Montessori-based activities for older adults with Alzheimer's disease. Research using Montessori-Based Dementia Programming® was conducted by Camp et al (1997[23],2004[24]). The study organised Intergenerational Programes (IGP) between older adults in dementia care units and pre-school children using Montessori-based activities, which revealed positive forms of active engagement. Montessori materials are also believed to be of benefit for individuals with Alzheimer's disease, and research has begun to explore this theory further (Vance., D.E & Porter., R.J, 2001)[25]. Christine Mitterlechner presented her collection of gerontological materials at the European Montessori conference held in Poland in 2009. The gerontological materials are developed by combining Montessori materials with the needs of the elderly, to encourage independence and self-activation.

Toy manufacturers in Japan are also responding to the aging population by expanding the age range of toys for the over-60s. MSE manufacturers in the UK, too, have begun to expand their age range. The MSE manufacturer SpaceKraft launched its catalogue *SpaceKraft Generations 2010* which advertises games, sensory playthings to encourage relaxation and reminiscence for the older generations while the ROMPA® catalogue 2010 has a seven-page section for older adults.

In 2004 the first 'nursing care prevention playgrounds' were developed in Japan, which are in essence playgrounds for the elderly to promote fitness and enable the elderly to be less dependent on nursing care. The UK launched this initiative in 2008 with the development of a 'pensioners' playground' in Blackley, Greater Manchester. A year later, Tate Modern exhibited the American artist Robert Morris's interactive works, which resulted in what was essentially an adult playground
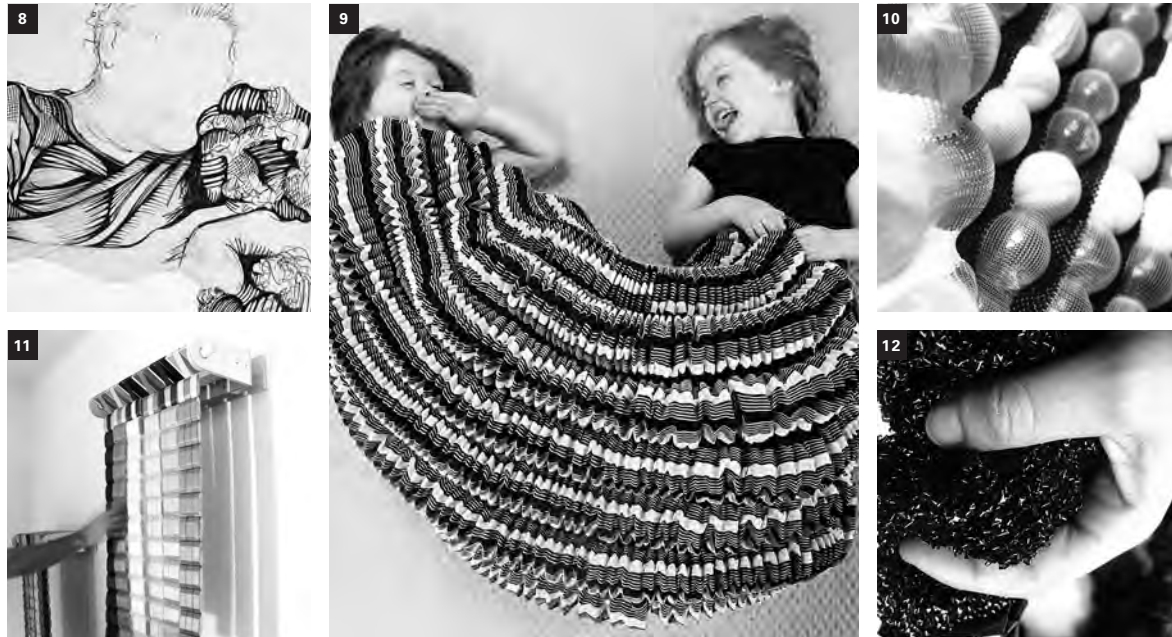
and resembled much of the equipment used for Sensory Integration Therapy. The pensioner's playground received positive media attention and Westminster City Council has since allocated £40,000 for a 'pensioners' park' to be developed in Hyde Park, to be completed in Spring 2010.

Sensory Design for Play

New materials, new technologies and the changing demands and needs of children and adults have influenced the evolution of toy design. From the hand-made and mechanical, using natural materials such as wood and textiles, to the mass-manufactured synthetic toys made of plastic and contemporary toys powered by electricity, batteries, electronics and computers.

The evolution in materials and new technologies is evident in the MSE, where the simple low-tech props of the past (Figure 5)are being undervalued and the complicated remote control, switch-operated and single sensory screen-based activities are taking the lead (Figure 6) Though they both hold advantages and disadvantages, it is important to consider whether simple low-tech playthings will offer similar, or even better, sensory experiences than the high-tech play equipment, which can be expensive and high-maintenance.

My observations reveal that the low-tech playthings in the MSE offer greater material variety, which often hold multi-sensory properties: for example, a sheepskin rug offers the properties of warmth, touch, weight, sight and smell (Figure 7). In contrast to this, the plastic heavy switch-activated props, for example the infinity tunnel light panel, offers single-sensory stimulation with an emphasis on sight, where the individual becomes a passive observer rather than an active participant (Figure 8). As Winnicott (1971) stated 'Playing is *doing'* (p.41)[26] and it is important that the '*doing'*, or the active nature of play, is not lost.

It is important that the play equipment is both physically and mentally compatible with the complex needs of the individual. For a person whose cognitive abilities are at a sensorimotor stage of cognitive development, the multi-sensory nature of the plaything is important. As it is their primary senses and motor skills that help them to interact with the world around them, particularly for those who are non-verbal.

Occupational Textiles

In homage to Friedrich Fröebel and Maria Montessori, I developed a collection of 'Occupational Textiles', which are a series of sensory props/playthings designed to stimulate the primary senses to encourage non-verbal communication, interaction, and play for adults and children.

The props are a physical representation of my research and observations surrounding the MSE and influenced by the field of occupational therapy. The sensory props are tools for health care practitioners and parents to use as catalysts for movement, touch, play activities and as cues for narrative and interaction, during the intervention of sensory integration therapy, reminiscence therapy and the MSE.

My textile practice is inspired by the success and timeless appeal of classic toys that have lasted over generations, those which continue to evoke feelings

of nostalgia in parents and continue to offer value and appeal to children today. The collection of occupational textiles steers away from plastic and capitalises on the somatic nature of textiles that naturally lends itself towards the stimulation of the primary senses, particularly that of touch, and combines this with the unusual techniques and existing materials found in the construction of classic toys, such as the Slinky (Figure 9), marbles (Figure 10) and the jacob's ladder (Figure 11). This unique combination unites different processes and materials to animate, bring to life and transform these toys in terms of scale, shape, sound, weight, temperature and colour to accentuate and heighten the sensorial, kinetic, sonic, haptic and bodily experience it perpetuates for each individual.

Their unique properties create a form of sensory communication that are age and stage-appropriate for both children and adults who are at the sensorimotor stage of cognitive development. Independent of power sockets, wires and switches, it is the touch and fine / gross motor movement that will activate the prop, promoting independence and a sense of control for the participant (Figure. 12). The unique collage of materials creates an indeterminant form in which the function of play determines the form. As expressed by the architect Louis Sullivan (1896) 'The form follows the function' (pp.403–409)[27].

Steering away from the mimetic role-play posed in many toys of today, the collection of occupational props are abstract in shape, not to be recognised as an imitative thing such as a doll, but for the sensory experience of 'the doll'. As advocated by the child psychoanalyst Melanie Klein (1982–1960) 'toys should have no uniforms or special dress or any indication of occupation or role which would suggest a particular kind of play' (p.41)[28].

The abstract shapes and unusual kinetic and tactile qualities create a natural curiosity that intrinsically motivates the individual, exercises the imagination, and holds unusual kinetic and tactile qualities that will entice touch, movement and the occupation of play.

Conclusion

My practice-led research began with a number of experiences of working, playing and being with people whose care, well-being, education and culture presented professionals, designers and humanity in general with both challenges and possibilities for learning.

It has become evident that there is, for the textile designer, a particular significance in the way in which work with sensory impairment and neurological disability demonstrates the fundamental experience of touch and tactile knowledge. Its relationship to more sophisticated hand-eye coordination, and other multi-

sensory coordination creates the rich connections between different sensory modalities that we call representation, symbolism or thinking.

Working with people in the existing MSE's I began to intuit that the experience of the textile designer could be useful as this form of design practice can illuminate the sensory and symbolic function of the hand. It can also bring the tactile, haptic knowledge base that is the designer's intuition, to bear on the design predicament.

The term 'predicament' denotes an experience that exists 'before speech' and this is a valuable insight into the fact that design knowledge, or intuition, refers to experiences that often exceed the limitations of what can be verbalised or symbolised in writing. The universe of the sensory connections that precede verbalisation is of particular importance to those whose sensory or neurological conditions do not allow them to inhabit the universe of language and verbalisation easily, thus making experiential design imperative.

Textile designers have specialist knowledge of a range of tactile experiences and materials to emphasize the senses through colour, texture, weight, mass, movement, temperature, sound and smell. In a world enveloped by technology this has never been so poignant.

Working beyond the boundaries of a culture that is dominated by words and rationality, and where sight is often the sensory modality of instructive dominance, I developed a body of responsive 'occupational' textile works with senses that are more usually relegated to secondary or even tertiary importance. In doing so I have been guided by the people I coordinated with and have been supported by the cross-pollination of literature on sensory research.

This paper concludes with three insights: Firstly, that design practice is a form of discovering new knowledge, and is therefore research in itself, to be supported by writing and verbal explication. Secondly, that the textile designer's experience with materials has a leading role in discovering new knowledge relating to experience. Thirdly, that this is of significance to all sentient beings, not just those of us with Special Educational Needs or with learning disabilities.

Katie Gaudion
MPhil (RCA)
Dept of Textiles: The Royal College of Art
Kensington Gore, London, UK
Katie.gaudion@network.rca.ac.uk

References

1 De Ajuriaguerra, J, & Tissot,R. (1975). Some aspects of language in various forms of senile dementia (comparisons with language in childhood). In Lennenberg EH, Lennenberg E (eds.), Foundations of Language Development. New York: Academic Press. (1) 323–339.

2 *Matteson, M,A., linton, A.D., & Barnes,S,J. (1996). Cognitive Developmental Approach to Dementia. Image Journal of Nursing Scholorship, 28(3), 233–240.*

3 Verheul, A. (2007). *Snoezelen materials homemade.* Ede: Ad Verheul.

4 Hulsegge, J & Verheul, A. (2005). Snoezelen *Another World*. Chesterfield: ROMPA®.

5 Cavet, J. (1995). Leisure provision in Europe. In Hogg, J and Cavet, J (Eds.), *Making leisure provision for people with profound learning and multiple disabilities* (pp. 50–64). London: Chapman & Hall.

6 Woodrow, P. (1998). Interventions for confusion and dementia 3: reminiscence. *British Journal of Nursing*, 7 (19–22), 1145–1149.

7 DeLong, M., Wu, J & Saq, M. (2007). May I touch it?. *Textile*, Oxford: Berg, 2(3), 328–347.

8 Collier, L., McPherson, K.M.,Ellis-Hill, C., Staal, J & Bucks, R.S.. (2009) Multi-sensory stimulation to improve functional performance in moderate to severe dementia: interim findings from a randomised single blind trial (Unpublished research, 2009).

9 Cohen-Mansfield J., Werner, P & Marx, M.(1992). Observational data on time use and behaviour problems in the nursing home. *Journal of Applied Gerontology, 11(1) 111–121.*

10 Stagnitti, K. (2004). Understanding play: the implications for play assessment. *Australian Occupational Therapy Journal,* 51 (1), March, 3–12.

11 Bundy, A.C. (2005). Measuring play performance. In Law, M, Baum, D, Dunn, W (Eds.), *Measuring occupational performance supporting best practice in occupational therapy* (2nd ed). Thorofare, NJ: Slack, 129–149.

12 Segal, H. (1979). *Klein*, London: Fontana,6.

13 Ouvry, C & Mitchell, S. (2006). Play materials. In Hogg, J & Cavett, J, (Eds.), *Profound and multiple impairment: making leisure provision,* London: Chapman and Hall, 176–196.

14 Montessori, M. (1912). *The discovery of the child* (2nd Ed) translated by M.Joeseph Costelloe, US: Fides Publishers, Inc, 1973, 178.

15 'A sighted baby with a ball will swipe and follow it, throw it and clamour for its return (making herself understood by 'eye-pointing'), and drop it into a box or basket. The blind child dares not let the ball role away from her lest she lose it completely, or will she drop it into a box, for she cannot see containers and therefore cannot 'see' their possible uses. Even if she is prepared to let go of the ball;' while the sighted will gain this stimulus by alternatively exploring visually and bringing the toy into contact with the environment (throwing, scraping, banging and so on), the blind child turns inward towards herself for this second stimulus, and bites or licks the ball, or rubs it against her face or eyes.' Newson, E & Newson, J. (1979). *Toys and playthings: in development and remediation,* London: Allen & Unwin,146.

16 Ardell, D. (2000) *What is wellness?* (2002) Retrieved from: http://www.seekwellness.com/wellness/articles/what_is_wellness.htm

17 Paramananda. (1996). *Change your mind: a practical guide to Buddhist meditation,* Birmingham: Windhorse Publications,11.

18 Seldon, A., 'Don't worry, be happy', *The Independent on Sunday*, 26.8.2007. Retrieved from: http://www.independent.co.uk/opinion/commentators/anthony-seldon-dont-worry-be-happy-463031.html

19 Department for Children, Schools and Families, Every Child Matters programme (2003) *The Play Strategy*, (2008). Retrieved from: http://www.dcsf.gov.uk/everychildmatters/

20 The Alliance for Childhood: *Crisis in the kindergarten: why children need to play in schoo*l (2009). Retrieved from: www.allianceforchildhood.org

21 Number10, (2009) Play-Right-epetition Response [Online], London. Retrieved from: http://www.number10.gov.uk/Page18922

22 Shackell, A., Butler, N., Doyle, P & Ball, D. (2008) *Design for play: a guide to creating successful play spaces*, London: Department for Children, Schools and Families; Department for Culture, Media and Sport.

23 *Camp, C,J, Judge, K,S, & Bye, C,A, et al. (1997). An integenerational program for persons with dementia using Montessori methods. The Gerontologist. (37) 688–92*

24 *Camp,C,J, Orsulic-Jeras, S, Lee, M,M, et al. (2004) Effects of a Montessori-based intergenerational program on engagement and affect for adult day care clients with dementia. In, Wykle ML, Whitehouse P,J, Morris, D,L (eds). Successful aging through the life span: intergenerational issues in health. New York: Springer, 159–76*

25 Vance.,D,E & Porter., R,J. (2001)'Montessori methods yield cognitive gains in Alzheimer's day cares, *Activities, Adaptation & Aging'*, 24 (3), 1–22.

26 Winnicott D.W. (1971) *Playing and reality*, New York: Routledge. 41.

27 Sullivan, L (1896). 'The tall office building artistically considered', Philadelphia: *Lippincott's Magazine*, 57, March, 403–409.

28 Segal, H. (1979). *Klein*, London: Fontana, 41.

Jo-Anne Bichard and Gail Knight

Everybody Goes: Designing Age-Friendly Public Toilet Solutions

Introduction

The design and provision of toilet facilities for people with disabilities has been covered in great depth by research (see Feeney, 2003), that in the United Kingdom, helped develop the 'British Standard BS8300: Design of buildings and their approaches to meet the needs of disabled people' and 'Approved Document M of the Building Regulations'. However, research undertaken by Hanson *et al* (2007) has found that many older people do not think they are 'entitled' to use the accessible (disabled)[1] toilet and therefore feel their needs are not being met, both in design and provision of lavatory facilities they may need when 'away from home'[2].

Current research being undertaken at the Royal College of Art Helen Hamlyn Centre (RCAHHC) is aiming to address the issue of older peoples access to 'away from home' toilet facilities. The research is focusing on the environmental barriers our ageing society faces when attempting to access a toilet away from home. Access to toilet facilities is one of the primary issues faced by many people who manage continence conditions, either as a temporary situation or more long-term chronic health concern. Examination of the issue of continence is being carried out by the

RCAHHC in conjunction with a consortium of other researchers[3] on a project called Tackling Ageing Continence through Theory Tools and Technology (TACT3). This is a three-year study that is specifically focused on age related continence, and is funded By the New Dynamics of Ageing (http://www.newdynamics.group.shef.ac.uk/) a unique collaborative research programme that is investigating the needs and issues of an ageing population and funded by all five of the UK's research councils.

This paper will specifically discuss the work package 'Challenging Environmental Barriers to Continence'. It will highlight current innovations in the design of non-domestic lavatory facilities and interventions, and highlight how these may not be suitable for an ageing population. The provision of toilets used by members of the public will be presented as a case study of how design needs to negotiate the physical and cognitive needs of a population to meet needs across the life course.

Toilet Provision for an Ageing Population

Besides dementia, which will be discussed in more detail in the next section of the paper, nothing is more feared by many older people than incontinence. Whilst the condition is not directly a consequence of ageing, urinary incontinence affects between 30–60% of women over the age of 40, and around 15–30% of men. Studies have shown that whilst urinary function does diminish with age, this can be exasperated by medication taken to counteract other chronic illnesses associated with the ageing process including; heart failure, some forms of cancer, Parkinson's and Alzheimer's disease. Even for many older people who are not managing health conditions, the general effects of ageing on the body may result in the need to use the lavatory urgently and with more frequency. Ageing amongst the oldest old, those aged eighty, ninety and even centenarians, may make physical mobility more difficult and affects continence simply because an older person may find it harder to transfer on and off the WC pan or even reach lavatory facilities in time.

After climate change, the second most pressing is-

---

[1] It is recommended that toilets for disabled people should be referred to as 'accessible' toilets rather then 'disabled' toilets, as the latter can be considered stigmatising and offensive. However, in the 1970's when the facility was introduced, and throughout the 1980's when more facilities were built, the term 'accessible toilet' was not in common currency. Pre 2004 legislation referred to 'toilets for disabled people', and today many people with disabilities still refer to the facilities as the 'disabled toilet'.

[2] 'Away From Home is a term coined by the British Toilet Association to describe all lavatory facilities used outside of the domestic space. This include public toilets operated by local authorities but also provision found in department stores, cafes, supermarkets, public houses etc.

[3] The multi-disciplinary consortium is comprised of researchers from: Brunel University, The University of Sheffield, University of the West of England, Bristol Urological Institute, The University of Manchester, Dalarna Research Institute and the Royal College of Art.

sue for many of today's societies is the global ageing population. It is currently estimated by the World Health Organisation that there are 6000 million people in the world aged 60 and over, and this figure is predicted to double by 2025 (WHO 2004). In the European Union it is estimated that 20% of the population are aged 60 and over, and like the global phenomenon this figure is also expected to double.

With a global ageing population, the issue of accessing appropriate lavatory facilities will be seen to be more pressing for independent living, well being and quality of life issues for older people. In 2007 it was estimated that half of the global population now lives in cities. The course of the twentieth century saw the mega city, with populations over 10 million people, extend from two to twenty. It is estimated that by 2030, 3 out of 5 people in the world will live in a city (WHO, 2007). With the growing ageing population and the move to more urban centres, The World Health Organisation has identified the provision of public toilets as essential to its 'Age Friendly Cities' programme.

Due to difficulties accessing toilets when away from home, many older people have been known to limit the time and the distances they leave their homes for. Yet, in contrast to a growing ageing population in the UK, the charity Help The Aged (2007) has found that the number of available public toilet facilities has dramatically declined.

In the United Kingdom, local authorities generally operate public toilet facilities. Provision is discretionary and there is no legislative enforcement that ensures an area has public toilet provision. Estimates suggest that current toilet provision operated by local authorities has dropped from approximately 10,000 in 1999 (Audit Commission, 1999) to 4423 in 2008 (Value Office Agency, 2008). With the UK population estimated by the World Bank to currently stand at 61,399,118, there is approximately one public toilet for every 13,882 people.

Help the Aged's research has found that the reduction in provision especially at the local neighbourhood level can severely limit people's activity's of daily living such as going to the shops for food. Such restriction on movement can result in social isolation and avoidance of travelling to visit family and friends and going to work. The larger consequence of such access concerns has been found to be greater instances of low self-esteem, depression and loneliness, all of which draw on the resources of the local health authorities and social services.

We therefore have a need for facilities to be placed in the built environment that can be accessed by all but especially an ageing population. Yet for successful toileting a number of supporting interventions need to also be considered as part of the wider spectrum of toilet provision.

Figure 1: An Automatic Public Convenience (APC)

Design Innovation for Toilet Provision.

Despite the closure of many of the UK's public toilets, there have been a number of innovative designs that attempt to address the issue of toilet provision with innovative and technology inspired designs. The Automatic Public Convenience (APC) also known as the 'Superloo' or 'Tardis' (Figure 1) began appearing on UK streets in the early 1990's, but has not found favour with the toileting needs of the Public (Bichard & Hanson, 2009). Previous research undertaken by Hanson *et al* (2007) found that many people would prefer to travel to the top floor of a department store then use an Automatic Public Convenience. In addition, their case studies of provision found that women over the age of 65 would not use this type of toilet provision. One user commented that the reason they avoided this form of provision was because it was too unfamiliar and perceived as complicated

'I don't know how to use one (APC)… I'm not standing outside reading instructions on how to use a toilet'.

A more recent innovation has seen the needs of evening toilet provision addressed by the 'Urilift' (Figure 2). This 'pop-up' urinal is raised by remote control at dusk and set back in the ground at dawn. Designed primarily to counteract the effects of street urination (both the unsightly behaviour associated with this practice and the environmental distress caused by uric acid in urine), the Urilift has become a popular option amongst local authorities seeking to address the need for evening toilet provision. Noticeably the Urilift (and other temporary urinal solutions) only addresses the needs of the male population, and within this sector is not a toileting solution for men who have Paruresis (shy bladder syndrome); men who observe faith and hygiene practices with regards to toileting, and older men who find such urinals still somewhat exposed.

Figure 2: 'Urilift'
Figure 3: Wheelie Bin Urinal
(Bischof, 2009)

A more recent design incorporates a urinal into a 'wheelie bin' (Bischof, 2009) (Figure 3) and like most recent design solutions; this only meets the need of one small segment of the population. In addition, such design interventions do nothing to challenge and discourage street urination. Indeed, it can be argued that such solutions continue to indulge the practice of street urination, which in general is considered anti-social behaviour.

Given that these current innovations do not meet the wider public preference and therefore needs, especially those of the ageing population, the researchers at the RCAHHC are investigating how provision can be best maximised to offer toileting facilities that are well designed for hygiene, access, comfort and dignity, and that will be welcomed by the majority of users.

Thinking about the needs of an ageing society

Whilst not exclusively a consequence of ageing, many older people do develop some form of cognitive impairment, and it is currently estimated that over 800,000 people in the UK have some degree of cognitive impairment associated with dementia. This number is expected to rise to over one million in the next 30 years (Matthews et al 2005).

Dementia is a degenerative impairment, and therefore the cognitive functions of people with dementia are unlikely to improve. Current and future medical advances are likely to increase the survival of older people, and thus it can be surmised that the populations of people with cognitive impairments are likely to increase. Globally, over 35 million people are currently estimated to have dementia, and 4.6 million new cases are diagnosed each year. There is a myth that diseases like Alzheimer's are only associated with living in developed economies with the rate of dementia expected to double between 2001 and 2040. Yet 60 percent of people with dementia live in developing countries and it is forecast to increase by more than 300 percent in India and China (Ferri et al, 2005).

The Second Nature of Toileting

For many people, the act of using the toilet does not require much thought regarding of the use of the space and it's supporting products. After the initial conscious cue for the need to excrete, the use of the lavatory environment from opening to closing the door, sitting on, or standing in front of the WC pan, flushing after we leave the cubicle and washing our hands at the end of the toileting ritual can be considered mostly an unconscious activity, in many ways 'second nature' (Bichard *et, al* 2005).

Yet such instinctual behaviour may become more conscious through the ageing process. Freund (2001) has noted that age associated impairments may shift how an individuals experience of their body. Stiffness, loss of strength and aches and pains may become more acute, making routine and everyday activities increasingly difficult and therefore more noticeable. This may lead to a once familiar friendly space becoming associated with pain and anxiety. Hence it is suggested that the use of space with ease is not an issue in the context of mechanistic ergonomics, but one of an 'embodied relationship to the physical artifacts and environments' (Freund 2001:699). In the case of using toilets when away from home, the unconscious and second nature of toileting may become conscious and fraught with difficulty due to the lack of available facilities with familiar products and associations. These might in turn, be primarily based on familiarity with the design of the domestic toilet facility. For people with cognitive impairments the familiarity with domestic designs such as the shape and operation of the flush handle can act as a signal for the 'embodied relationship' such as flushing the toilet after use, and therefore action the appropriate behaviour within the space. Such deviation in design of such essential facilities within the built environment may confuse some users and result in a familiar space and wider environment becoming unfamiliar and possibly threatening, and therefore avoided.

Challenging Environmental Barriers to Toilet Access for Older People.

To address the toileting needs of the ageing population, the first year of the TACT3 research has been talking to users to understand their experience of using toilets when away from home. In year two of the research we will take the user insights and requirements to those who manage toilet provision to understand what barriers they experience in providing facilities that users want. Finally, in year three, the research will consolidate the users and providers perspectives and experiences into design briefs that will aim to address the needs of both users and providers.

Initially user consultation was only to be with members of the public aged 50 and over. However at the first 'expert forum' with members of the New Dynamic of Ageing's 'Older Peoples Reference Group' the researchers were advised to include the perspectives of all ages in the research, as access to toilets is a lifelong concern. Subsequently, the researchers constructed a methodology that would include the toileting needs of those aged 1–101 [1].

A Life Course Methodology

A life course framework has become a major methodological perspective in epidemiology and Public Health studies, as well as in wider notions of health and well being (Ben-Shlomo and Kuh; 2002). In contrast to more conventional epidemiological studies that recruit subjects in mid-life, a life course perspective offers a multi-disciplined approach that can illustrate how biological, behavioral and psychosocial pathways can 'operate across an individuals life course, as well as across generations to influence the development of chronic diseases' (Ibid, 2002;285). Life course approaches have also been adopted by sociologists' to examine sociohistorical and biocultural contexts as well as biological anthropologists to explore disease consequences and has been presented as a powerful tool to test social interventions (ibid, 2002;291). Thus it can be surmised that the life course approach is based on biological and social factors that influence disease experienced in adulthood through factors that are independent, cumulative and interactive.

Whilst the connections between urban design and public health are not new, Northridge et al (2003) propose that there has been a demise in considering the links between urban design, especially planning, and public health, and urge for a re-establishment of the historic link between the built environment and public health, especially when considering the impact of mega cities.

Considering a life course approach in the inclusive design of public toilets offers a number of challenges. The research does not set out to create links between provision and continence, rather it is assessing how the design of the toilet cubicle maybe a barrier to use throughout the life course. For example, young children may have difficulty getting onto the wc pan, whilst older people may experience difficulties getting off the wc pan. By identifying issues that are experienced across age groups, the research aims to pin point areas where new design briefs may offer interventions that are suitable across generations and can therefore be considered to be more suitable for the life course of the population.

Identifying User Preferences

Currently over 100 Telephone and face-to-face interviews have been conducted with members of the public and providers of public toilets. In addition to personal details such as age and gender, each interviewee is asked to identify the type of area they would primarily require toilets in (home or work). The area types are identified as urban, suburb, town or rural. This last question helps the research to identify how provision can sometimes be a 'postcode lottery' in which locality determines the adequacy of provision, and what alternative solutions might be preferable. More importantly, as a user-centred inclusive design project the researchers will focus the design solutions on the areas of importance that users cited. We therefore asked interviewees to identify three main issues of concern that they felt should be addressed by the research. Interviews have been analysed by reference to re-occurring themes and the current issues that have emerged across age groups and genders are hygiene, information and cubicle design.

Hygiene

One user summed up the issue of hygiene as:

'Your confidence in the cleanliness comes from what it looks like on the outside and if you can see an attendant… if you can't see those things then your confidence level starts dropping and you just don't want to go in there'.

The importance of hygiene for the majority of users made it apparent that it is a central aspect of the design is for the toilet facility, in that it has to be accessible, not only to the user but to those who maintain the cleanliness and management of the facility. Therefore ensuring that the cubicle can be physically accessed by users, and those who maintain the facilities, such as cleaning and maintenance professionals, can be considered an essential element of the design brief.

Information

The second key issue for research participants was the information used to not only find a toilet facility, but to ensure a hygienic level of provision. One participant commented:

'You can look at a map of the town, it might tell you where the toilets are but its not going to tell you what they're like' [2]

Many research participants commented that signs often do not include distances to the facilities or are often out of date resulting in finding the toilet facilities closed or gone altogether. The research is therefore including design briefs for directional and maintenance information.

Supporting products

Hygienic consideration of a number of supporting products has also emerged. One user commented:

I like it where you don't touch the taps, its all sensored, that is a good idea, especially now people are so aware of cleanliness, like the dryers and the taps, sometimes as well the flush, so now the only thing you really need to touch is the locks on the doors.

In contrast another user commented

What's important to me is the ease of using one (toilet). For example there is one that is atrocious to use, you don't know how to get in, you don't know how to get out of it. You have to read a few things to know how to work the functions of what works automatically, which one to push, which colour to push, although they forget that people can also be colour blind.

Here we see the tension between user acceptability of technological innovations and user resistance to the unfamiliar within the space of the toilet. These design issues are not new and have been identified by previous research in regards to access for people with cognitive disabilities and age related degenerative cognition (Hanson *et al,* 2007).

Design Dilemmas

Research participants have identified a series of essential design interventions that are needed to support not only age positive toilet provision, but that can also extend across the populations life course. However, a number of design solutions have considered these issues but have proved not to be user friendly. This paper will now illustrate how some technological interventions can be considered to have hindered rather then helped toilet access and use.

Information: Way Finding and Signage

For many people but especially older people who may need to find toilets urgently and people with dementia who may experience confusion, remaining continent is a major element of maintaining independence. As

such, in the design of care centres and care homes, the maintenance of independent toileting has been an important aspect for interior design guidelines. It is recognised that an essential aspect of this is through making toilet facilities easy to locate and identify. Yet, as Greed (2003) has noted, such design consideration has not been extended to the built environment, and what remains of public toilet provision in the UK is sometimes positioned in segregated 'out of the way' locations that are difficult to find, and in some instances can feel threatening to potential users.

Previous research of care home design identified that adequate signage using a singular word such as "toilet" or a graphic of a familiar household toilet, increased usage. In the UK the current sign for the accessible toilet is a pictogram of a person using a wheelchair. Older people have reported that they would not consider using the 'disabled' facilities, even though the use of grab rails and accessible hand washing facilities such as levered taps may make toileting more comfortable. In addition, a person with dementia may not be easily recognise the 'wheelchair' symbol as an indication of an appropriate facility for them to use. Signs representing the appropriate gender often signify standard facilities. However, it is increasingly common for smaller businesses to provide as their only toilet facility a 'universal accessible toilet' to be used by both sexes and signified by the wheelchair pictogram. In addition, many UK public toilets are known and signposted by varied terms these include "WC" "Public Conveniences" and "Lavatories". The lack of cohesion concerning the name of facilities could further confuse the person with dementia as well as users who are unfamiliar with the English language. Clear signage of toilet facilities would help all users, but would be significantly helpful for those who need to find toilet facilities quickly as well as people with dementia and learning disabilities who may experience difficulties with way finding.

Supporting Products: Door Locks

For the comfort, safety and dignity of most public toilet users, the first and possibly most important aspect of using the toilet will be to close and lock the door once they have entered the toilet cubicle. In recent cubicle door lock designs, especially those on 'accessible' trains, a three-stage electronic operation has been introduced (Figure 5). Whilst removing the need for physical strength and manual dexterity to open a door, this mechanism involves pushing buttons in sequence to close lock and then open the door. This first two-stage operation (push button to close, push separate button to lock) effectively separates two closely related operations. To open the door a third separate button is pushed. Although instructions for the operation of the door lock are clear (and also provided in Braille), the need to pause

and read in order to lock requires a degree of cognition and therefore such cognitive requirement to operate the door lock may cause difficulties for people with cognitive impairments as well as non-English speakers, and could lead to embarrassing and distressing situations.

Supporting Products: The Toilet Flush

There are a number of varied design options for toilet flushes. Carers of users such as children with autism and people with learning disabilities, have noted that the act of flushing can be considered the 'reward' for successful toileting, with the reward involving the twofold action of flushing as much as the consequence of the act (Bichard *et al,* 2005). More recent technological innovations such as Sensor-flushes actively remove the need to touch, pull or push the flush. Sensor-flushes operate by waving hands across the sensor (Figure 6). Yet, for people with cognitive impairments, the replacement of 'hands on' flush mechanism such as a handle, button, lever or pulley, with a hands free sensor application, may remove a familiar aspect of the toileting ritual and therefore may cause distress to a person who can not understand why they can not actively flush the toilet, and for some users receive the 'reward' for good toileting behaviour.

Conclusion

These examples have been used to illustrate how, in the case of toilet provision in public space, a technological approach may not be of benefit to the needs of all those who make up the potential users.

For many people abut especially people with cognitive impairments many aspects of the toilet may act as a cue for appropriate behaviour. The familiarity of a sign, the door lock and the handle of a flush, may all act as objects that focus the user on the use of the toilet. The replacement of such familiar objects with hi-tech solutions may effectively distract or confuse those

with impaired cognition, and lead to an avoidance of perceived unfamiliar and unfriendly spaces.

There is a need for designers to understand precisely how each of the fixtures and fittings in wc cubicle may differ in use between a range of users of varying ages and abilities. This is a particular challenge for designers of Automatic Public Convenience's (APC's), but even in the familiar standard toilet block, the numerous technological 'advances' in fixtures and fittings, coupled to the 'technisation' (Freund, 2001:699) of the routine of using a public toilet facility may prove too complex for many users, especially for those with cognitive impairments.

Kitchin and Law (2001) have used the term 'the bladders leash' to describe how the mobility of people with disabilities is restricted in the urban environment by the absence of accessible public toilets in city centres. In addition, parents with young children and older people have reported that they too are limiting the amount of time they are away from home explicitly due to the lack of available toilet facilities.

The design of toilets used when away from home superficially presents itself as a technological affair in which successful design can be seen in getting a specification right (Hanson et al, 2007). Without understanding how the wc cubicle is actually used, by the wide range of prospective users, there will continue to be costly design responses that may exclude rather then include users, and do so from child to adulthood and into extended age.

Jo-Anne Bichard
Royal College of Art
Helen Hamlyn Centre
jo-anne.bichard@rca.ac.uk

Gail Knight
Royal College of Art
Helen Hamlyn Centre

References

Bichard, J. & Hanson, J (2009) Inclusive Design of Away From Home Toilets in *Designing Sustainable Cities* Eds: R Cooper, G Evens & C Boyko. Wiley-Blackwell, Oxford.

Bichard, J, Hanson, J, & Greed, C. (2005) Cognitive Aspects of Public Toilet Design in *Proceedings for Human Computer Interaction International* (HCII), Las Vegas, USA, July 2005.

Ben-Shlomo, Y. & Kuh, D. (2002) A life course approach to chronic disease epidemiology: conceptual models, empirical challenges and interdisciplinary perspectives in *International Journal of Epidemiology*; 31:285–293.

Greed, C (2003) Inclusive Urban Design: Public Toilets. Architectural Press, Oxford

Hanson, J, Bichard, J & Greed, C. (2207) The Accessible Toilet Design Resource, University College London, London. http://eprints.ucl.ac.uk/4847/

Ferri CP, Prince M, Brayne C, Brodaty H, Fratiglioni L, Ganguli M, Hall K, Hasegawa K, Hendrie H, Huang Y, Jorm A, Mathers C, Menezes PR, Rimmer E & Scazufca M; (2005) 'Global prevalence of dementia: a Delphi consensus

Figure 5: Automatic Door Lock
Figure 6: Sensor Flushed (UK and Japanese models)

study', The Lancet. Alzheimer's Disease International (2009), World Alzheimer's Report

Freund, P. (2001) Bodies, Disability and Spaces: the social model and disabling spatial organisations in *Disability and Society*, 16(5), 689–706.

Kitchen, R & Law, M. (1998) The Socio-spatial Construction of (In)accessible Public Toilets in *Urban Studies*, 38(2), 287–298.

Matthews F & Brayne C; (2005) The Incidence of Dementia in England and Wales: Findings from the Five Identical Sites of the MRC CFA Study. PLoS Medicine, Vol 2, Issue 8, e193, 1–11.

Northridge, M.E, Sclar, E.D & Biswas, P. (2003) Sorting Out the Connections Between the Built Environment and Health: A Conceptual Framework for Navigating Pathways and Planning healthy Cities in Journal of Urban Health: Bulletin of the New York Academy of Medicine Vol 80, No4 556–566.

Nowhere to Go: Public Toilet Provision in the UK (2007); Help The Aged, London.

Wheelie Bin Urinal by S. Bischof Accessed from http://www.designboom.com/weblog/cat/18/view/8422/stephan-bischof-wheelie-bin-urinal.html June 2010

World Health Organisation (WHO) (2004) World Health Organization launches new initiative to address the health needs of a rapidly ageing population Accessed from http://www.who.int/mediacentre/news/releases/2004/pr60/en/ June 2010

World Health Organisation (WHO) (2007) Global Age friendly Cities: A Guide. WHO Press, Geneva, Switzerland

Endnotes

1   For users under the age of 16, consent was sought from parents and/or guardians. For older people who are in care settings consent was sought from family members and/or carers.

2   There is currently a number of smart phone applications for finding toilets that include the opportunity to comment on the condition of the facilities. The include Water Aid's toilet finder http://www.wateraid.org/uk/donate/7965.asp Sit or Squat http://www.sitorsquat.com/sitorsquat/home/mapAnd Where to Wee http://www.wheretowee.com/

List of Cumulus members   6/2011

44 countries & 176 members

FULL MEMBERS

AUSTRALIA (4)
- Swinburne University of Technology, Faculty of Design, **Melbourne**
- Royal Melbourne Institute of Technology (RMIT), **Melbourne**
- School of Design, **Queensland** University of Technology
- Australian Academy of Design, **Melbourne**

AUSTRIA (5)
- University for Applied Science (FH-JOANNEUM), Industrial Design, **Graz**
- Vorarlberg University of Applied Sciences, Media Design, **Dornbirn**
- University of Art and Design **Linz**
- Salzburg University of Applied Science, **Salzburg**
- University of Applied Arts **Wien**

BELGIUM (5)
- Katholieke Hogeschool Limburg, Media and Design Academy, **Genk**
- Sint Lukas Brussels University College of Art and Design, **Brussels**
- **Mechelen** University College
- Ecole Superieure des Arts Saint-Luc, **Brussels**
- Department of Design Science, Artesis University College of Antwerp

BRAZIL (3)
- Pontificia Universidade Católica do **Rio de Janeiro** – PUC-Rio
- Universidade do Valo do Rio dos Sinos (UNISINOS) Design School, **Porto Alegre**
- ESDI – Escola Superior de Desenho Industrial, **Rio de Janeiro**

CANADA (4)
- OCAD University **Toronto**
- Emily Carr University of Art and Design, **Vancouver**
- University of Montreal, School of Industrial Design, **Montreal**
- School of Industrial Design, Carleton University, Ottawa

CHILE (3)
- Pontificia Universidad Católica de Chile (PUC Chile), FADEU, **Santiago**
- Instituto Profesional DuocUC, School of Design, School of Communication, **Santiago**
- University of **Valparaiso**

CHINA (10)
- Central Academy of Fine Arts CAFA, School of Design, **Beijing**
- Hunan University, School of Design, **Changsha**
- Shandong University of Art and Design (SUAD), **Jinan**
- Hong Kong Polytechnic University, School of Design, **Hong Kong**
- Tongji University, College of Architecture and Urban Planning (CAUP), **Shanghai**
- Tsinghua University, Academy of Arts and Design, **Beijing**
- Cheung Kong School of Art and Design, Shantou University, **Shantou**
- **Hong Kong** Design Institute
- School of Design, Jiangnan University, **Wuxi**
- **Shanghai** Institute of Visual Art (SIVA), Fudan University

CZECH REPUBLIC (1)
- Academy of Arts, Architecture and Design, **Prague**

DENMARK (4)
- Aarhus School of Architecture, **Aarhus**
- Danmarks Designskole, **Copenhagen**
- Royal Danish Academy of Fine Arts, School of Architecture, **Copenhagen**
- Designskolen **Kolding**

ESTONIA (2)
- Estonian Academy of Arts, **Tallinn**
- University of **Tartu**

FINLAND (6)
- Aalto University School of Art and Design **Helsinki** (Coordinator of Cumulus)
- HAMK University of Applied Sciences, Programme in Design, **Hämeenlinna**
- Lahti University of Applied Sciences, Institute of Design, **Lahti**
- University of Lapland, Faculty of Art and Design, **Rovaniemi**
- **Helsinki** Metropolia University of Applied Sciences
- Savonia University of Applied Sciences, Kuopio Academy of Design, **Kuopio**

FRANCE (18)
- Ecole de design Nantes Atlantique, **Nantes**

- Institut d'Arts Visuels (IAV), School of Higher Education in Art and Design, **Orléans**
- Ecole d'Art Maryse Eloy, **Paris**
- **Paris** Institute of Art and Design, Ecole Duperré
- **Paris** Institute of Art and Design, Ecole Estienne
- Ecole de Communication Visuelle (ECV), **Paris**
- Ecole Supérieure d'Arts Graphiques et d'Architecture Interieure-Design (ESAG)-Penninghen, **Paris**
- Olivier de Serres, **Paris** -École Nationale Supérieure des Arts Appliqués et des Métiers d'Arts
- Les Ateliers – Ecole Nationale Superieure de Creation Industrielle, **Paris**
- Reims School of Art & Design, Department of Design and Art, **Reims**
- Strate College Designers, **Paris**
- Ecole Supérieure d'Art et Design de Saint-Etienne (ESADSE)
- Ecole Internationale de Design (EID), **Toulon**
- University of Toulouse Le Mirail, Art and Design Department, **Toulouse**
- Parsons Paris School of Art and Design, **Paris**
- Higher School of Visual Arts and Design (ENSAD), **Paris**
- ESAIL (Ecole Supérieure d'Architecture Intérieure de Lyon), **Lyon**
- école intuit lab, **Paris**

GERMANY (8)
- University of Applied Sciences **Cologne**, Köln International School of Design (KISD)
- Folkwang University, Faculty of Art and Design, **Essen**
- Burg Giebichenstein University of Art and Design, Faculty of Design, **Halle**
- Hochschule für Gestaltung **Offenbach am Main**
- Pforzheim University of Applied Sciences, School of Design, **Pforzheim**
- Hochschule für Gestaltung, **Schwäbish Gmünd**
- University of Applied Sciences **Würzburg**, Faculty of Design
- FH-**Dortmund,** FB-Design

GREAT BRITAIN (11)

- Arts University College at **Bournemouth**
- **Edinburgh** Napier University**,** School of Arts and Creative Industries
- Ravensbourne College of Design and Communication **London**
- Royal College of Art **London**
- University of **Salford,** School of Art & Design
- University College Falmouth**, Cornwall**
- University for the Creative Arts**, Epsom**
- **London** College of Communication, University of the Arts
- **Leeds** College of Art
- **Nottingham Trent** University
- Central Saint-Martins College, **London**

GREECE (2)

- Technological Educational Institution (t.e.i) of **Athens,** Faculty of Art and Design
- akto Athenian Artistic Technological Group, **Athens**

HUNGARY (1)

- Moholy-Nagy University of Art and Design **Budapest**

ICELAND (1)

- Iceland Academy of the Arts **Reykjavik**

INDIA (3)

- Ujwal Trust, Srishti School of Art, Design and Technology, **Bangalore**
- Indian Institute of Technology **Bombay** (iit), Industrial Design Centre (idc)
- MIT Institute of Design, Maharashtra Academy of Engineering and Educational Research (maeer), **Pune**

IRELAND (2)

- National College of Art and Design **Dublin**
- Dublin Institute of Technology (dit), School of Art, Design and Printing, **Dublin**

ISRAEL (1)

- **Holon** Institute of Technology

ITALY (8)

- Free University of Bozen-**Bolzano**, Faculty of Design and Art
- Domus Academy, **Milan**
- Istituto Europeo di Design – Scuola S.p.A., **Milan**
- Politecnico di Milano, Facolta del Design, **Milan**
- University of Rome "La Sapienza", Industrial Design, **Rome**
- isia di Roma, Istituto Superiore Industrie Artistiche, Industrial Design, **Rome**
- Scuola Politecnica di Design (spd), **Milan**
- isia **Florence,** Higher Institute for Artistic Industries

JAPAN (5)

- Kyoto Seika University, Faculty of Art, Design and Manga, **Kyoto**
- Tokyo Zokei University **Tokyo**
- Nagoya City University, School of Design and Architecture, **Nagoya**
- **Chiba** University
- **Kobe** Design University, Faculty of Arts & Design

LATVIA (1)

- Art Academy of Latvia, **Riga**

LEBANON (1)

- Lebanese American University, **Beirut**

LITHUANIA (1)

- Vilnius Academy of Fine Arts, **Vilnius**

MAROCCO (1)

- Ecole supérieure de Design, Art'Com Sup **Casablanca**

THE NETHERLANDS (5)

- Design Academy **Eindhoven**
- Royal Academy of Art, **The Hague**
- **Rotterdam** University, Willem de Kooning Academy
- **Utrecht** School of the Arts, Faculty of Visual Art and Design
- Windesheim University of Applied Sciences, **Zwolle**

NEW ZEALAND (4)

- Unitec New Zealand, Department of Design and Visual Arts, **Auckland**
- Victoria University of Wellington, Faculty of Architecture and Design, **Wellington**
- Massey University, **Wellington**
- Otago Institute of Design, **Dunedin**

NORWAY (5)

- Bergen National Academy of the Arts (KHiB), **Bergen**
- Akershus University College, Department of Product Design, **Blaker**
- Oslo National Academy of the Arts (KHiO), Faculty of Design, **Oslo**
- Oslo School of Architecture and Design (aho), **Oslo**
- Oslo University College (HiO), Faculty of Art, Design and Drama, **Oslo**

POLAND (3)

- Jan Matejko Academy of Fine Arts, **Cracow**
- Academy of Fine Arts, Faculty of Industrial Design, **Warsaw**
- Polish-Japanese Institute of Information Technology, **Warsaw**

PORTUGAL (3)

- Instituto de Artes Visuais Design e Marketing (iade), Escola Superior de Design, **Lisbon**
- Escola Superior de Artes e Design (esad), **Senhora da Hora**
- University of **Aveiro**

REPUBLIC OF KOREA (3)

- Kookmin University, Graduate School of Techno Design, **Seoul**
- Hongik University, International Design School of Advanced Studies (idas), **Seoul**
- Seoul National University, Future Culture Design Agency, **Seoul**

RUSSIA (4)

- **Saint Petersburg** State University of Technology and Design, Department of Design
- **Saint Petersburg** State Polytechnical University
- Faculty of Arts, **Saint Petersburg** State University
- Interior Design Chair, **Nizhny Novgorod** State University of Architecture and Civil Engineering (nngasu)

SINGAPORE (1)

- Temasek Polytechnic, Temasek Design School, **Singapore**

SLOVAKIA (1)

- Academy of Fine Arts and Design **Bratislava**

SLOVENIA (2)
- University of **Ljubljana**, Academy of Fine Art and Design
- University of **Ljubljana**, Department of Textiles

SOUTH AFRICA (1)
- Greenside Design Center, College of Design, **Johannesburg**

SPAIN (4)
- Escola Superior de Disseny Elisava, **Barcelona**
- **Mondragon** Goi Eskola Politeknikoa, Mechanical Department and Chair of Industrial Design
- Escola D´Art Superior de Disseny de Castello **Castelló**
- Escola d'Art i Superior de Disseny de **Valencia** (EASD Valencia)

SWEDEN (9)
- University College of **Borås,** Swedish School of Textiles
- Chalmers University of Technology, Dept. of Product and Production Development, **Gothenburg**
- University of **Gothenburg**, Faculty of Fine, Applied and Performing Arts
- University of **Gothenburg**, HDK Steneby, School of Design and Craft
- **Lund** University (LTH), Industrial Design
- Beckmans College of Design, **Stockholm**
- Konstfack **Stockholm**
- **Umeå** University, Umeå Institute of Design
- **Linnaeus** University, Department of Design

SWITZERLAND (6)
- Nordwestschweiz, University of Art and Design (FHNW), **Aarau & Basel**
- **Genève** University of Art and Design (HEAD)
- University of Art and Design **Lausanne** (ECAL)
- **Lucerne** University of Applied Sciences and Arts
- **Zürich** University of the Arts, Department Design & Art Education
- **Bern** University of the Arts Department of Design and Fine Arts

TAIWAN (2)
- National Yunlin University of Science and Technology (YunTech), College of Design, **Yunlin**

- National Chiao Tung University, Institute of Applied Arts, **Hsinchu**

THAILAND (1)
- School of Architecture and Design, King Mongkut's University of Technology Thonburi, **Bangkok**

TURKEY (3)
- **Istanbul** Bilgi University, Visual Communication Design Department
- Anadolu University **Eskisehir**
- **Istanbul** Technical University

USA (7)
- Maryland Institute, College of Art (MICA), **Baltimore**
- Rocky Mountain College of Art and Design, **Denver**
- Art Center College of Design, **Pasadena**
- Parsons The New School for Design, **New York**
- Ringling College of Art and Design, **Sarasota**
- School of Design, **Savannah** College of Art and Design
- Department of Design, The **Ohio** State University, Columbus

CUMULUS ASSOCIATE MEMBERS
1 country & 1 member

BELGIUM (1)
- Design Innovation, **Charleroi**