Cumulus Working Papers

Nantes

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UNIVERSITY OF ART AND
DESIGN HELSINKI

Contents

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Ethics and the global responsibility

Learning to serve humanity

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

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

Democratizing innovation

The Cumulus Nantes Conference on DESIGN, ETHICS AND HUMANISM creates an excellent forum to discuss these highly important issues from different points of view. Professor Jocelyne Le Boef refers in the introductory words back to the Greek ethics notion, which was defined as "a way to conduct ones life well in order to reach happiness". This is very close the Japanese philosophy and the themes of the 2008 Cumulus conference in Kyoto. These questions remain, but globalization has brought large amount of new ethical questions on the agenda.

I have had a privilege to work with a number of visionary people, Fuller, Papanek, Franck, who have all had a strong ethical mission. This is also reflecting to my work in Cumulus. Buckminster Fullers idea of us being passengers on "spaceship earth" and his futuristic work in the World Resources Inventory Centre in 1960's with John McHale highlighted the limits of our resources and need to use them in a sustainable way: use minimum a mount of resources for maximum efficiency. The world famous book of Victor J. Papanek "Design for the Real World" blew the minds of young designers in 1960's. He pointed out that designers should become more interested of the "real problems" of the world, the problems of developing countries, the poor, the elderly and the handicapped. This even more necessary today.

The Finnish world known designers and architects Alvar Aalto, Tapio Wirkkala and Kaj Franck were all humanists. Their work was based on the respect of nature and draw its inspirations from the best traditions and achievements of human culture. Their thinking had similarities to the Greek philosophy. The all wanted to create conditions for a happy life and create a better everyday life for everybody. This is, too, the business philosophy of Ingvar Kamprad, the founder of IKEA.

Design for all, or putting peoples needs first has become important mission of the European Union. It sees that it is both socially necessary and economically beneficial to build an accessible and barrier free society. It increases equality and expands market possibilities. This mission is shared by the Finnish technology giant NOKIA, which sees technology as an enabler of sustainable development. Technology can create access in even in the remotest areas to knowledge and possibilities of learning.

Making peoples needs and ideas the prime source of innovation, means also democratizing innovation as professor Erich von Hippel from MIT points out in his recent book (2005).

The Greek ideals of creating happiness are endangered at the moment through our present way o f living and the exploitation of nature, which Sir Anthony Giddens, worlds leading sociologist, sees as the greatest dangers for the future and sustainable development.

This conference provides an excellent forum to discuss what can we do as designers to help to solve the global problems and how can designers influence on the development through their professional skill. What are the skills and know-how we should provide to our students?

Respecting the global cultural diversity

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

The vision of Cumulus is to become a true global Association and global expert in art and design education, innovation and research. The mission of Cumulus is to support global development by
- sharing the global knowledge
- respecting the global cultural diversity and
- sharing the global responsibility in building sustainable creative societies.

Yrjö Sotamaa Rector, Professor
President of Cumulus

Jocelyne Le Bœuf

Ethics: Design, ethics and humanism

Our introduction to "Design, Ethics and Humanism" does not pretend to address the multitude of questions evoked when dealing with such a vast topic. The red thread of this discourse consists in an attempt of highlighting a few of the key elements of a thought process on ethics, with regards to a profession responsible for building our every-day life environment. The designers at the beginning of the century coined the term of working on anything, ranging "from a small spoon to a city".

What would ethics entail?

If one refers back to the Greek origin of the ethics notion, it was defined as "a way to conduct ones life well in order to reach happiness". The philosophical concepts that have been developed since have been rather diverse and include amongst others hedonistic, pragmatic and utilitarian ethics. All of these depend on ones definition of happiness and the idea one holds about human beings and the world. If one grants to ethics the dimension of a commitment to the "common good", it is highly possible that the different ways of reaching this would spark off long debates on the subject.

What would design ethics and/or ethical design entail? How should this question be approached?

"The design process is the preparation and moulding of all actions while keeping in sight its anticipated and desired outcome", said the designer Victor Papanek[1].

In what way can this "desired and foreseeable outcome" be the object of an ethics that embraces the different fields of application in design, induced by this extremely large definition?

Of what nature will be the link between an ethics defined "as a way to conduct ones life well in order to reach happiness" and the ethical commitment of the professionals?

To which value system do we refer to? Are individual or collective values addressed? In what way do technical objects participate in the elaboration of such a value system?

What should industrial design ethics entail?

During the modern period, different functionalist theories of industrial design, ranging from strictly utilitarian to more idealistic and spiritual versions, have legitimised design by advocating its social aspect. The dominant schools of thought were based on the notions of useful beauty and scientific rationality. Design was a humanistic stance versus a society dominated by machines.

One started to believe in the intrinsic goodness of design in the same way one had believed in the

intrinsic goodness of science before, an endeavour that was to be carried out in an objective, "detached manner". Bad design was therefore simply not viewed as being design at all! The imposture of "bad design" entailed a superficial styling of the product, that only had one aim, namely of seducing the client. The debate since the xix[th] and during one part of the xx[th] century was impregnated by the philosophical definition of beauty as inherited from the antique tradition. The debate shifted then from the concept of beauty linked to goodness to a quest for meaning based on other criteria from research in social sciences. The current discourse in the media often tries to persuade us that it is the design aspect that attributes significance to a product and in a certain way legitimizes it. (Forgetting that significance is a multi-layered property depending on the layer observed and the point of view of the observer.) Most of the time this is all more about communication than design. It becomes a necessity to highlight the perceived value of an object in order to give it a chance on the market. According to the ethics of "good design", this is the exact point where unbearable deceit is taking place.

For several years now, design research has focused its attention on highly relevant new topics such as pollution, the congested cities, the aging of the population in the industrialised countries as well as the paradox of increasing the global economic growth rate, while at the same time preserving the remaining natural resources on this planet. The topics suggested for this conference highlight these concerns.

The ethical debates that characterize our modern era open up to other perspectives. Nonetheless, the illusionary aspect remains relevant. Isn't there somehow, amongst all the elaborate ethical questions a Promethean ruse[2] that uses design as a way of re-assuring us and diverting our attention? In order to achieve what? Let's not ignore the economical dimension of the question. Design is of service to companies, which have to fight for their place in a competitive market. Can the market place become ethical thanks to design? Is there a fundamental contradiction between the economic interest on the one hand

and the pursuit of an ethics code in design on the other hand?

If one agrees on the ultimate outcome, which is to render this world more "habitable"[3] for all of us, the adventure of a design project does not necessitate the "Word" according to demiurges, but multi-disciplinary teams striving towards the solving of the complex set of challenges resulting from this question.

We have decided to rapidly evoke the thought process on design within its historical "dust" before introducing topical questions. We deem important to apprehend the phenomenon of how the value system of our society has been constructed in the past in order to grasp the links between human aspirations and the technical system, with which mankind has transformed our nature and our world of artefacts.

One has to remain modest and ambitious when entering this kind of open dialogue, where the right answers are not necessarily within reach and might in any case only be provisionary. This frame of mind seems to be one of the most prolific of the human thought processes though and therefore humanism.

The conference "Design, Ethics and Humanism" was meant as a large inventory of existing research areas for the fructification of relevant questions: we hope that this goal was partly fulfilled, as documented in these proceedings.

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1 Victor Papanek, Design for a real world (1970), translated in 1974, Mercure de France, Paris.

2 The revue « Informel » (University of Montreal, 1990) published conferences on « Ethics, Techniques and pro-fessional responsability in design », under the title « Prométhée éclairé ». Prometheus is a trangressive hero symbolizing the epic conquest of our technical civilisation and cunning intelligence. He is also a hero guilty dragging humanity into malediction.

3 See article by Ezio Manzini, « Prométhée au quotidien, Écologie de l'artificiel et responsabilité du designer », Informel, 1991.

Ezio Manzini

Design, ethics and sustainability
Guidelines for a transition phase

Act so that the effects of your action are compatible with the permanence of genuine human life

Hans Jonas

Expand the 'capabilities' of people to lead the kind of lives they value – and have reason to value

Amarthya Sen

"Design is a creative activity whose aim is to establish the multi-faceted qualities of objects, processes, services and their systems in whole life-cycles"[1] (ICSID 2005). A creative activity that is also the reflective one of choosing between different possibilities. The openness of the field of possibilities where designers are operating is one of the factors that characterises their actions. When there is no room for choice, because the solution is dictated by strong social conventions[2] and/or technological constraints, there is no design.

Given this degree of freedom, designers have to adopt some criteria for choice and on this basis choose what, in their view, is better to do. That is, given that ethics is defined as dealing with "what is good and bad, right and wrong"[3], they have to make ethical choices.

To discuss design and ethics, as I will do here, we have to consider what the criteria of choice are that, consciously or not, designers have been using until now.

But before considering designers' subjective ethical motivations, let's look at the objective consequences of their actions. In fact, if we assume the notion of "ethics of responsibility", as introduced by Max Weber and more recently reproposed and elaborated by Hans Jonas (Jonas 1979), what has to be considered as ethically relevant are not only the intentions behind a given action but also its implications and results[4].

Assuming this point of view, when we look to the present conditions of our planet and the catastrophic nature of current major trends, we can ask ourselves what the responsibilities of design have been up to now. Unfortunately the answer is only too clear. In the last century, even when designers have been driven by the most positive intentions, consid-

ered as a whole, i.e. as the design community[5], they have been active agents in oiling the wheels of a catastrophic machine or more precisely, active agents of an un-sustainable idea of well-being.

Consequently, the first step to take in our discussion is to better understand what went wrong and why, in spite of our good intentions, the idea of wellbeing that we contributed to promote and diffuse worldwide has had such catastrophic consequences.

Unworkable promises

The idea of wellbeing is a social construct: it takes shape over time according to a variety of factors. As industrial society unfolded, the combined development of science and technology offered a growing number of people a hitherto unknown possibility: of having at their fingertips products that were the materialisation of complex devices, which carried out cheaply service functions that were previously accessible only to the privileged few (from having clothes washed in the laundry, to having music played by a chamber orchestra during dinner). In addition, by making such products available in rising quantities at falling prices, the application of increasingly efficient industrial systems democratised access. It also painted a picture of the future in terms of an indefinite growth and diffusion of well-being or, to be more specific, of the well-being that these products would be able to bring.

The original strength of this idea of wellbeing lay in this promise of *democratisation of access to products* which reduce fatigue, leave more free time and extend the opportunities for individual choice – in short, which increase individual freedom. And, for what interests us here, this promise has also been the main ethical guideline to what designers should do in order to to act "for the good and right", that is: *increase individual freedom and democracy of consumption designing effective, accessible, beautiful products.*

The crisis in this idea, which we can call *product-based wellbeing*, starts when it clearly appears that this promise of individual freedom and democracy of consumption not only has not been kept, but it cannot be kept either now or in the future because product-based wellbeing, extended on a worldwide scale, is proving to be an intrinsically unsustainable idea. More precisely: it is an idea that creates unsustainable expectations for a small, densely populated, highly interconnected Planet in which we wish to respect certain elementary principles of fairness. In

fact, if all the inhabitants of the earth really sought this type of wellbeing in the same way (as is their sacrosanct right, since this is what others do and what is daily promised to them), there would be a huge catastrophe: an ecological one, if they succeeded and a social one if they didn't. Or, most probably, an explosive mixture of the two[6].

At this point, let go back to the design and ethics issue. Conceiving and proposing products, services and lifestyles , designers play an important role and consequently have an equally important responsibility in generating social expectations in terms of wellbeing[7]. Given the evident un-sustainability of the ideas of wellbeing that have been dominant until now, and that design as a whole collaborated to consolidate and diffuse, it is clear that the first ethical move that designers have to make is to find a new and (hopefully) sustainable idea of well being.

Sustainable wellbeing

Today we know that the transition towards a sustainable society will be a wide-ranging, long, and often contradictory social learning process. Its final results and the direction it will take are, by definition, unforeseeable. Nevertheless something is clear: in the near future, we will have to learn to live (and hopefully to live better, in the case of most of the inhabitants of this planet) consuming fewer environmental resources and improving the quality of our living contexts.

Confronted with the dominant idea of wellbeing (and with its strong link between wellbeing and consumption), the prospect of living well (or better) while consuming less clearly calls for a *radical change* in social expectations[8] (and a *systemic discontinuity* in the production system). This is not the place for an exhaustive discussion on how radical changes and systemic discontinuities take place. I will simply state that the groundwork for macro-transformations and for great systemic changes is laid by *micro-transformations* and by *local systemic discontinuities*[9], i.e. through the kind of changes in which design can play an important role. Of course, for designers, to act in this way, to trigger and support these changes is not an obligation. It is a choice, the ethical choice of promoting a sustainable wellbeing that, formulated as a first guideline to design *sustainable solutions* (Charter, Tischner , 2001; Manzini, Vezzoli 2002; Manzini, Jegou, 2003)[10], could be proposed in this way:

▶ Promote a sustainable wellbeing.

To give this very general guideline a concrete possibility of implementation it has to translated into more operative ones. I cannot do so here. However, a some first indications can given introducing three main *set of criteria* for solution sustainability: *consistency with the fundamental principles*, *low energy and material intensity* and *high regenerative potential*.

- *Consistency with the fundamental principles*. This set of criteria refer to the application to the solution design of the *ethical principles* relating to people and society (such as *justice within and between generations* and *international justice*) and to their relationship with nature and the environment (conservation of biodiversity, zero hazardous wastes, etc.). It is also linked to more complex social and economic questions such as the issue of *fair distribution* of wealth and power and to that of individual and collective *involvement*, of *community* empowerment and, in short, of reinforcing *democracy*. (Sachs, 1983, 1999; 2002; Shiva, 1989, 1993; Sen, 1999; 2004)
- *Low material-energy intensity*: this is the most traditional set of criteria for sustainability, and it remains the fundamental one (Shmidt-Bleek, 1993; Fussler, James, 1996: Brezet, Hemel, 1997): whatever solution may be proposed, it must be highly eco-efficient (taking into account the overall life-cycle of the related artefacts).
- *High regenerative potential*: this is the set of criteria for sustainability that comes from the different but converging proposals by innovative thinkers on the concept of regenerative economy (Braungart, McDonough, 1998; Pauli, 1997; Sthael, 1999; Mont, 2002) : whatever solution may be proposed, it must act as a positive agent in the regeneration of context qualities.

Given these directional criteria, I think that it would be useful to discuss the implications of the first part of the proposed guideline, i.e. the assertion that designers should "promote wellbeing": in which way can designers "promote" wellbeing?

Enabling solutions

We have just observed that the current mainstream idea of wellbeing arose with the enthusiastic discovery that artefacts could work for us like modern mechanised slaves. From here, and from the memory of frequent hardship in pre-mechanised daily life, came the idea of *wellbeing as minimisation of person-al involvement:* the idea that when faced with a result to achieve, the best strategy was *always* the one which required the least physical effort, attention and time and consequently the least need for ability and skill.

This way of looking at wellbeing has progressively led to the conception and development of *disabling solutions*: systems of products and services that, seek to reduce user involvement and sequester formerly widespread knowledge and skills to integrate them into technical devices. In so doing they have ended up dramatically reducing the skills, abilities and know-how that traditionally enabled individuals and communities to deal with the most diverse aspects of daily life: to take care of the environment, of others and often themselves.

Now we know that this way of thinking and doing is unsustainable and that we must discuss how to change direction: to change ideas about the user's role and move from passive to active involvement; from the final user as part of the problem, to his/her possibility, capability and will to be part of the solution. In other words, what has to be imagined is a user who is also *co-producer of the results* he/she wants to achieve, able to do so because he/she has (some of) the necessary intellectual and practical resources and, above all, because he/she is best acquainted with the specific problems to be solved (Manzini, Jegou, 2003; Cottam, Leadbeater, 2005; Young Foundation 2006).

To take seriously all that means to conceive and develop systems able to consider and evaluate people's capabilities in terms of sensibility, competence and enterprise: systems that enable people to fulfil their potential, using their own skills and abilities in the best possible way to achieve their desired results.

This approach implies the introduction of two concepts that are, in my view, very important to design culture: the concept of *capability* [11], for what regards the role of users, and the one of *enabling solution* [12], for what regards the relationships between technological systems and achieved wellbeing. Through these concepts we introduce a second ethical guideline, that expands on and gives a deeper insight into the first:

> ▸ Enable people to live as they like,
>   and in a sustainable way.

As we said, this second guidelines is based on a new vision of the user's role. But the change needed is not

only on the user's side. Moving from the idea of "designing to solve problems" to one of "designing to enable people to live as they like "while moving toward sustainability, implies also a change in the designer's role. In short: they should not (try to) impose their ideas of what they think should be done, but they should actively and positively participate in the social processes where these new and promising ideas are emerging. But are these promising ideas really emerging?

Social innovation processes

Observing society as a whole and in all its contra-dictoriness, we can see that alongside numerous, unfortunately extremely worrying, tendencies signals are also emerging that indicate different and far more promising developments.

Looking at society carefully and selectively in this way, what we can see are people and communities who act outside the dominant thought and behaviour pattern and that, when faced with a result to achieve, organise themselves in such a way as to get what they want directly themselves. Groups of people who re-organise the way they live their home (as in the co-housing movement) and their neighbourhood (bringing it to life, creating the conditions for children to go to school on foot; fostering mobility on foot or by bike). Communities that set up new participatory social services for the elderly and for parents (the young and the elderly living together and micro-nurseries set up and managed by enterprising mothers) and that set up new food networks fostering producers of organic items, and the quality and typical characteristics of their products (as in the experience of Slow Food, solidarity purchasing and fair trade groups). The list could continue[13].

What do these *promising cases*[14] tell us? They tell us that, already today, it is possible to do things differently and consider one's own work, one's own time and one's own system of social relationships in a different light. They tell us that the learning process towards environmental and social sustainability is beginning to build up a body of experience and knowledge. They tell us that there is an inversion of tendency from the disabling processes of the past (and sadly still dominant today): the cases we are talking about here are the result of the enterprise and ability of certain people – *creative communities*[15] – who have known how to think in a new way and put different forms of organisation into action.

Of course, these cases may be considered as minority and marginal. But this is a mistaken perception. On the contrary, they are the most promising aspects of great, on-going, social and cultural changes. In fact, they are based on, and motivated by, some profound *supporting trends* such as: demographic changes, the growing evidence of environmental limits, the on-going evolution towards a knowledge-based network society (Beck ,1997; Giddens ,1991, 2000; Castells, 1996; Pine,Gimore, 1999; Rifkin, 2000). In other words, the great changes that the on-going trends are generating are the ground on which a positively oriented *process of social innovation* (Young Foundation, 2006)[16] is emerging and will hopefully grow and generate the sustainable ways of living that we desperately need. However, we must add and underline that today, the possibility for this emerging social innovation process to grow and become a mainstream tendency is only potential, or better, it is an opportunity[17]. And that its realisation will depend on several interwoven factors. One of them is what designers will (be able to) do.

In this framework we can introduce a third ethical guideline, that gives a clearer indication of what the designer's role should be in the transition towards sustainability. It can be formulated in this way:

> ▶ Enhance social innovation, and steer it towards more sustainable ways of living

This guideline has an important implication not only for designers' practice, but also and even more, for the vision that they have of society and of themselves (in society). Moving in this direction, designers have to be able to collaborate with a variety of interlocutors, putting themselves forward as experts, i.e. as *design specialists*[18], but interacting with them in a peer-to-peer mode. More in general, they have to consider themselves part of a complex mesh of new *designing communities*: the emerging, interwoven networks of individual people, enterprises, non-profit organizations, local and global institutions that are using their creativity and entrepreneurship to take some concrete steps towards sustainability[19].

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References

1 This design definition (ICSID 2005) is official in that ICSID is the most authoritative international design organisation.

It is also particularly relevant to current debate in that, unlike previous definitions, it includes within the scope of design not only products, but also processes and services. In addition, by advancing the idea that design considers products together with "their systems in whole life-cycles", it makes significant reference to issues raised by the environmental question. However, although advanced, the definition proposed by ICSID still reflects design history and its traditional, privileged relationship with the manufacturing industry of last century and, more generally, with a heavily product-orientated production culture and idea of well-being. Today, in my view, it would be more appropriate to move away from this product-oriented definition to a more *solution-oriented one* . See for instance the concepts of product-service systems (Charter, Tischner , 2001; Manzini, Vezzoli 2002; Van Halen, Vezzoli., Wimmer, 2005)) and Transformation design, introduced by the Design Council with the RED Paper 02 (Bruns, Cottam, Vanstone, Winhall, 2006).

2 *Socio-technical conventions* are complex mixtures of implicit knowledge, customs and mores. They are a product of the slow co-evolution of technology and society (Hamburger, Thiebaut, 1983). The increasing speed of change generates discontinuity and break-down in conventional wisdom because what must be done, how and by whom, can no longer be taken for granted. It is when these conditions are reached that the demand for design emerges.

3 The *Encyclopaedia Britannica gives the following definition of ethics:* "The discipline concerned with what is morally good and bad, right and wrong"

4 Hans Jonas' studies are particularly important for us. In facts they are focused on social and ethical problems created by technology. Jonas insists that human survival depends on our efforts to care for our planet and its future. He formulated a new and distinctive supreme principle of morality, "Act so that the effects of your action are compatible with the permanence of genuine human life" (Jonas, 1979).

5 *Design community*: professional designers, design-related experts (such as: researchers, teachers, writers and cultural operators) and design-related organisations (such as: design agencies, research centres, schools, magazines, publishing companies, etc) considered as a whole. Sometimes simply referred to as "design".

6 The planet would be unable to support the weight of 6–8 billion people approaching western standards of consumption. Today, 20% of the population is consuming 80% of available resources. If this situation changes and the other 80% succeed in approaching western standards of living, we face the prospect of an ecological disaster. On the contrary, if they do not succeed, the perspective is one of social disaster because a highly interconnected and globalised society can not long bear a situation where 20%, or less, of the population has access to the promised wellbeing, while the remaining 80% is forced to look on with no real chance of taking part. A further catastrophic prospect, halfway between the first two, exists: a world in a state of both environmental and social crisis, where the number of "high impact" consumers increases at the same time as the number of those excluded. As we can all see, this third perspective today seems dramatically to be the most probable.

7 Of course designers have no means of imposing, for good or bad, their point of view on others. But they do have the tools to operate on the quality of things, and their acceptability, and therefore on the attraction of the scenarios of wellbeing they help to generate.

8 In more concrete terms: what is required of everybody is not only a little incremental improvement on what mainstream models of life propose. What is required is a drastic re-orientation of the idea of wellbeing. Ways of being and doing that are considered with indifference or even negatively in the currently dominant model, should be seen as postive: we need to re-discover the pleasure of moving on foot, of eating local fruit, of feeling the cycle of the seasons, of caring for things and places, of chatting with neighbours, of taking an active part in the life of the neighbourhood, of gazing at the sunset, and so on.

9 *Local radical discontinuities*: systemic changes with regard to a given context, in the sense that they challenge traditional ways of doing and introduce a new set of different (and intrinsically more sustainable) ones. Examples of interest here: organising advanced systems of sharing space and equipment in places where individual use normally prevails; recovering the quality of healthy biological foods in areas where it is considered normal to consume other types of produce; developing systems of participative services in localities where these services are usually provided to totally passive users, and so on.

10 In this paper, discussing about what to design, develop and deliver, instead of referring to products, services and communication, we will use the concept of *solution*.

Solution: systems of tangible and intangible elements (such as product, services and communication, but also: infrastructures, legal frameworks and modes of governance and policy making) that, thanks to a specific action strategy, permits to get a given result. A *sustainable solution*, of course, is a solution the result of which, and the strategy to get it, are coherent with the criteria of sustainability.

11 *Capability:* the possibility of a person to achieve a result using his/her own personal resources and the set of solutions he/she has access to. This concept of "capability" is taken from Nussbaum's and Sen's theories. The most interesting aspect of this concept is that it leads us to talk about people's well-being moving our attention away "from goods to what goods enable human beings to achieve" (Nussbaum, Sen 1993).

12 E*nabling solutions:* systems of tangible and intangible elements (such as technologies, infrastructures, legal frameworks and modes of governance and policy making) that enable individuals or communities to use their skills and abilities to best advantage and, at the same time, make a proposed solution more effective, more accessible and therefore more likely to spread. The solution quality can be evaluated by considering its *enabling potential*, its *production efficiency*, and its *reproducibility* (Manzini, Collina, Evans, 2004) and finally, but most importantly, *its quality of interaction* (Cipolla, 2004)

13 These promising cases emerge from research carried out by the Faculty of Design and of the Department INDACO of the Politecnico di Milano, in collaboration with other European Universities and research centres, and with the UNEP (United Nations Environmental Programme). From this collaboration has emerged a catalogue of promising cases and the book: E. Manzini, F.Jegou, Sustainable Everyday . Scenarios of urban life. Edizioni Ambiente, Milano, 2003.

For more cases like these, see for instance the web site http://www.sustainable-everyday.net/EMUDE/.

14 *Promising cases:* examples of initiatives where, in different ways and for different motivations, some people have re-

oriented their behaviour and their expectations in a direction that appears to be coherent with the principles of sustainable development.

15 *Creative community*: groups of people who cooperatively invent, enhance and manage innovative solutions for new ways of living. This concept has been focalised in the framework of the EMUDE research. EMUDE was a Special Support Action promoted in the ambits of the 6th Framework Program (priority 3-NMP) of the European Commission. EMUDE was coordinated by INDACO, Politecnico di Milano and was developed by 10 research centres and universities and 8 European schools of design. EMUDE finished in April 2006, but the same line of research is now continuing in another, recently started, European research project called LOLA-*Looking for likely alternatives* and in another world wide programme, CCSL-*Creative Communities Sustainable Lifestyles*, promoted by the Sustainable Lifestyle Task Force, founded by the Swedish Government and endorsed by the United Nations Environmental Program.

16 According to the Young Foundation: "*Social innovation* refers to new ideas that work in meeting social goals" (Young Foundation, 2006). Another definition could be: "*Social innovation* refers to changes in the way individuals or communities act to obtain results (i.e. to solve a problem or to generate new opportunities). These innovations are driven by behavioural changes (more than by technology or market changes), which typically emerge from bottom-up processes (more than from top-down ones). If the way to achieve a result is totally new (or if it is the result that is totally new), we may refer to it as a *radical social innovation* (EMUDE, 2006).

17 As a matter of fact, the same trends are also generating different, and very dangerous cases of social innovation: from gated communities to new fundamentalism, just to mention two. This means that nobody today can say what will be the result of the confrontation and composition of these different directions. What will really happen and how, at the end, the whole system is going to evolve is as yet unwritten.

18 Social actors endowed with specific *design knowledge* and specific *design skills*: the knowledge that enables them to understand the full, macro-picture of how things have changed (and are changing), and the micro one, of local context characteristics and on-going dynamics; the design skills that are required to promote and enhance co-design processes in the new contexts and facing the new challenges.

They are *design specialists* in that they use design tools to facilitate the convergence of different actors towards shared ideas and potential solutions: proposing solutions and/or scenarios; formulating effectively whatever emerges from the collective design group discussions; developing the ideas on which partner convergence has been verified.

19 The notion of *designing communities* emerged in the final consideration of the EMUDE research results (EMUDE 2006). The theatrical and practical background was also given by other important lines of research, such as the ones developed by Pierre Lévy, on *collective Intelligence* (Lévi, 1994), or by Hilary Cottam and Charles Leadbeater of *open services* in the framework of the wider phenomenon of the *open source movement* (Cottam, Leadbeater, 2004).

Bibiliography

Beck U. (1997). *Was ist Globalisierung? Irrtumer des Globalisierung – Antworten auf Globalisierung* (trad. it. 1999. *Che cos'è la globalizzazione. Rischi e prospettive della società planetaria.* Roma: Carocci).

Brezet, H.; Hemel, C. van, (1998) *Ecodesign. A promising approach to sustainable production and consumption*, UNEP, Paris.

Braungart, M., McDonough, A. (1998*) The Next Industrial Revolution*, Atlantic Monthly, October 1998

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

Castells M. (1996). *The Rise of the Network Society. The Information Age: Economy, Society and Culture*, vol. 1. Oxford: Blackwell (trad. it. 2002. *La nascita della società in rete.* Milano: EGEA).

Charter M. and Tischner U. , edited by (2001), *Sustainable Solutions – Developing products and services for the future*, Greenleaf publishing, UK, 2001.

Cipolla, C. (2004), *Tourist or Guest - Designing Tourism Experiences or Hospitality Relations?*, In Willis, Anne-Marie (Ed.), *Design Philosophy Papers: Collection Two*, Team D/E/S Publications, Ravensbourne, Australia.

Cottam, H., Leadbeater, C., 2004. *Health. Co-creating Services.* Design Council – RED unit, London, UK.

EMUDE, Emerging User Demands for Sustainable Solutions, 6th Framework Programme (priority 3-NMP), European Community, internal document, 2004

Evans, P., (2002) *Collective Capabilities, Culture, and Amartya Sen's Development as Freedom'*,

In *Studies in Comparative International Development* 37.

Fussler, C. and James, P. (1996) *Driving Eco Innovation: A Breakthrough Discipline for Innovation and Sustainability*, Pitman Publishing, London, UK.

Giddens A. (1991). *The Consequences of Modernity.* Cambridge: Polity Press (trad. it. 1994. *Le conseguenze della modernità.* Bologna: Il Mulino).

Giddens A. (2000). *Runaway World. How Globalization is Reshaping Our Lives.* Londra: Profile Books (trad. it. 2000. *Il mondo che cambia. Come la globalizzazione ridisegna la nostra vita.* Bologna: Il Mulino).

Hamburger, B., Thiebaut, A. (1983) *Ornament, architecture at industrie,* Pierre Mardaga, Brusseles-Liège

ICSID (2005) http://www.icsid.org

Jégou, F., Joore, P. (edited by), *Food Delivery Solutions. Cases of solution oriented partnership*, Cranfield University, UK, 2004

Lévy P. (1994). *L'Intelligence Collective: pour une anthropologie du cyberspace.* Parigi: La Découverte (trad. it. 1996. *L'intelligenza collettiva. Per un'antropologia del cyberspazio.* Milano: Feltrinelli).

Jonas, H., *The Imperative of Responsibility: In Search of Ethics for the Technological Age* (1979) ISBN 0226405974

Manzini E., Vezzoli C. (2002) *Product-service Systems and Sustainability. Opportunities for Sustainable Solutions*, UNEP Publisher, Paris, 2002

Manzini, E., Collina, L., Evans, E. (edited by) *Solution oriented partnership, How to design industrialized,* Cranfield University , 2004

Manzini, E., Jegou, F., *Sustainable everyday. Scenarios of Urban Life,* Edizioni Ambiente, Milano, 2003

Manzini E., Vezzoli C. *Product-service Systems and Sustainability. Opportunities for Sustainable Solutions*, UNEP Publisher, Paris, 2002

Mont, O. (2002) *Functional thinking. The role of functional sales and product service systems for a functional based*

society, research report for the Swedish EPA, IIIEE Lund
University, Lund, 2002

Nussbaum, M., Sen, A. (1993) *The Quality of Life,* Oxford
University Press, Oxford.

Pauli, G. (1997) *Breakthroughs – What Business Can Offer
Society* (trad.it. *Svolte eopcali*, Baldini&Castoldi, Milano,
1997).

Pine, J.b.,Gimore, J.B. (1999) *The Experience Economy. Work
is Theatre and Every Business a Stage,* Harward Business
School Press. Boston, Massachussetts

Rifkin, J. (2000) *The Age of Access,* Punam, New York

Sachs W. (1993). *Global Ecology. A New Arena for the Political
Conflict.* Londra: Zed Books.

Sachs W. (1999). *Planet Dialectics. Explorations in Environment
and Development.* Londra-New York: Zed Books

Sachs W. (ed.) (2002). *The Jo'burg-Memo. Fairness in a fragile
world. Memorandum for the World Summit on Sustainable
Development*. Berlino: Heinrich Böll Foundation

Shiva V. (1989). *Staying Alive: Women, Ecology and Develop-
ment.* Londra: Zed Books

Shiva V. (1993). *Monocultures of the Mind: Perspectives on
Biodiversity and Biotechnology.* Londra: Zed Books

Sen, A. (1999) *Development as Freedom*, Italian edition:
Lo sviluppo è libertà, Mondadori, MIlano

Sen, A. (2004*), Why We Should Preserve the Spotted Owl*. In
London Review of Books, Vol. 26 No. 3 dated 5 February

Schmidt-Bleek, F. (1993) *MIPS Re-visited*, Fresenius Environ-
mental Bulletin, vol.2, n°8, Birkhauser Werlag, Basel,
August 1993

Stahel, W. (1999) *From Products to Services or Selling Perfor-
mance instead of Goods*, Ecodesign '99: 1st International
Symposium on Environmentally Conscious Design &
Inverse Manufacture, IEEE Computer Society, Japan.

Van Halen C., Vezzoli C., Wimmer R. edited by, (2005) , *Method-
ology for Product Service System. How to develop clean,
clever and competitive strategies in companies*, Van Gorcum,
Assen, The Nederlands.

Young Foundation (2006*), Social Silicon Valleys. A Manifesto for
Social Innovation*, 2006, http://www.discoversocialinnova-
tion.org

Mariana Amatullo and Mark Breitenberg
Designmatters at
Art Center College of Design:

Design advocacy and global engagement

Abstract

The growing awareness that design must play an essential role in meeting a wide range of societal needs is epitomized within the core precepts of **Designmatters** at Art Center College of Design, a bold institutional initiative that weaves aesthetic value and business acumen with a broad social and humanitarian agenda for positive change. Since its launch in 2001, **Designmatters** has become a compelling case study for how an educational institution can connect academic practices to design-based explorations of real-world issues and in so doing, transform the ambitions and assumptions of the College's curriculum and the community at large. A series of strategic alliances with local and international non-profit organizations, government agencies — and, in particular, a creative partnership with the United Nations — has yielded a remarkable portfolio of **Designmatters** projects driven by ethics, empathy, and a commitment to improving our quality of life. At the same time, the initiative is also anchored in the pragmatic realities of today's marketplace, which, in recent years, has begun to realize bottom line advantages in practicing social and environmental responsibility. With this critical shift toward ethical design gaining momentum, **Designmatters** demonstrates how educational design institutions have the unique opportunity to become vital laboratories for best practices and social engagement.

This paper focuses on the research strategies and methodologies inherent to the **Designmatters** model of educational engagement and presents a series of multi-disciplinary collaborative projects. The conclusion points to the importance for designers to create a community of shared responsibility where we all can, and must, engage to advance living standards worldwide.

Keywords

Design advocacy; social and global engagement; real-world projects; empathy; ethics; shared responsibility; community impact.

Introduction

Art Center's brand in the marketplace of art and design education has been largely defined by its professionalism and high level of skill-based fabrication. Through a variety of "pre-professional" experiences such as corporate-sponsored projects, our curriculum drives students toward a finishing portfolio that ensures employment upon graduation. At the same time, the aesthetic quality of our students' work is very sophisticated, leading detractors to label us as little more than a "skin school" that turns out "surface junkies." Although this reputation is as much caricature as reality, it does explain the surprise we were often greeted with when **Designmatters** at Art Center was first embraced by the college as a critically important initiative. At a design school where studios, scholarships and endowed chairs are funded and named by many of the world's largest corporations, what did it mean to promote designers' engagement with ethical and humanitarian issues and to advocate the social responsibility of design?

Now almost five years later, the quality and impact of **Designmatters**-sponsored work has largely dispelled initial doubts about Art Center's new direction. And we have also realized that our historical brand is not at odds with **Designmatters'** model of social engagement. Every year we see more and more companies embracing humanitarian and ethical issues, if not for the bottom line then at least to project a more conscientious image: the quality of life is now as marketable as the quantity of things. As we have seen in our awareness campaigns for the United Nations and many international NGO's, the aesthetics of design is just as important in the realm of political advocacy: the medium may not

be the message, but it certainly delivers it in a more powerful and persuasive way. We can now argue that Art Center has significantly enriched rather than changed its brand through **Designmatters**, which reflects significant new developments in the design professions as well as in the ways political advocacy will be practiced in the future. With this brief institutional history as background, we propose to focus on the distinct partnerships, research strategies, studio models and pedagogical practices that drive the **Designmatters** model of educational engagement.

Design Innovation through Strategic Partnership

Since its launch in 2001 by the International Initiatives department at Art Center, **Designmatters** has established a significant track record in the strategic integration of real-world projects into the curriculum of the College. In every academic term at 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. In particular, the outcomes and wide visibility of many of the **Designmatters'** projects to date derive from the strength of the educational partnerships that the initiative has brokered with local non-profits as well as with national and international agencies. These partnerships focus on four pillars of investigation: universal education and visual literacy, environmental aspects of sustainable development, reduction of violence, and medicine/healthcare as they relate to all Art Center core design disciplines.

Among the key alliances forged by **Designmatters**, the creative partnership with the United Nations and its family of agencies has been the most productive. At the inception of the **Designmatters** program, we approached the United Nations with the conviction that design innovation is inseparable from social engagement and public service, and that designers have the unique ability to offer fresh perspectives and solutions to intractable problems for transformative community impact and public diplomacy. The intention was also to build an effective mechanism for international exposure and access to varied project opportunities and global challenges. In retrospect, the decision proved to be the right pedagogical choice and a highly effective tactic — Art Center remains the sole design institution in the US to hold non-governmental organization (NGO)

status with the United Nations Department of Public Information. This affiliation represents a critical platform for our creative community to engage in a vast array of work that seeks to improve people's lives around the world.

We should also underscore another critical aspect of the collaborative framework: the ongoing work with the UN and other "unlike" design partners advances our "transdisciplinary" educational inquiry, allowing for the integration of fields of knowledge outside our expertise. This allows us to develop research-driven, multifaceted briefs on a wide range of topics, such as discrimination, violence, sustainability, health and visual literacy. The experience of working outside of designers' traditional areas has been profoundly transformative for our students and faculty. In order to meet the objectives of each project, students are required to do extensive research in issues involving areas such as global politics, public diplomacy and health, effectively creating a classroom without walls. In this process, the designer's toolbox is deeply enriched by the range of issues and problems that must be engaged and the empathy necessary to appreciate to the urgent quality-of-life issues that the projects often address. In this sense, as Art Center's Senior Vice-President of International Initiatives and co-founder of **Designmatters**, Erica Clark, points out "these unique partnerships have been crucial in furthering the primary goals of the initiative: to foster a new sense of global awareness and engagement throughout the College, and to bolster young designers' leadership in addressing the key issues of our time."[1] The mark of an educated designer today is clearly linked to the fluency that comes with international exposure and social engagement.

At the sixty-year mark of the founding of the United Nations, an agenda of reform to make the organization truly relevant to the circumstances of the 21st century has further championed the role of civil society and the private sector as vital players in the plight of human development. Today more than ever at the UN, there is a recognition of the major role public-private partnerships can play at the operation and policy levels as well as in addressing complex issues that no single government or sector can successfully resolve.[2] Secretary General Kofi Annan's broad vision for a revitalized United Nations asserts that it "must be reshaped in ways not previously imagined, and with a boldness and speed not previously shown."[3] At the center of this vision is the global partnership for development represented

by the implementation of the Millennium Development Goals, also known as the MDGs, or a blueprint for building a better world by 2015. These eight markers for development — cutting extreme poverty in half, putting all children into primary school, and stemming the spread of infectious diseases such as HIV/AIDS, among others — have become widely accepted benchmarks for progress that can be met if all involved "break with business as usual," and dramatically accelerate high-impact initiatives.[4] In order to achieve measurable outcomes, effective advocacy and potent visual campaigns are important to increase the global awareness of the MDGs. **Designmatters'** ongoing partnership with the US headquarters for the UN Millennium Campaign Project,[5] has taken the MDGs' framework as a launching point for engaging Film, Advertising, Photography and Imaging, and Graphic Design students to design and produce campaigns that have brought young designers' voices into the midst of the public dialogue and reached out to young people around the world. A terrific example is the cheerful, almost child-like design of the animated sixty-second public service announcement "What If?," which streamlines the complex issues of the MDGs into a message that resonates with great immediacy. In 2004, the Millennium Campaign Project fully embraced the spot and commissioned an accompanying newspaper print brochure that has been widely distributed across American college campuses to get youth involved in the MDGs. In the summer of 2005, the Photography and Imaging Department at Art Center took a different approach to mobilize public opinion and raise awareness: over the course of two consecutive terms, students explored Los Angeles as a case study for the MDGs, connecting the far-reaching goals for global development to everyday issues in their own backyard. The collaboration resulted in a series of photography projects for a select number of social-service community agencies as well for the local chapters of national non-profit agencies such as Planned Parenthood, which advocates for women's reproductive rights, and Headstart — an early-childhood education program devoted to under-privileged families. The partnering agencies are now utilizing these images for public awareness and fund-raising activities. The development of these photography documentary projects, bridging both local and international audiences, has represented a particularly dynamic undertaking within the portfolio of **Designmatters** projects. In addition to the opportunity for

civic partnership within arts education, the work was presented at an Art Center led workshop during the 58th DPI/NGO Annual Conference at the UN's Department of Public Information (through **Designmatters**, and on a recurring basis since 2002, Art Center also contributes the branding and design for all printed materials and the interactive website of the conference). The documentary photography exemplifies the influence and impact local images can have on important international initiatives. On multiple levels the photography project also illustrates the "connectivity" of the **Designmatters** initiative overall, both as an internal connector within Art Center – a vibrant "horizontal" that builds from the strengths of our traditional "vertical" disciplines – and as a synergetic mechanism through which the College creates dynamic cross-institutional collaborations.

A Design Curriculum for Relevance and Empathy

The principal traits of **Designmatters** at its core also reflect the essence of design education at Art Center today: a commitment to research; high aesthetic standards; internationalism; the cross-pollination of disciplines, which includes bringing complementary expertise to bear on design-related practices; and pragmatism, the idea that projects must yield highly applicable deliverables that can be widely disseminated.

As was pointed out previously, **Designmatters'** projects by definition require the combined engagement of different design disciplines within the Art Center curriculum because the problems they identify are multifaceted and demand complex solutions. From a pedagogical standpoint, the projects we undertake call for an in-depth intellectual inquiry that is guided by the design-tailored Liberal Arts and Sciences curriculum at Art Center, which provides the foundational competence indispensable for the designers to begin addressing issues of humanism and ethics that arise in the studio as part of the focused research of the briefs presented. Additionally, most projects include experts from other schools and organizations who bring deep training and experience to the research phase. For example, a commission from the Pan American Health Organization for a campaign to counter-act trends of alcohol consumption among youth enlisted the expertise of a team of visiting scholars from the UCLA-Integrated Substance Abuse Programs; while a Film-led project addressing issues of domestic violence in the Americas for the United Nations Fund for Women brought the

expertise of Dr. Amy Shimshon-Santo from the UCLA School of World Arts and Cultures.

In fact the issue of violence is one that we continuously address through a diverse number of partnerships and the engagement of many disciplines at the College. In particular, violence against women exemplifies a topic of tremendous complexity, one that can often be tied to cultural practices within the family structure and ideologies that tolerate discrimination. To date, **Designmatters** has facilitated a number of public education campaigns for agencies such as the United Nations Fund for Women (UNIFEM), the United Nations Population Fund (UNFPA), the Pan American Health Organization (PAHO), and the International Office of Migration (IOM) to combat cycles that can perpetuate violence and impair the fundamental human rights of women. A widely disseminated outcome of one of the collaborations was the public service announcement, "Open," developed by an interdisciplinary team of Advertising and Film students in response to the challenge posed by UNFPA to commemorate visually the "Beijing at 10 Review" of 2005, which examined our global commitment to put gender equality at the top of the peace and development agendas.[6]

The cycle of violence and its repercussions is also the subject of an upcoming two-term project led by **Designmatters** in collaboration with the Photography and Imaging and Film Departments, the Nicaraguan-based NGO Center for Violence Prevention (CEPREV), and UNICEF. It is worth articulating briefly the methodology by which we are structuring this project, which will produce audio-visual materials and printed work as part of a global campaign that aims to educate communities in Latin America and the US about the inter-related links between gender discrimination, child abuse, and the systemic roots of violence in society. This multi-layered partnership structure is typical of the **Designmatters** model of educational engagement. It provides Art Center with the opportunity to develop an educational project with a "client-NGO" (CEPREV) that will be the recipient of the campaign developed as part of the educational process. The NGO will also be actively engaged during the research and conceptual stages of the project as a fundamental resource of expertise in the studio. As in all **Designmatters'** projects, careful attention is given to the constraints of the real-world demands of the briefs; thus, representatives from the partner-organization are invited at key junctures of the project to brief the students

and provide first-hand expertise about the challenges to be addressed. The UN agency, UNICEF in this case, will also endorse and facilitate wide dissemination of the finished campaign through its international networks. Finally, in the research and preliminary concept phase of the project, the Liberal Arts and Sciences Department at Art Center will engage outside expertise, in addition to the Photography and Imaging and Film faculty, to support the project. Social scientists and experts in conflict resolution will be on call to work with the studio faculty and students. For the production phase of the campaign, an innovative study abroad module is being planned in Nicaragua, which will allow a select team of students to work locally to document the work of CEPREV for the campaign. This module will follow a full term of research and design exploration with experts at Art Center. In articulating why the project represents a unique educational opportunity for our students, Dennis Keeley, Chair of the Photography and Imaging Department, identifies three chief factors: the ability to study first-hand the strategies that CEPREV utilizes in building their innovative program for non-violent resolutions to conflict; to learn about plans of action for the support of families in crisis, and to participate in the implementation of campaigns that establish and promote community awareness and action.[7] In projecting the trajectory of growth his students will experience, Keeley does not refer to gains in core design competence – these are a given – but rather, he points to the "intangibles," life-lessons in empathy, creative leadership and humanistic values that we consider at the root of the enrichment to our curriculum the **Designmatters** initiative provides.

Ethics at Work: Design Leadership and Leadership by Design

At a time when the responsible design agenda is growing, there is an increasingly wider recognition for the idea that designers are uniquely equipped to drive innovation and undertake social challenges as "alchemists of the future," a phrase coined by Art Center President Richard Koshalek.[8] As a leading design institution in the 21st century, we see our educational mandate at Art Center inexorably linked to the responsibility of charting new territory for our graduates to be design leaders and to lead by design.[9]

The breadth and scope of the projects facilitated and endorsed by **Designmatters'** often provide us with opportunities to push our students towards exercising roles of "citizen designers," and to contem-

plate their options as true agents of change for the future. They have included projects as an independent study project by a Film, Transportation and Product design team of students responding to the devastation in the wake of Hurricane Katrina; a graphic designer discovering a new found-talent in social activism through the design of un posters; or a digital media designer dedicated to social marketing and public diplomacy, encouraged by a student experience in attending the annual gathering of ngos at the un. All of these examples of design citizenship inspired by the **Designmatters** initiative have opened up new personal and professional horizons for our students.

The following is a testimonial about this form of engaged citizenship that can be introduced through the exploration and cross-disciplinary inquiry advocated by the **Designmatters** model. It is a statement that resonates more deeply for us as it comes from Dr. Bowen Chung, a non-designer, a social scientist from the University of California, Los Angeles, who participated in the final review of a series of public education health campaigns commissioned by the Los Angeles County Mental Health Commission and the Department of Mental Health to deter stigma associated with mental illness. The project was aimed at young children – pre-school through second grade – where research shows prejudice is yet not ingrained. A team of Advertising students from the Agency at Art Center, the College's advertising think-tank took on the challenge in the fall of 2006. The results were described as follows: "the interdisciplinary approach that is being taken (designers, community representatives, public agency, scientists) – can go a long way to making the types of information we provide to the economically and ethnically diverse populations of Los Angeles – meaningful, understandable, and useful. If done well, health education and public health campaign materials can be effective at improving the quality and length of people's lives, especially if it points towards evidence based approaches to improving health, well-being, and resiliency."[10]

Conclusion

In October of 2005, MacKay Wolff, a writer, long-time humanitarian, and former unicef program designer, delivered a poignant lecture on the occasion of the **Designmatters'** multimedia exhibition "action: Art Center and the United Nations,"[11] by underscoring a seemingly improbable synergy between the mandate of the College and the venerable world organization: "the un is founded on the primacy of communication and of self-expression in the belief that communication leads inexorably to a higher good. Art Center is dedicated to that same ideal, even if its manifestations are somewhat different. It would not be an exaggeration to say that communication is the *raison d'être* of these two universes."[12]

Wolff's declaration brings full circle the underlying philosophy behind Art Center's embrace of **Designmatters** where designers are inspired to take on a broader range and responsibility for what happens in the larger world. If we are to imagine a better tomorrow, such an agenda simply makes common sense.

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Notes

1 Erica Clark, in unpublished White Paper, International Initiatives, Art Center College of Design, January 2006.
2 United Nations Secretary Kofi Annan articulates some of the key proposals for reform in the report "In Larger Freedom: Towards Development, Security, Human Rights for All," March 2005. For the full report see: http://www.un.org/largerfreedom.
3 Kofi Annan cited in Ibid.
4 See: http://www.un.org/millenniumgoals
5 See: http://www.unmillenniumproject.org
6 For further information, see http://www.unfpa.org and The World Reaffirms Cairo: Official Outcomes of the icpd at Ten Review, unfpa, 2005.
7 Dennis Keeley, in unpublished project proposal to authors, Art Center College of Design, March 2006.
8 Richard Koshalek, in unpublished State of the College address, June 2005. For a recent overview of trends in Responsible Design Ethics and Business, see "Responsible Design: An Ethics-Focused Vision of Boundaries and Design Management," Design Management Review, Summer 2005.
9 The term "leadership by design" is one often used by Richard N. Swett, one of the few ambassador-architects in the history of the u.s. For his comprehensive account of architecture's broad contributions to society see his Leadership by Design: Creating an Architecture of Trust, faia, 2005.
10 Dr. Bowen Chung, m.d., m.s.h.s., ucla Health Services Research Center in correspondence with authors, March 2006.
11 For further information, see exhibition catalogue: action: Art Center and the United Nations, Art Center College of Design, Pasadena, Fall 2005; and http://www.artcenter.edu/designmatters/ACTION
12 MacKay Wolff, 2005 Toyota Lecture Series, Art Center College of Design. Cited in "q&a: Humanitarian Design, Victor Margolin," dot Magazine, Issue 13, p.6, January 2006, Art Center College of Design.

Ursula Tischner

Sustainable and humanitarian design education

Abstract

In September 2002 the Design Academy Eindhoven started a Lectorate on Sustainable Design and the Master Program Man & Humanity.

Activities in the framework of Sustainable Design Education at the Design Academy are for instance:

- Green Lady lectures: General Sustainability Lectures
- Sustainable Design Consultation
- Ecodesign Course for students of the first year
- Sustainable Design Assignments for the eight departments of the Design Academy
- Humanitarian Design Projects in so called Developing Countries
- Ecodesign Workweek/ Sustainable Design Week

This paper summarizes, how these two Sustainable Design Programs are organised and discuss, why so little is done in Sustainable Design Education generally, and how this can be improved. Some special considerations will be given to the situation of so called developing and emerging countries.

The paper is based on Sustainable Design Teaching experience of the author in several different countries and educational institutions and introduces possible content of Sustainable Design teaching programs, tools, examples of student projects as well as drivers and obstacles for setting up such programs.

Keywords

Sustainable Design, Humanitarian Design, Educational Programs, Drivers, Obstacles, Methodology and Tools

1 – Introduction: Sustainable Development

In 1992 at the World Summit in Rio de Janeiro over 170 countries of the world signed the paradigm of "Sustainable Development". By signing the so called "Rio Declaration" they agreed to develop in a sustainable way, which means to strive for the best possible combination of environmental, socio-cultural and economic goals in their development. The so called triple bottom line of people (socio-cultural), planet (environmental) and profit (economic) has to be aimed at and met by the creation of products, services, infrastructures, institutions/ organisations, i.e. changes of the society as a whole.

Every member of the society has to take part in this development: consumers and producers, government and media etc. Especially designers who create solutions, visions of a possible future, communication/ advertisement, exhibitions and education could play an important role in this development. However, today it still seems that a lot of design professionals are completely ignorant when it comes to the challenge of Sustainable Development and Sustainable Design. Especially when the social dimension of Sustainable Development is in the focus of design, we refer to design activities as "Social or Humanitarian Design". When focussing design on the environmental dimension of Sustainable Development, this is often referred to as "Eco-Design", "Green Design" or "Design for Environment (DfE)" (cf. Tischner et al 2000). The economic dimension traditionally is taken care of by most of the "normal" design activities anyway.

Today there is still a huge lack of Sustainable Design issues in existing educational programs for designers and there are only few educational programs focussing on Sustainable Design.

This is why the Design Academy Eindhoven in the year 2002 started two educational programs related to Sustainable Design and Humanitarian Design. The following chapters summarize the experiences of these programs and discuss obstacles and drivers, problems and benefits as well as methods and tools of Sustainable and Humanitarian Design Education.

2 – Why Sustainable and Humanitarian Design?

The goal of Sustainable Development was formulated in 1987 because of a lot of social and environmental problems related to globalisation and the development of the world's economy became more and more challenging (United Nations Division for Sustainable Development, 2001). E.g. there is still a big imbalance between the so called industrialised and developing countries. 20% of the world's population, i.e. the people in industrialised countries are responsible for 80% of the consumption of natural resources worldwide. The other 80% of the world's inhabitants, i.e. people in so called developing countries only consume 20% of natural resources. This is why we have to decouple improvement of living standards and economic growth from material and energy consumption especially in industrialised countries, so that developing countries get more leeway for their development without compromising the earth's carrying capacity.

So how much more efficiency do we need? How much more material and energy consumption, CO_2 emissions and pollution can we ask the planet to carry?

Here scientists are still discussing. Somewhere in between the Factor 4 (Ernst Ulrich von Weizsäcker), Factor 10 (Friedrich Schmidt Bleek), and Factor 20 (The Dutch STD Program) lies the necessary improvement in resource efficiency within the next 50 years.

There seems to be a mistake in our economic system: Nowadays the consumer needs are the scarce resource in our industrialised economies. Companies only fight for market shares and crowding out each other. Thus numerous goods, that actually no one needs, are designed and produced for saturated markets, and pushed into the point of sale with huge marketing budgets. Finally a lot of these new products are disposed of directly from the shop into the waste bin, without even being bought and used once. This is not only environmentally but also economically highly inefficient. Unfortunately a lot of Designers nowadays are part of this mechanism. From a sustainability point of view this practice is highly problematic.

And even if we manage to design and implement eco-efficient solutions, very often this is not sufficient to reduce the overall consumption of resources because there might be so called rebound effects, i.e. the consumers use the very efficient products in an inefficient way, or use more of them because usage is cheaper etc., e.g. using a highly fuel efficient small car as the third car in the household for shopping trips. Another problem is the overcompensation of the improved efficiency by the growth of the relevant industry sector.

2.1 Designers as facilitators between production and consumption

Thus the role of design in a global society, that faces more and more socio-economic and environmental problems, must be different from what designers used to do in the last 100 years:

To really move towards more Sustainable Solutions and Sustainable Design, we need to focus not only on the side of efficiency of production and products, but also on the side of sufficiency of consumption.

Figure 1: People, Planet, Profit Dimension of Sustainable Development

Profit
Economy
• stable economic development
• growth of welfare
• employment
• affordable goods
• balance between countries

Sustainable Development

Planet | **People**
Ecology | **Social-ethical aspects**
• respecting the carrying capacity of nature | Equal distribution of opportunities
• sustainable use of renewables | • between people, men and women
• minimal use of non renewables | • between poorer and richer countries
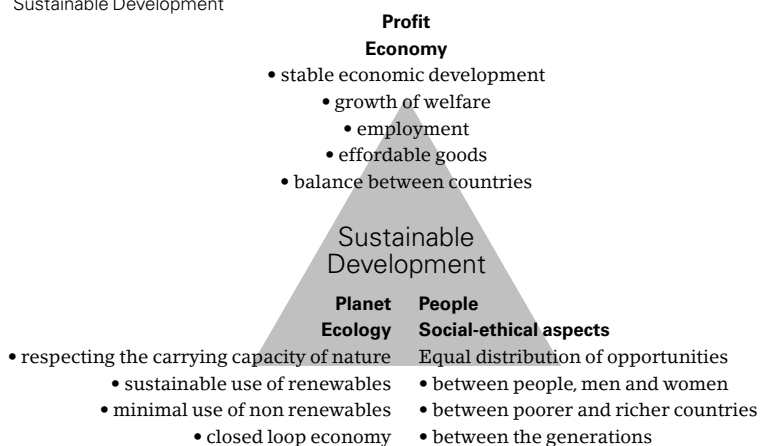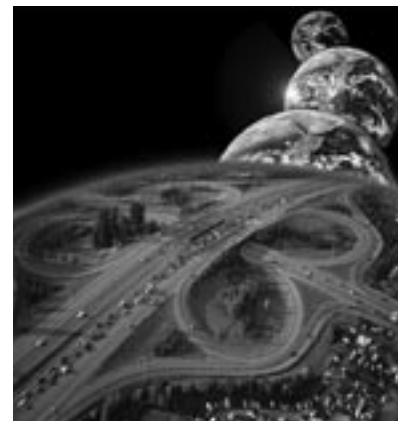• closed loop economy | • between the generations

Figure 2: If everybody wanted to live like people in industrialised countries we would need four planets

Design must facilitate between production and consumption in a way that leads to real problem solving and radical changes towards more Sustainability of production and consumption systems. Designers must create new systems of (co-) production and (co-) design that fulfil needs and solve real problems with the maximum benefits for consumers, producers and the natural environment alike.

Today without any sustainability considerations a lot of (western) companies start conquering the mass markets of so called developing countries such as India and China because of the billions of potential customers of the future. Despite of the fact that so called developing or emerging countries cannot simply adopt the industrialised country's life styles without catastrophic consequences for the natural and social environment this kind of "globalisation" or "new colonialism" takes place and national governments hardly can control the developments.

> *Thus intelligent and sustainable solutions are needed urgently that fulfil the needs of the people especially the world's poor, that create equal opportunities for socio-cultural and economic development especially in less-industrialised countries, and that enable people to live under an acceptable quality of life standard without compromising the carrying capacity of our planet.*

New concepts such as Product Service Systems – PSS (cf. www.suspronet.org, www.mepss.nl) were created as attempts to take both, offer and demand, producer and consumer/customer in the focus of design and aim at creating optimised and new systems that are much more efficient and sustainable than the current ones.

The fundamental idea of PSS concepts is to start with the need, the problem and search for the most efficient and attractive combination of products and services, so that the complete production-consumption system related to the specific problem is improved, rebound effects are avoided, and more valuable and individual solutions for the customers can be offered.

These PSS concepts ask for participative design and planning processes that integrate companies and customers/ consumers as well as other stakeholders, like upstream and downstream suppliers and end of life actors, retail, government and media etc. in the search for and implementation of sustainable solutions.

The PSS concept is also highly interesting from a design point of view, because as production leaves the industrialised countries towards low labour cost countries, designing the system-user interaction in local Product-Service-Systems can be a very challenging and rewarding activity for designers in industrialised countries.

> *Thus real radical, innovative, more effective solutions can be created that are able to reach the Factor X efficiency improvements. One company alone hardly can create these kinds of radical solutions* (cf. Tukker/Tischner (Eds.), 2006 in prep.).

3 – Sustainable Design: Approach and Methodologies

So what is it that Designers and other creative professions can contribute to Sustainable Development?

Instead of continuously trying to improve and re-style products for saturated markets and the societies of abundance, more and more designers start tackling the real problems and searching for feasible ways to contribute to real solutions. There are design projects for "the Base Of the Pyramid" (BOP) that aim at creating more quality of life and economic opportunities especially in so called developing countries. There are educational programs on Humanitarian and Sustainable Design (cf. www.designacademy.nl, Master Man&Humanity). There are a lot of creative initiatives directed at groups in society that suffer under man made or natural disasters, there are more and more designer networks that aim at creating eco-efficient and sustainable solutions and experience exchange (cf. www.o2.org, www.ecodesign.at).

However, this quest for design becoming part of the solution instead of creating (global) environmental and social problems is far away from being a mass movement, and a lot of activities are still relatively idealistic and lack a bit of professionalism. Still some tools and methodologies are missing, among which are especially the following:

- Evaluation tools and methods to include the socio-cultural dimension of Sustainability in design activities and go beyond Eco-design and Eco-efficiency
- Tools and methods to leapfrog to drastically improved more sustainable innovation and go beyond incremental improvements
- Tools and methods to do sustainability oriented market research
- Tools and methods to involve customers/ consumers and other stakeholders more direct in the de-

sign activities, i.e. participatory design processes
- Tools and methods to create innovations through-
out the complete value chain, i.e. upstream to-
wards the suppliers and downstream to end-of-
life actors.

The sustainable design research community
works to close these gaps and fill in the blanks. One
example for such a research project is a German
project on sustainable system innovations "The
Sustainable Office" (see www.econcept.org and
www.nachhaltigesbuero.de) carried out by econcept,
Agency for Sustainable Design and Institute for
Ecological Economic Research (IÖW) together with
around 30 companies and stakeholders in the field
of office work.

Experiences from these kind of sustainable solu-
tion oriented research projects suggest that for de-
signers to work in a professional way and contribute
to the Sustainability of production and consumption
systems, it is necessary to get an overview about the
social, environmental and economic Sustainability of
current systems first. For this, tools are still relative-
ly new and missing.

Then multi- and interdisciplinary teams/ groups
of stakeholders have to come up with creative visions
and solutions, how these systems can be changed to-
wards more Sustainability. Participatory planning
processes and co-design processes need to be organ-
ised starting with the consumer/ customer needs and
aiming at maximum social, environmental as well as
economic Sustainability. At the end the results can
even be completely new business models and radical
system innovations that would never occur, if only
one company alone tried to develop new solutions.

In the Sustainable Office[1] project these kinds of
methods and tools were applied, and results show
*that the role of designers in these processes is much
more in the facilitation of creativity and group dynamic
democratic processes, and much less the egocentric de-
sign guru that knows how the world should look like.*

4 – Sustainable Design and Humanitarian Design Education
To enable designers and other creative professionals
to take the lead in the creation of sustainable solu-
tions, in September 2002 the Design Academy Eind-
hoven started a Lectorate on Sustainable Design and
the Master Program Man & Humanity/ Sustainable
Style. It was no coincidence that the starting date was
the first "anniversary" of the shocking September 11

attacks in the USA in 2001 as these terrorist attacks
showed how big the socio-economic and political as
well as cultural challenges and how urgent the prob-
lems are in a globalised world.

The *Sustainable Design Lectorate* was implement-
ed as a cross cutting function in the Design Academy
Eindhoven with the mission to integrate Sustain-
ability Issues and Sustainable Design Methods and
Tools in all departments of the Design Academy
(see sustainability.designacademy.nl).

The *Master Program "Man and Humanity/
Sustainable Style"* was implemented as a 2-years
international postgraduate program and cross-cul-
tural course in humanitarian and sustainable design.
A strong aim of the program is to anticipate change
and respond to the world's need for a new generation
of compassionate designers with global awareness,
local engagement and personal integrity.

5 – Elements of Sustainable and Humanitarian Design Education
5.1 The Sustainable Design Lectorate
The following elements were designed and imple-
mented to integrate as much as possible Sustainabil-
ity Thinking in the educational programs of Design
Academy Eindhoven (see www.designacademy.nl)
and attract teachers and students to the subject.

A REGULAR GREEN LADY LECTURES:
GENERAL SUSTAINABILITY LECTURES
The Design Academy is placed in the "White
Lady", the former PHILIPS light factory and there-
fore a regular series of public lectures is named
"White Lady Lectures". In the Sustainable Design
Program that tradition was expanded to a regular
Sustainable Design related lecture called "Green
Lady Lecture". It takes place every first Wednes-
day evening per month and is open for all stu-
dents, teachers and external guests. Beside of
internal speakers it includes lectures of external
experts on Sustainable Design, such as Prof.
Ezio Manzini from Politecnico Milano or Prof.
Chris Ryan from University Melbourne.

B SUSTAINABLE DESIGN CONSULTATION
Every Wednesday over lunchtime there is a
consultation hour by a sustainable design expert
for individuals or small groups of students who
are interested to know more, discuss problems,
get feedback etc. on Sustainable Design.

C ECO-RE-DESIGN PROJECT FOR STUDENTS
OF THE FIRST YEAR

New students joining the Design Academy gain their first experiences in Eco-Design during a nine weeks course. There they analyse an existing product in terms of functionality, materials and environmental aspects, identify environmental weaknesses and develop ideas for an Eco-Re-design of the product that better fulfils the needs of the users and is more environment-friendly at the same time. This is part of the general teaching program of the Design Academy called Kompas Program.

D INPUT IN THE BACHELOR DEPARTMENTS OF THE DESIGN ACADEMY

After the first year the Design Academy students choose one out of eight departments, such as Man&Activity, Man&Communication, Man&Mobility etc. (see www.designacademy.nl). In the Sustainable Design Program the sustainability expert co-operates with these departments formulating assignments together, where Sustainability can be integrated. The students working on these specific assignments get an introduction on Sustainable Design, receive background material and Eco-Design tools that they can use to complete the assignment. The sustainability expert sees the students at least at the beginning of the assignment, for an intermediate presentation and at the final evaluation. Furthermore they can consult the expert every Wednesday on an individual basis in the consultation hour.

E SUSTAINABLE DESIGN WEEK (SDW) (FORMER ECODESIGN WORKWEEK)

The Design Academy in co-operation with the Technical University of Eindhoven ran the first "Ecodesign Workweek" in April 2003. This event included a Kick-Off conference "Designing the future" and 12 student Workshops on Sustainable Design running over 3 days. It was such a success that the organisers decided to run this on a yearly basis. Now it was renamed into Sustainable Design Week and successfully completed in 2004 and 2005. In 2006 it will be dedicated to the subject Sustainable Households and run in co-operation with the British company Dyson.

F EXTENDING THE KNOWLEDGE POOL/ WEBSITE

Beside of these teaching activities a considerable part of the Lectorate activities was to set up a Sustainability Knowledge Base for the Design Academy. That includes books and magazines, one LCA software tool, a physical material library and a digital material database including information on the Sustainability of the materials (in co-operation with TU Eindhoven), an expert network (internal, external and international) of experts active in the field of Sustainable Design. A new website has been created *sustainability. designacademy.nl* where students and other interested parties find a lot of information and knowledge, can download presentations and tools, and are informed about events etc. related to Sustainable Design generally and the Lectorate at the Design Academy specifically. An own booklet about Sustainable Design was produced and published, which can be purchased for five Euros via the Design Academy reception (info@designacademy.nl).

G CO-OPERATION WITH EXTERNAL PARTNERS

Beside of the expert network that is set up to be continued over a longer period of time with a stable and growing group of experts, there are co-operations with companies and other organisations in specific projects organised by the Lectorate, e.g. with NOVEM, the City of Eindhoven, companies like Unilever, Philips or other academic institutions like the IAC Wageningen.

H THE SUSTAINABLE DESIGN AWARD – IN PARTNERSHIP WITH DYSON

This award for Design Academy students asking especially for Sustainable and Eco-design projects was created and announced to the public and media the first time in October 2005 during the graduation show of the Design Academy. An independent jury selected one first prize (5000 Euros) and 5 honourable mentions. The award will be continued on a yearly basis.

I SUSTAINABLE DESIGN TEACHING WORKSHOPS FOR TEACHERS

To implement more knowledge and tools for Sustainable Design teaching among the teachers and mentors at the Design Academy a small series of workshops was designed by the Lectorate and an invitation to all Design Academy teachers has been sent out in 2005. The workshops are planned to take place during 2006.

J THE MASTER PROGRAM MAN AND HUMANITY

The Master program Man and Humanity/ Sustainable Style has the closest connection to the Sustainable Design Program. The sustainability expert is interim head of the master program and as such involved in conception of the content and evaluation of the Master Program and teaches Sustainable and Eco-Design in the master course as well as basic knowledge on Sustainable

Development in all its three dimensions: People = Socio-cultural, Planet = Environmental, Profit = Economic. These lectures are also open for the other 2 master programs of the Design Academy (FunLab and IM).

5.2 The Master Man and Humanity

Man and Humanity (M+H) is a two-year postgraduate course in humanitarian and sustainable design at the Design Academy Eindhoven. While the Design Academy is known for its innovative conceptual industrial design, the Man and Humanity course is a mixture of idealism and pragmatism.

With the vision that, given a choice, people would choose a lifestyle that is healthy and life enhancing, for themselves, their families and the Earth, Man and Humanity is conscious of individual health as well as the future Sustainability of the Earth's resources. M+H strives to deliver designers that propose de-signed alternatives to traditional products and ser-vices by offering natural, eco-friendly and healthy versions.

Designers, as creative solution seekers, can actively influence labour conditions, resource and energy consumption, emissions, production tech-niques and systems, by developing innovative prod-ucts and services. The Man and Humanity designer can contribute through raising awareness for humanitarian and sustainable causes to create a safe, just, diverse and healthy world.

By empowering people and creating sustainable solutions, design can play an active role in improving the way we live, interact and communicate with the natural world and people. This course celebrates the opportunities of humanitarian goals and sustainabil-ity for creativity rather than view them as restriction. Design as a tool to create environmental, socio-cultural and economic value – equally.

Serving as motivators and facilitators, mentors and visiting lecturers are practicing professionals from different fields: scientists, storytellers, sustain-able designers, humanitarian experts, communi-cation designers, anthropologists, moviemakers and marketing managers. The program is arranged according to project and group needs.

Man and Humanity projects are based on ori-ginal ideas, in which students can explore research directions and develop concepts and solutions in various fields of design. Projects deal with the real-world problems of Humanity and Sustainability that take place in personal, local and global contexts.

Personal compassion and commitment is a first requirement. All projects encourage students to involve the three dimensions of Sustainability and the personal, local and global perspective. Part of the two-year program is a humanitarian project that pairs students with people and communities in the developing world. The second year is dedicated to the individual master thesis.

The students are diverse in nationality, back-ground and discipline. They are spirited designers who use their imagination to create change for a future world. Committed to humanitarian and sustainability issues, they are deeply interested in society and its functioning, culture, politics and the environment.

The Man and Humanity Program is also the leading force in the Design Academy's "House of Humanity" program: a platform for humanitarian and sustainable design, especially in so called devel-oping countries, which connects companies, institu-tions, professionals, organisations and students who are interested in making a change for a better future.

6 – Description of the findings

6.1 The sustainable Design Lectorate

It was a very challenging job to integrate Sustain-ability as a cross cutting issue in the regular program of a creative design educational institution. While most of the students are very open and interested in the subject and its connection to the creative profes-sions, a lot of designers and design teachers perceive Sustainability as a scaringly complex issue that they rather not touch because it seems to hinder their creativity and to make their job even more difficult.

Background of this might be that most of the teachers are part time teachers with their own cre-ative businesses and feel that they are not in the position to ask critical questions about their clients, their work, the economic system and the society as a whole.

Thus it became clear that it needs formal integra-tion into the structure of the educational institution as well as openness and commitment by manage-ment and educational staff for the issues of Sustain-able Design to make it happen. Further incentives, such as public recognition e.g. by projects with in-teresting external partners and well known compa-nies, or the announcement of the sustainable design award in partnership with Dyson helped to make the subject Sustainable Design more attractive.

6.2 The master program Man and Humanity

International students coming to the Design Academy Eindhoven to dive into the subject of Sustainable and Humanitarian Design are passionate, enthusiastic and ambitious, however most of them are not the artistic product designers with their passion in the aesthetic design field. They are much more interested in researching issues, asking critical questions, becoming critical thinkers and getting more involved in strategic decisions, rather than dealing with shaping aesthetic details of physical objects. Thus the aesthetic outcome of some of the Sustainable Design student projects might not follow the high expectations of an art and design oriented academy. However, the concepts and thinking behind, the elaboration of the production/ consumption systems and the depth and usefulness of these projects to society might be much higher than a lot of otherwise aesthetically pleasing but rather superficial design projects.

If a student enters the Man and Humanity master course without enough knowledge in the field of product, service and/ or communication design, 2 years are too little time to improve the design skills as well as teaching Sustainable and Humanitarian Design at the same time.

This should be reflected in the careful choice of students to enter the program.

Beside of these teething problems the Man and Humanity master course of the Design Academy Eindhoven is highly successful. This is visible in the growing number of applicants and students each year and the positions that the graduates achieve after finishing the program: a lot of the students coming from developing, or emerging countries, e.g. Mexico, or countries in difficult political situations, such as Israel, go back to their states and develop Sustainable and Humanitarian Design courses, educational programs and projects there. This creates a very effective snowball effect.

Table 1: Some examples for sustainable and humanitarian student projects at Design Academy Eindhoven

shopcycle by Lennart Vissers
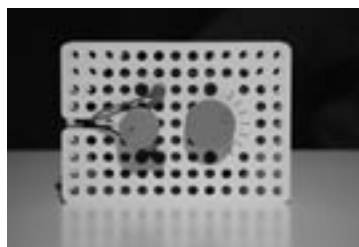
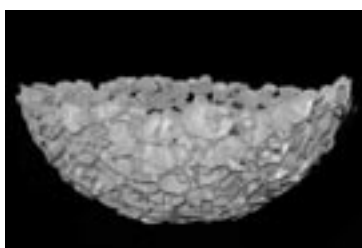Refugee Radio by Mareike Gast

Fairer Faucet by Josh Krahn

Futureproof by Gert-Jan van Breugel

Icepod by Damian Valles

Windylight by Adital Ela

PS by Lotte van Lattum

No Waste Furnishing by Tamar Meshulam

7 – Final conclusion and possible follow-ups

Sustainable and Humanitarian Design are challenging disciplines that are not (yet) mainstream – neither in the professional nor in the educational world. But it is urgently needed that more and more designers and other creative professions such as architects and artists deal with the issue in a professional way. That means we do not want to go back to Stone Age or the hippie movement, but create solutions that are Win-Win-Solutions for the economy as well as the natural and social environment.

Designers have to understand that Sustainable and Humanitarian Design are not killing or hindering their creativity but, carried out in the right way, they can be motor for innovation and enhancing the development of inspiring and forward looking creative solutions.

It is clear that the starting point of Sustainable Design is a lot of questioning and critical thinking but the benefit is that more radical and future-oriented solutions will be created than with conventional styling or incremental improvement design.

The position of designers changes in Sustainable and Humanitarian Design: Sustainable Designers are involved much earlier in much more strategic decisions with their clients, sometimes even do not work for companies, but for other stakeholders, e.g. NGOs or government, and do not create the one right solution but facilitate a participatory creative process involving other actors in the solution creation.

For these new types of design professionals we need much more educational programs all over the world. Then there is a huge chance that Designers finally become part of solutions and deny being part of the environmental and social problems.

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References

1 The Sustainable Office research project ran from 2002 to 2005. A final report of the project was published in July 2005 (Konrad, Tischner, Hora, Scheer and Verkuijl, 2005). The project was funded by the German Federal Ministry of Education and Research (BMBF).

Bibliography

Bierter, W. (2002). System-Design, radikale Produkt- und Prozessinnovationen. In Altner, G., Mettler-von Meibom, B., Simonis, U.E., Weizäcker, E.U. von (Eds.), *Jahrbuch Ökologie 2002* (pp. 171–187). München, Germany.

Clark, P. & Staunton, N. (1989). *Innovation in technology and organization*. London, New York.

Clayton, A., Spinari, G. & Williams, R. (1999). *Policies for cleaner technology. A new agenda for government and industry*. London

Freeman, C. & Perez, C. (1988): Structural crisis of adjustment, business cycles and investment behaviour. In Dosi, G., Freeman, C., Nelson, R., Silverberg, G. & Soete, L. (Eds.), *Technical change and economic theory* (pp. 38–66). London, New York.

Kemp, R. (2000). Incremental steps and their limits. Integrated product policy and innovation. In *Ökologisches Wirtschaften* (Vol. 6, pp 24–25).

Konrad W., Tischner U., Hora, M., Scheer D. & Verkuijl, M. (2005). *Endbericht, das nachhaltige Büro, Praxis und Analyse systemischer Innovationsprozesse*. Heidelberg/ Köln, Germany: IÖW, econcept.

Maßelter, S. & Tischner, U. (2000). *Sustainable Systems Innovation, final report*. Köln, Germany: econcept for BMBF.

Tischner et al. (2000). *How to do Ecodesign? A Guide for environmentally and economically sound Design,* Birkhäuser, Basel (former form Verlag Frankfurt

Tukker, Tischner (Eds.) (2006 in prep.). *New Business for Old Europe. Product-Service Development as a means to enhance competitiveness and eco-efficiency.* Sheffield

United Nations Division for Sustainable Development (2001). *Indicators of sustainable development: guidelines and methodologies*. New York.

Vergragt, P.J. (1999). Leap-frogging to sustainable households. In proceedings of 8th Greening of Industry Conference. Delft, The Netherlands.

Weaver, P., Jansen, L., Grootveld, G. van, Spiegel, E. van, Vergragt, P. (2000). *Sustainable technology development*. Sheffield, UK.

Stefano Maffei and Beatrice Villari

Design for local development

Building a design approach for the territorial capital resources based on a situated perspective

Abstract

This paper describes a design approach applied to the local development field based on a situated perspective of design actions (Lave e Wenger; Suchman; Seely Brown e Duguid). Considering that territories are competing each other using their own resources (cultural, economical, social resources …), the capital of local resources is a key element for the territorial development in an economical, social and environmental viewpoint. In this scenario, the design is considered as a strategic lever to enable local design processes connecting competencies, know-how and creative resource in order to build new means of creating value for communities.

The aim of this paper is to describe a specific design approach that highlights the relationship between design activities field and local development projects considering:

1. the territorial capital as the design focus;
2. the participative nature of the design process at local level characterized by a design community model;
3. the use of visualization techniques in every phase of the design process.

The approach will be described via case studies of researches carried by SDI Agency of Politecnico di Milano in the few past years. The case studies describe three integrated level of design activities related to the competences and tool used as possible field of design activities for territorial scale projects.

Key words

Strategic design approach, local development, action-research, communities of practice, learning model

Introduction.

This paper is related to a well known research area that focuses on the relationship between design and local context. At Politecnico di Milano a specific research area has been developed identifying the main characteristics of the Italian relationship between design and social-economical system since roughly ten years. The main results were the creation of an Italian "resource design map" aimed at linking the design and local productions in terms of actors, design resources and productive qualities (Maffei, Simonelli 2001).

The territorial resources become a key factor considered as a link between know-how, local resources, specific competencies that represent different forms of design activities. These elements emerged not only in that productive sectors that characterized the so called "Made in Italy" but also in those sectors that are related to the local/regional food, to the cultural and natural resources, to the agriculture productions as well as those activities related to the tourism areas.

In this scenario, territories can be considered as a *medium* to share experience, information, productive know-how (Rullani, 2004) and also to reinforce local networks among people, institutions, enterprises, organizations namely to improve the social capital (1). In this area, design can be consider a *strategic actor* to promote, stimulate and build new possible visions for the development of a specific local area, considering the economical, social, environmental aspects starting from the activities and experiences of people.

The aim of this paper is to describe a specific design approach for local development projects. The structure of the paper divides the main subjects into three parts:

- the first part describes the concepts of *territorial capital;*
- the second part describes the theoretical approach based on situated perspective of design activities;
- the third part describes the relationship between theory and practice using some real example that can be read as *action research*, developed in some real contexts.

1. Local development as the investigation area of design activities.

The guidelines about local development suggested by European Community can be synthesized in some points; they are fine described in a report of a meeting held in Bruxelles in 2000. In the document (Decoster, 2000), the main paradigms about local development describe it as a:

- continuous and negotiated process connected with different socioeconomic contexts;
- challenge that derives form a negotiation process followed by different parties representing many interests and conflicts;
- result of long term strategies that comprehend not only technical or productive aspects but also economical and social factors;
- process that involves not only the institutions, but people, communities, groups of interest, social parts, just to mention a few.

Related to these concepts, we refer to our considerations to the following definition of local development:

> "Local development is a collective process of territorial innovation referred to a durable time perspective. It is related to a pertinent territory, it organizes the public and private actors in net, the civil society and the inhabitants, and shapes them to a common design culture whose purpose is the economic, social, environmental, cultural well-being of the collectivity focusing on the human being" (Decoster, 2000:10).

The local development framework outlined above is then characterized by:

- the collaborative and participative nature of the actions at local level starting from strategic resources that characterized a specific and not so large target area;
- learning mechanisms referred to both individual and collective dimensions;
- a complex system in which social, economics, productive, environmental factors are strictly related each other;
- different paths and trajectories that need to be defined following different and on going created *strategic routes* depending on local contexts;
- importance of local knowledge represented by local patrimony, know-how, traditions, capacity of sharing this knowledge by networks of people and places (2).

2. Design for local development: a situated perspective of action.

Referring to a possible definition of design at territorial scale we have to re-state the classic definition of design: it is closely connected to the idea of giving shape to *something*. Referring to the local scale, we have to think that the difference is that this *something* is not only attributed to projecting material artefacts, but it also includes in a wider sense, giving shape to intuitions, thoughts, cultures, learning and knowledge which are in the territory and characterise it.

The aim of the translation of resources values and contents into design projects is therefore to *make visible* the territorial peculiarity through a process of materialization of products, services, strategies.

To this extent, the project can be considered as an activity whose aim is to define physical artefacts, as well as an action finalized to the creation of artefacts whose nature is immaterial, of a communicative and organizational nature like for example the project of services, as well as the definition of operative and conceptual tools supporting planning, relational and contractual processes.

The design acting within the territory needs to refer to this set of resources (economic, human, social, physical, socio-cultural, environmental) dealing with their peculiar nature and specific limits: this can be carried out through a first definition describing the dynamic concept of *territorial capital* (3).

We can therefore define the design action at territorial scale as an activity whose aim is to promote systemic processes of innovation (social, economic, technological) starting from the peculiarity of the local resources (the territorial and social assets, which stand on that area) through the use of different specialty levels (the reference is to the strategic design, communication design, artefact design) and with a different action focus (social, economic, cultural etc…).

The *territorial capital*, is then considered as an organized resources system in which the learning dynamics are the basis of the territorial design action (4).

The design action needs the adjustment of targeted processes of exchange and knowledge: it is only through the planning creation and certification of what we define as *design community* (5) that it is possible, for local contexts, to identify strategic targets, use processes and instruments typical of the

design, implement and materialize the design solutions. We can say that the design activity in this field is characterised by a *participative condition* (6): that is by the need for the existence of a *community* connected with the project itself (which could be defined as a design-based community of practice (7) which needs different levels enabling the project, starting from those concerning abilities and languages (therefore to communicate and act within the planning project) up to the more specific operational tools.

3. The condition for design action at local level

Defining the territorial capital as the main focus of design activities need to build a background to describe the peculiar design conditions related to local development process. These factors are described with an interpretative model to understand deeply the nature of design at local scale.

The conditions that influence the design action are noted as:

1. *situativity condition* (design action dependence on the specific context).

   The local context is considered as a mix of tangible and intangible resources that continuously change because of their connections with the local values, social and cultural environmental. The design activities need to create a strong relationship with the local context to develop a concrete project, so they often follow a bottom up approach involving the active participation in a context made by social relationship and physical interactions.

   The *situativity condition* imposes a result of design activities as a continuous adaptation to the circumstances in which they happen. The activities can not be described totally *ex ante,* as a pre-established plan, but it needs to understand the consequences of mutations and unforeseeably;

2. the *path dependency condition* (the dependency of design action from the design process history).

   The path dependency concept is related to the perspective that consider the innovation (also for local context) can not be separated from the previous development process, namely it depends on material and immaterial conditions that determine the evolving of a territory: the present conditions are the results of the past and the future ones. The project at local level develops it-

self through decisional and operational steps that are not always the same. They are different from the element of the classical design activities: they are related with local actors and networks; moreover they depend on the different competencies involved and on the nature of the projects areas;

3. the *multi-actor condition* (the collective dimension of the design action).

   As we said before, the design activity at local scale is strictly related to the various actors (institutions, enterprises, universities, local communities, local associations…) that have different roles during the design process. The goals achievement depends on a *community* that has different kind of shape during the time project. The design action needs to be developed crossing different communities of actors, acting on different levels, sharing goals and praxis. In this way different competences can converse between each other to adopt coherent and common guidelines, a comparison between different disciplinary cultures is necessary in order to reach common agreements, adopting similar approaches and shared tools;

Fig. 01 Visualization of the "design community" relationships

Fig. 02 Visualization of the conditions for design at local level

4. the *multi-level condition* (different scales of design activities).

    The perspective, from which the multilevel condition depends, is considering the design action at local level not only as a punctual action. Namely, the design is integrated with different project scale: starting from people activities, small urban areas, dynamics of cities, region areas and the connections with the global scale. Then the design action is related to the human activities level and the organizational, the productive, the relational, the physic ones. The design activities have to be considered as a cross element between these different levels in which managerial, strategic, operative dimension are integrated with all the process phases including the control and monitoring.

These four conditions represent a filter to star building an approach adapted to define the competences and the activities areas for the design at local level, moreover it is a way adopted to reduce the complexity of the analysis object.

4. From theory to practice: action research case studies.

The theoretical concepts were verified on the field, through the experience activated by ME.Design research **(8)**. The designer's role within the project for the local development represents the theme of the ME.Design research carried out by the SDI Agency **(9)** of the Design Faculty of the Politecnico di Milano. The approach of the ME.Design research is that of the action-research **(10)** on the territory. The theoretical premises **(11)** have been verified on the field, through the activation of some design workshops in some Italian territorial contexts of different nature (rural sites, tourist sites, urban environments etc..) Seven workshops were carried out throughout the whole national territory **(12)**. The themes of the workshops activities regarded the design of tourist services, the exploitation of the local productions, the valorisation of the environmental, historical, cultural heritage.

    In the following paragraphs three case studies will be described to highlight the theoretical point of view.

4.1 CASE 1. WORKSHOP DESIGN '03 _ MORCONE. The identity of local community: building the relationship through a local consortium.

The DesignWorkshop is a project development in a rural context of South Italy characterised by a less of collaboration between small villages. The DesignWorkshop is an annual event structured as a weekly design laboratory during which young designers develop ideas to promote and to valorise the local resources. The DesignWorkshop created, year after year, the conditions to connect different local municipalities into a common vision, promoting forms of networking and community building through collaboration between institutions, universities and local producers.

    The goals of the DesignWorkshop are to build and structuring a local resources system able to promote and organize concrete activities to promote local development.

    The design activities enabled a communication process between different local realities that difficulty act together.

    The themes of the DesignWorkshop change every year: development of local productive system of ceramics handcraft, development of local food system, and development of strategies to promote the local cultural heritage system. The results of workshop activities are always presented to the main local actors. The solutions are not definitive to develop in short time, but they represent design scenarios focused on communicating the potentialities of the territorial resources system to the local communities to promote also an empowerment process of them. The DesignWorkshop activities are always communicate during the whole process using documents and seminars involving the difference stakeholder.

    In this case the designer had a facilitator role for communication activities in the first phase of the process being an element able to create a common vision. Moreover, the design activities facilitated the learning mechanism about the local strengthens and the possible way to exploit them. Generally, the main result was the building of relationship necessary to promote common development project among the small local municipalities. The difficulties to connect different local communities to promote a shared territorial vision, in this case, is also related to the difficulty of maintaining the links active that depends on moreover from resource availability (economical, time, human resources, physical resources …) and the obtaining a wider consensus.

Fig. 03 Visualization of the Workshop Design Morcone process

4.1.1 THE DESIGN WORKSHOP PROCESS.

The Design Workshop process can be summarized in four steps. The first one is related to the networking between researchers and local communities to share the different knowledge and to acquire the information about local resources individuating strengthens and weakness of the system. This phase is characterised also by trust ties that have to be created among the stakeholders.

The starting activities brought to define a shared "brief" regarding the identity and the service offers structure of a local consortium. It can be synthesized in some questions:

▶ How create value for local context starting from the communities collaboration?

▶ How to visualize and communicate development opportunities to a wider community?

The next step was characterised by a *on the field* research during which the researchers build a territorial capital resource map. Elaborated the research results, the workshop was organized. Designer, researches and local people participated to the design activities. The project areas were outlined to propose design scenarios describing possible solutions for the consortium identity through an integrated system of artefacts. The structure of the services and the modalities of their supply on the territory were hypothesised also in relationship to the local tourism activities. The projects suggest a design strategy aiming at integrating the whole of the territorial capital's resources, so that the local actors can be involved in the change process.

4.2 CASE 2.RIFLETTERE MANTOVA.

Design approach to communicate the Mantua identity.

Riflettere Mantova started form a relationship between Agenzia SD1 and Mantua council to structuring a project that potentially could highlight the main elements of the city identity recognized both by the institutions and citizens. The following analysis of these elements will be the base to build guidelines for a corporate identity manual for Mantua city.

The main characteristic of the design activity was the structure of a specific approach to individualize the identity factors of Mantua using an ethnographic approach and some video reportages and video interviews.

The aim of the project was to create and visualize a local strategy to connect the different local actors sharing common identity and values. A structured desk research was organized to support the video elements; it was about in particular the communication elements using to describe the Mantua city on guides, reviews and newspaper. The result of desk research and video research are summarized into 22 big posters. The posters will be showed in a travelling exhibition to be set up in some places of the city.

Riflettere Mantova is an activity aimed at creating a design strategy to reinforce the links between local community actors using a specific approach and creating specific tool related both to the research and projects phases.

The design results were not defined solutions but a structured an approach useful to enable the different actors to give a contribute on the basis of their own competences and roles.

The designer used tools and design methods (desk research and reportage), and contributed to the starting conditions necessaries for the knowledge exchange between Administration and citizens. The involved actors participated to a learning process with regard to their own potentialities, their culture, the modalities by which is possible to structure the communication and design processes.

4.3 CASE 3. CALABRIA DESIGN.
Design and textile handcraft products.

CaLABriaDesign is an experience that focused on exploiting several textiles productions of a handcrafts network (associated under the ATENA brand) in Calabria, a South Italian region.

The project was based on a precise requirement: to strengthen the identity of the society through a design proposal to redefine a part of the handicraft productions and also to awaken the local artisans to a strategic design approach aimed to create value for the textiles productions and the local context.

The CaLABriaDesign process can be summarize in some steps:

1 Building the relationship between researchers of SDI Agency and the local enterprises;
2 Analysis of the local productive context and local resources and successive rework of the data;
3 Design workshop organizing based on strategic design approach;
4 Communication and visualization of the projects ideas to all the actors involved in the process;
5 First prototype of the selected ideas.

The CaLABriaDesign activities involved researchers, designers, local entrepreneurs and textile experts. It was necessary identifying new products and services for Atena brand also to promote the network activities able to exploiting different resources of territorial capital. The goals of the CaLABriaDesign aimed to propose a new collection for Atena brand characterized by a formal coherence and a recognizable brand identity related to the values, local knowledge and local traditions. Moreover, the strategies defined aimed to characterize the already existing products of collection ATENA in order to improve the communicative qualities connected with the distributive strategies for local and external markets.

CaLABriaDesign had a double result: it permitted to define new products for Atena network starting from a strategic design perspective and also it facilitated a knowledge sharing process between the different stakeholders and designers. These factors permitted to increase the artisans' awareness about their own productive potentialities.

Another result was the interest level of local communities that participated to the workshop activities even if most of them were not related to the Atena production.

5. The integrated levels of design at territorial scale

In the previous parts, a general framework of design action was presented describing the main characteristics related to *what* design can do at local scale and *who* is the subject of design activities. This part will focus on *how* design acts, namely the modality by which the design is connected to the territories. Three projects levels will be described, they emerged from a desk research regarding the LEADER European programme and the action researches presented.

The designer's action refers to three design level characterised by an organizational nature: *relation-*

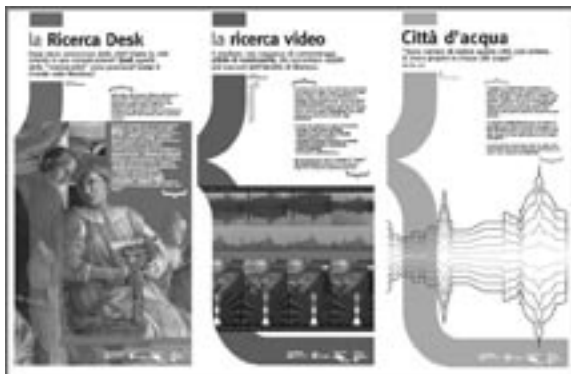**Fig. 04** Communication artifacts used to represent Mantua city identity

Fig. 05 CaLABria Design: concepts visualization

ship level (related to the resource network system), *design strategies level* (related to the future visions and guidelines of the projects), *artefacts level* (related to the material artefacts).

1 *Relationship level (System set up)*
   In the starting phases of the process, the building of network of actors and competencies are the main activity to promote subsequently the project development, its structure and resources system. In this part, the *design community* is created. So, recognizing, characterising, proposing and connecting the available territorial resources can represent an important factor to promote networks and connections aimed at constructing the *weft* of the relationships and qualifying and enabling the local community in order to generate common development visions for the local system which it refers.

   The system set up level can be characterised by spontaneous processes of organizing connecting also to structured and formal way of relationship. Beside the intangible elements as the social capital increment and the strengthening of the relationships towards the inside and the outside of a local area, it is possible to identify some concrete elements that describe, also in a symbolic way, this process. For example, the communication elements are the *medium* to identify and build the community identity, increasing the sense of belongings and mutual understandability of the community members and to differentiate the element of local community from the external ones. To do it, the *design community* needs to be identified in relation with a common goal (the domain) and to reinforce the links between its members

(sense of community) and sharing languages and tools (practice) (Wenger, 2002)

2 *Design strategies level (Strategic project definition)*
   Another level to analyse the design action at local scale is related to the elements shared by the *design community* useful to orienting the choices and future projects. The strategic choices depend on an in-depth analysis of territorial context to structuring concrete project starting from specific local knowledge.

   The strategic project is developed thank to a knowledge system and a monitoring activity carried out by local actors. The project strategy can be considered in term of capacity to adapt the choices to the circumstances and situations that characterised the local context through adaptable project schemes. The capacity of using forms of intangible capital of the *design community* is, from a design perspective, a central theme to promote a local strategy tuning with the local peculiarities and people needs.

   The strategic level is related to the results of activities and decision making processes that give shape to an organizational knowledge *situated* in the community member relationship and *distributed* between them and local area, namely a *knowledge in action* of which the learning activities (both of the single person and community) organize and regulate the processes (Fabbri, 2003)

   At this level, the design reinforces actor relationship and resource organization involving also different competences inside the network. The result in this case has an organizational and a strategic nature that can be developed through the purpose of a specific approach, new project tools and specific artefacts to support the process activities.

Fig. 06 Visualization of the levels of design at territorial scale
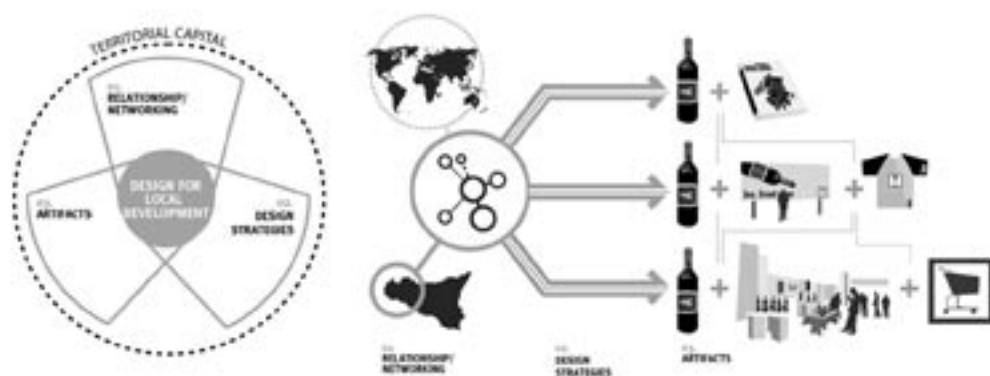
3   *Artefacts level (Product-system definition)*
Connected with the two activities level we can consider another level regarding the concretising of strategies into concrete solutions. The different *products* will be the tangible elements of the strategies previous structured. It is difficult consider the results in terms of single artefacts, but as systems of artefacts aimed at promote the development paths for the local context.

The designer's action regards then the definition of the design specific solutions, the setting up of services on the territory, artefacts and communication systems. In this field the designer acts as a specific resource within the *designing community* and he related with other expertise involved (economic, managerial, legislative, etc...).

The levels presented can not be considered separated to each other and they have to be read as different expressions of a unique process.

The relationship between the different levels can be considered in a sequential way, considering them as single activities of a wider process, but at the same time, they are complementary levels or parallel activities that are developed during the design process. Their boundaries are not so traceable, the single activities can not be completely separate, in fact the relational, the strategic and the operational components coexist in the whole design process.

Conclusions

The theoretical models and case studies permit to build a structured framework in which the design action at local scale can be positioned.

The territorial capital as design focus is a concept that has to be more analysed also related to different projects scales. The conditions described are a first step to build some boundaries of the design at local scale field. The multi-actor condition describes the nature of the design process as a negotiated process, socially constructed, characterised by a participative nature. It implies a continuous redefinition of objectives and results and also of the professional role of the designer inside the so called *design community*. The multilevel condition is associated to the different nature of projects scales: from the individual one to the global one, in a interdependent way. The project value at local level is a result of the different ones gained in relation with the different scales. The situativity condition express the importance of the strong link between designer action and context in

which it is developed, or to which it refers. The available resources varies from places to places. The design practice have to be adapted to every different case so they can be considered in term of *situated doing.*

The path dependency concept highlights the aspects related to an *evolving* process concept that shows up how a local community can break or continues the relations with the past conditions and their projection to the future.

The collective nature of the design at local level is considered as the result of a *design community* that joins heterogeneous competences but sharing a common identity, goals, praxis, languages. The model is related to the social model of community of practice (Wenger, 1991; Wenger, McDermott, Snyder, 2002; Snyder, Wenger, 2004) because it permits to focus on individual capacity to:

- act in a collective way building links between different communities (co-design);
- build a common framework through which the communities members communicate and share information and experiences (design visions and strategies);
- enable the *dialogue* between community members imaging new ways to face in a creative way common problems, structuring the conditions to introduce common benefits (innovation attitude);
- use a collaborative approach to facilitate the information flow of information and ideas among the communities;
- facilitate a learning process using reflexive practices verifying and elaborating the design practices;
- favourite the creation of new knowledge and its diffusion inside and outside the community (innovation diffusion models).

The design activities levels (s*ystem set up, strategic project definition and product system definition*) are considered as possible fields in which the design can have different roles. From the action researches emerges the necessity to analyse the design process in all phases, in which the managerial, organizational, relational, practical elements can be consider as on going results of the project.

The objectives related to the different levels are strictly related with the design competences: from the product and services project to the *boundaries objects* (Wenger, 1998) that support the design process and the *design community* activities.

The proposed approach describes the design activities also in term of potentialities to:

- activate participation mechanism among different actors acting on design languages. It implies the using of participative tools and the adoption of bottom up design approaches facilitating also a practical knowledge sharing;
- increase the capacity of observing contexts, analysing and give also visual feedback about territorial capital resources and its complexity;
- communicate the qualities of territorial capital and its changing and links;
- increase the capacity to promote at local level collaborative design processes.

The activities presented in this paper carried out other activities involving design in local development projects. In particular, since two years a didactic module is organized inside the Strategic Design Master (MDS) at Politecnico di Milano and SDI Agency is consultant for specific project collaborating with different municipalities (**14**).

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End Notes

1 The concept of *social asset* refers to the value of those aspects of the personal and collective knowledge referred to the peculiar configurations of the social structure, which individuals use as resources to carry out their own interests. Among Italian authors, a meaningful contribution is Bagnasco, Piselli, Pizzorno and Trigilia's (Bagnasco, Piselli, Pizzorno e Trigilia, 2001

2 These concepts can be related to the learning regions model. A definition of *learning region* is given by Oecd: "… The concept of the 'learning region' has come into being in recent times in response to the issue of economic and social innovation. (…) This concept implies that certain societies are able to innovate because they have the capacity for collective learning about how to develop new knowledge and in particular practical 'know-how' type of knowledge. The term 'learning region' implies that this collective learning for innovation takes place better in small, more contained social units – such as regions, locali-

ties or cities - where people have the opportunities to live and interact and cooperate with each other in an immediate way. In the 'learning region' the term 'learning' has a much broader meaning in that it refers to the collective and collaborative learning by all of the different actors in a region – learning from each other and learning with each other - in planning and implementing social and economic innovations..." (Stavrou S., 2003:1)

3 "…The "territorial capital" is the aggregate of the elements (material and immaterial) at the service of the territory, which can be either strength points or real bonds according to the aspects considered. (…) The concept of "territorial capital" is not a static idea, but a dynamic one. It corresponds to the analytical description of the idea of territory belonging to who is looking for a range of action. (…) The territorial capital involves all the elements constitutive of the richness of the territory (activities, landscape, resources, know-how, etc.), not to the aim of drawing up a book inventory, but in order to look for and locate features to be enhanced…" (Osservatorio Europeo Leader, 2000)

4 See also (Rullani, 2002), (Rullani, 2004) and (Rullani, 2004b)

5 Referring to the Wenger model (Wenger, 1998) by *design community* we mean the group of subjects who, by acting on the territory, share a common domain of interest (the realization of the project), activities and goals, as well as a collection of practices (languages, tools, experiences…).

6 The *participative condition* does not necessarily entail a participatory dimension; participating does not concern the process of decisional democratisation, but it refers to the individuals' ability of being together and sharing practices, languages, tools, goals.

7 To expand on the concept of practice community refer to Wenger's work (Wenger, 1998) and Brown and Duguid (Brown e Duguid, 1991)

8 ME.*Design. Design strategies, tools and procedures aimed at increasing the value and promote the resources of the Mediterranean area between local and global* is a MIUR (Ministry of the scientific and technological university research) funded research carried out in 2002–2003. It involved a group of over 90 researcher from 7 Italian Universities.

9 SDI|Sistema Design Italia (Design System Italy) is a network of Agencies dealing with research, innovation and promotion within the design field (www.sistemadesignitalia.it).

10 The action-research is seen as a tool for solving real problems, found by the people within their professional field, the community they belong to, and their daily lives (Stringer 1996).

11 The assumption ME.Design suggests considers the territorial capital's components as overlapping plans: according to the ME.Design approach "the closer the plans get to each other, the more there can be integration and development. At the opposite, if they swerve, the propulsion towards the innovation and development gets lost" (Zurlo, 2002)

12 Seven workshops have been carried throughout the whole national territory: Valdambra (AR), Sanremo (IM), Mantua, Morcone (BN), Ustica (PA), Reggio Calabria, Naples.

13 It is also related to the reification process described by Wenger (Wenger, 1998)

14 In this period, SDI Agency is consultant for PIR Reti di Sviluppo Locale for Parco dei Nebrodi (Sicily) and for Raiano municipality (Abruzzo).

References

Bagnasco A., Piselli F., Pizzorno A., Trigilia C., (2001), *Il capitale sociale*, Il Mulino, Bologna

Bonomi A., & De Rita G., (1998), *Manifesto per lo sviluppo locale. Dall'azione di comunità ai patti territoriali*, Bollati Boringhieri, Torino

Brown, J. S., & Duguid, P., (2000), The Social Life of Information, Boston, MA: Harvard Business School Press.

Brown, J. S., & Duguid, P., (2002), Le comunità di pratica, in Sviluppo e Organizzazione, n°190, marzo/aprile 2002

Bruni A., (2003), *Lo studio etnografico delle organizzazioni*, Carocci, Roma

Caldarini, C., & Decoster D.P., (2000) *Organizzazione di un seminario transnazionale sullo sviluppo locale. Rapporto finale*, Université Libre de Bruxelles – I.G.E.A.T – Unité de Développement Territorial et Local

Caroli M., (2001), *Il Marketing territoriale*. Angeli, Milano.

Conner M. L., & Clawson J. G., (2004) *Creating a learning culture. Strategy, Technology and practice*, Cambridge University Press, Cambridge

Fabbri TM., (2003), *L'apprendimento organizzativo*. Teoria e progettazione, Carocci, Roma

Lave J., & Wenger E., (1991), *Situated Learning: Legitimate Peripheral Participation*, Cambridge: Cambridge University Press.

Maffei S., & Simonelli G., (2002*), I territori del design – Made in Italy e sistemi produttivi locali*, Ed. Il Sole 24 Ore, Milano.

Maffei, S., & Villari, B., (2004), *Comunità di progetto e territorio: un approccio per il design*, in Fagnoni R., Gambaro P., Vannicola C., Medesign_forme del Mediterraneo, catalogo della mostra, Firenze, Alinea Editrice

Osservatorio LEADER, (1997), *Innovazione e sviluppo rurale*, collana: I dossier dell'Osservatorio, n°2

Rullani E., (2004), *La fabbrica dell'immateriale. Produrre valore con la conoscenza*, Carocci Editore

Snyder W. M., & Wenger E., (2004), *Our world as a learning system: a community of practice approach*, in Conner M. L., Clawson J. G., Creating a learning culture. Strategy, Technology and practice, Cambridge University Press, Cambridge

Stavrou S., *Building learning regions – An innovative concept for active employment policy*. European Forum for Local Development and Employment_ Rhodes, 16.–17.5.2003, on line: www.hp2003ledforum.org/eng/context/stavrou.doc.

Suchman, L., (1987), *Plans and situated actions. The problem of human-machine communication*, Cambridge University, Cambridge

Wenger E., McDermott R., Snyder W., (2002), *Cultivating communities of practice. A Guide to Managing Knowledge, Cambridge*, USA: Harvard Business School Press

Kristina Sahlqvist

Design for all and sustainable development

"Designers, architects and manufactors – it´s time to progress one step further. Now that function, ergonimics and at least some environmental considerations have been incorperated into the design process. It´s time for more in-depth approach and more improvement. Can Design for All – highly politically correct term – be the next, natural way to go?"

This question the journalist Susanne Helgeson asks in the first number of the year (2006/1) in the FORM Design Magazine – Sweden`s greatest design magazine.

"Design for All is now on the political agenda in Europe as well as in Japan and the US and the concept should be the most multicultural and politically correct of all. More and more people are now working on Design for All, but it is not visible and it can therefore be hard to understand the meaning of the concept. The Swedish government has decided that the term´s meaning will pemeate all public sector projets in architecture and design. The official statement says that: Design for All can be regarded as a guiding principle, which means that during all planning and design of products, buildings, environments, and IT services, consideration will be paid to accessibility and usability for all individuals as far as this is possible" (Susanne Helgeson, Form).

At the Design Advanced programme at HDK, I have a theme where Design for All and Sustainable Development is presented with seminars, workshops, lectures and tutoringtime. Later on I will give you some examples of projects and methods from this theme, both local and global ones.

There are 320 students enrolled at HDK, which is located in the heart of Gothenburg. HDK is a part of the Gothenburg University and the Faculty of Fine and Applied Arts that consists of six different Art Schools: Music, Opera, Film, Photography, Fine Arts, Design and Crafts. Cooperation between the various schools is being strongly encouraged and this provides opportunities for cross-disciplinary research not only within, but also outside the Faculty. This makes HDK´s education unique in the Scandinavian countries.

We have a three-year Bachelor's and a two-year Master Programme and HDK offer a design programme that consist of spatial design, product design and visual communication. Our master programme does not maintain the traditional divisions between various disciplines, but views design from a process perspective. The programme is aimed at students who have achieved a level of maturity suited to a free form of study and who can work both individually and in groups.

At HDK we are presently discussing the question of responsibility, and the question of the ethics behind what a student designs. If we take a look at the world around us, we are constantly being bombarded with reports about the greenhouse effect and natural catastrophes. In less than 50 years, conditions on earth have changed so much, that we can no longer deny the fact, that those of us who live in the western world, must change our way of living and our lifestyle. The Swedish Government has put forward a plan of action for Sustainable Development and Design for All, in order to make our society accessible and open for everyone to participate in – a plan that should be realised before 2010. The concept 'Design for All' is a part of this plan of action, which means that all buildings, products, information and communication should be accessible to everyone – as far as this is possible.

In order to face this changing world we must therefore create possibilities of development for a new generation of designers. They will have to meet the challenge of a more humane production, a different market and a sustainable development of society. During their studies we should present them with a wide pallet of meaningful knowledge and equip them with all the necessary requirements to develop an independent, responsible, critical way of thinking in order for them to grow as designers.

I will describe some design projects from our Design Advanced programme that have both methods and applied design.

HDK

This is what the building looks like that HDK has been located in since the beginning of the 20th century. It is not accessible and does not communicate well with the city's inhabitants. Few people know what HDK is and where it is located, even fewer people know how to get into the building. Though it is a cultural-historical building, it could be rebuilt to meet up with today's needs and requirements. A

master student shows in his degree work in what way HDK, could be made physically accessible, have better communication with the public and give them clearer information. His suggestion is part of a project in the West part of Sweden called: "Design with Care".

Design with care

Design with Care is a project but also a methodology, whereby sustainable development is integrated into the design process in three dimensions, consisting of an ecological, a social and an economic dimension. Västra Götaland in the West of Sweden, is known for being best at sustainable development in the whole of Sweden. 'Design with Care' is Sweden's largest design project with the aim of developing environments, projects and methodologies in sustainable development with the concept Design for All. This project has won the "Design Year Price in 2005" as one of 1.690 projects during the Design Year. HDK and "Design with Care" have together developed a course where we use the methodology and this course has been given several times at HDK. The future plan is to offer it to different design schools in the entire region.

Masterlab

If Design with Care is a methodology, then MasterLab is defined as applied design. It is a laboratory for experiments and the marketing of products, environments and visual communication with a focus on everyday life and Design for All. Masterlab is a collaborative project between HDK and the Ågrenska Foundation, which is a centre for disabled children and youth, situated outside Gothenburg. The Ågrenska Virtual Academy is part of an international network and is in the process of building up a virtual research academy sponsored by Microsoft. This year MasterLab has presented a new studio at the school – a meeting point for students and tutors from Ågrenska and HDK. The focus of MasterLab, is the human being, where the needs and experiences of the human senses are our point of departure. The project can encompass making buildings and streets accessible to all, or making information and communication clear and easily understandable. It can be a question of developing body borne techniques or techniques that are integrated into the objects or a building, or it can also be a question of developing the importance of art, light or sound for our health. At the end of this lecture we will watch a short film, a workshop with some students working together in a kitchen at Ågrenska.

Design Ban Pong Hi

This year HDK has established international contacts in a collaborative project with Kids Ark, with the working title Design Ban Pong Hi. It is a village in the north of Thailand near Burma and Laos and this particular region have great social, cultural and economic problems. Kid's Ark is a sister HIV-organisation to Noak's Ark and the organisation the Red Cross in Stockholm. They have together built a school, a kindergarten and a handicraft workshop with the help of development assistance. HDK has been invited to take part in this unique project, where design is used as a social tool for long-term and sustainable development.

The project has two aims:

To develop the inhabitants' unique knowledge of traditional handicrafts, and together with Swedish designers and students draw up and renew Thai handicraft idioms and working methods in textiles, wood and bambu. We have a lot to learn from each other and we can support the young women and children where many of them have been infected with HIV. We are able to share, from fellow-being to fellow-being, our knowledge of social behaviour in order to assist them and create the conditions essential for them to be able to make a living and be self-supporting. Besides HDK, the collaborators in this group are Swedish and Thai designers and the University of Chang Mai in the north of Thailand with the Faculty of Arts, Economy and Humanity, the Swedish Ambassy in Bangkok, Swedish Trade and Swedish Companies.

Workshop

Finally I will show a four minutes long film from HDK MasterLab and the collaboration with the Ågrenska Foundation, situated outside Göteborg on a very beautiful small island. This film is about seven students, four of them are design students from HDK and three of them are college students from Göteborg and Ågrenska, one of them is a girl with a complicated serious multihandicap.

After having watched this film, we are sure that by meeting persons with specific needs, being introduced to situations in their everyday life, and maybe even try parts of their reality, we all can benefit. This is a fact, regardless of our profession. It will give us a greater understanding, and above all, new and invaluably important knowledge in our building of an accessible society.

What strikes me is the fact that behind each specific problem, searching for its special solution, there often lies general issues and general methods – so – in the specific we can often find the general.

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Lifestyle based housing

Abstract

This paper describes what kind of other than measurable physical elements could be taken into account when designing and implementing future senior housing. A research probed lifestyles and subjective well being of senior citizens. The aim was to find out generic lifestyle based requirements through individual ones. Since the starting point was individual requirements, the chosen methodology was a self documentary user study. The material of the user study was analyzed in a multidisciplinary workshop, resulting a lifestyle matrix, design drivers and scenarios. The findings indicate that lifestyle based elements weigh in housing and behind individual needs and wishes lie more generic ones. These lifestyle based generic requirements should be taken into account when designing and implementing future senior housing. This paper presents the background, methodology, findings and conclusions of the research.

Keywords

Senior Citizen, Housing, Lifestyle, Design for All, User-centeredness

When planning barrier-free and attainable housing, measurable physical elements are often emphasized more than for example the social, psychological or emotional ones. At least in Finland there are comprehensive architectural guidelines concerning the minimum measurable requirements of barrier-free housing[1], but hardly any related to other factors such as lifestyle.

Still elements other than measurable ones contribute to a holistic user experience. The physical framework forms an apartment, but in order to becoming a home it requires other elements. This is especially meaningful in Design for All designed environments, which should be not only usable, but also attractive to as many users as possible.

This paper describes the key results of a research that aimed at finding out lifestyle based elements that could be utilized in future senior housing. At first the background, issues and key concepts are presented, afterward the methodology and context of the research. Finally the findings and conclusions are unfolded thoroughly.

Background and Issues

In Finland, as in Europe in general, aging of the population structure is topical. In Finland there will be more than 1 200 000 people over 65 years old in year 2020 [1]. This means that in 2020 every fourth Finn is over 65 years old. This has implications especially for housing. In Finland the current stock of housing is not barrier-free and attainable enough apart from the newest and renovated apartments and houses. In spite of the lack of barrier-freeness most of the older people prefer living at home even if they go short of their quality of life. The need for renovation and fundamental improvement of the housing stock is evident.

Design for All can be seen as an enabler of adaptable housing that is suitable for different users. Design for All (DfA) means socially responsible design. It aims at products that are easy to use, environments that are barrier-free and services that are attainable and functional. [2] Roughly DfA strives for same objectives as Inclusive Design and Universal Design.

At the moment DfA is mainly comprised of elements only related to the physical functionality of environment. Still the holistic user experience includes also other, for example aesthetic and emotional, aspects. Through taking into account the holistic user experience, individual lifestyles can be promoted and expressed in housing.

There are several definitions of user experience. Patrick W. Jordan presents four pleasures related to user experience. *Physio pleasure* refers to senses and physique, *psycho pleasure* to the mind, *socio pleasure* to interaction with others and *ideo pleasure* to user's values. [3] User experience is influenced by the persona, experiences and lifestyle of a user in a certain socio-cultural context [4].

According to one definition lifestyle means repetitive functions in one's life. These functions are for example work, housing, free time and family life. Lifestyle is a sum of its parts and can be seen as an entity in contrast to single, separate actions. [5]

Lifestyle Based Senior Living, a two-year research project, was carried out by the Future Home Institute[2] in the University of Art and Design Helsinki during 2004–2005. The research was part of the national Future Senior Living project mainly funded by the Finnish Funding Agency for Technology and Innovation (Tekes).

The aim of the research was to find out lifestyle based elements, other than measurable and functional ones, related to individual subjective wellbeing. These elements are often attached to social, psychological and emotional qualities and complement a holistic user experience.

Methodology

Information on users is essential when designers need to understand and foresee user experience in certain situations. Therefore it is important to find out the elements of user experience. [6] User-centered research methods are generative, qualitative and aim at defining the meanings behind actions. Simplistically put it is more important to know *why* than what.

User-centered research methods emphasize individual experiences. The objective of the methods is to make designers think from the users' point of view [7]. The chosen method for the user study of this research was *Luotain*[3] (probe). Luotain is based on the *Cultural Probes* of William W. Gaver [8].

User-centered research methods are visual and tactile and as such provide designers with inspiration in addition to data. They are also interpretive. Therefore designers are able to realize how users understand themselves. Playful and fun methods encourage users to imagine and dream. [9]

Due to the nature of the method statistically relevant information is neither possible nor necessary to aspire. Therefore less than ten people can generate enough information, if they are studied profoundly. The foundational meanings behind individual actions can be rather general, therefore even a small target group can produce significant material.

Context of the Research

A state-of-the-art analysis was done in the beginning of the research. Former literature and researches related to lifestyles and housing preferences of older people were gone through. On the basis of that a starting level for user study could be set. The user study was realized as a self documentary Luotain package, user interviews and a multidisciplinary workshop.

The target group of the user study was retired seniors aged 65 (+/− 3 years). It was important that they were recently retired so that the change caused by retirement was still topical. The other criteria were that the seniors stood for different kinds of lifestyles. Their living place, housing type, marital status and family structure, education level and lifestyle differed. Altogether eight seniors volunteered and were chosen to the user study, but after all six continued all the way.

Luotain consisted of a diary for seven days, coloured cards with questions and a disposable camera. The diary probed the concrete daily routines of the seniors: what they had done, with whom and where and if they had not been able to do something, what was the preventive reason for that. The cards had questions related to values and attitudes: "What are you good at?", "What do you hope for?", "What

The Luotain package.

A multidisciplinary workshop was arranged in order to analyze the Luotain packages.

do you fear?", "What is your motto or guiding principle in life?" et cetera. The seniors were asked to photograph the meaningful and important things in their home and its immediate surroundings with disposable cameras. After returning the package the seniors were interviewed individually and thoroughly in order to complement the material and prevent false interpretations by the researcher.

On the basis of the user study profiles of the seniors were presented as user scenarios. The material and scenarios were analyzed and evaluated in a multidisciplinary workshop resulting generic themes. The themes related for example to nature, social interaction, transportation and freelance work.

After the further analysis of the generic themes a matrix containing lifestyle related needs, *Lifestyle Matrix*, was created. The matrix presents common denominators of needs and individual solutions to those needs. The common denominators act as design drivers which can be seen as generic guidelines when planning future senior housing that takes into account a more comprehensive subjective well-being. Some of the design drivers became concrete as scenarios.

Description of the Findings

Based on the analysis of the user study four generic themes were found: *individuality*, *community*, *time* and *surroundings*. These themes describe the requirements related to individual lifestyle based needs in housing. Each of them divides into two sub-themes. The purpose of the themes and sub-themes is to complement the measurable functional requirements in housing.

INDIVIDUALITY – INDIVIDUALLY:
BREAKING FREE AND AN OWN HOBBY PLACE
Even though individuality refers to being alone it does not mean loneliness, but the need for being independent and autonomous. Individuality strengthens the feelings of one's own control over life, ability to influence one's own life and to make own decisions.

Breaking free can be seen as an instrument for taking time for oneself, quieting down and withdrawing from the surrounding world. An own hobby place fulfills the need for creating something by hand. In such a place one can engage in important and meaningful hobbies, concentrate on them and express her-/himself. This is important especially after retirement when one's content of life radically changes. Work and career have often been important to one's self-fulfillment and retirement can feel as a loss.
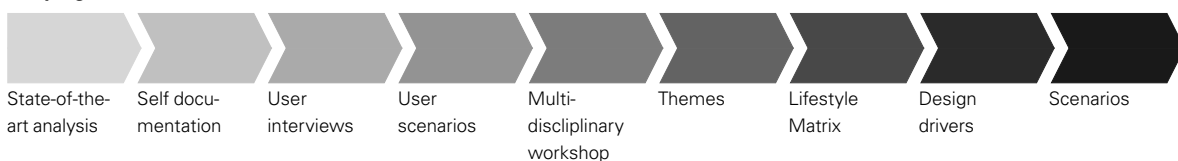
COMMUNITY – TOGETHER:
HELPING OTHERS AND SOCIAL INTERACTION
Helping others and social interaction diminish feelings of uselessness and redundancy. These feelings may appear when one retires and her/his content of life as well as social relationships change.

Helping can be anything from babysitting grandchildren to acting as a freelance consultant within a community. The main point is that one feels needed and useful.

Social relationships are significant for anyone, but especially for older people. Social relationships can differ from traditional ones as new family forms are created. Social relationships are also built in new ways, for instance through internet.

The progress of the research.

State-of-the-art analysis → Self documentation → User interviews → User scenarios → Multi-discliplinary workshop → Themes → Lifestyle Matrix → Design drivers → Scenarios

Older people's peer groups have importance for sharing the daily life and also helping each other. "A senior tutor" or "mentor" can help for instance in handling the change generated by retirement. But in addition to this social interaction between generations is also important. This prevents segregation when in a certain place live and interact only certain kinds of people. On the other hand living with same kinds of people might be a conscious choice, but that is a matter of specific chosen lifestyle. In addition to advantageous social influences, intergenerational relationships also help passing the tacit knowledge.

TIME: ROUTINES AND LIVING IN PRESENT TIME

Routines, individual daily rhythms and living in present time relate to time. Routines refer to continual activities carried out in- and outside one's home. People have individual routines that take place in different times of a day. The possibility to follow these increases feelings of safety, independence, autonomy and one's own control over life.

Living in present time means seizing the moment. Seniors do not want to think of the possible setbacks in future and prepare themselves for the worst. This means that for example in housing adaptability that allows changes according to one's changing abilities is more important than aid equipment that are installed to be on the safe side.

SURROUNDINGS: TERRITORIES AND BELONGING

Surroundings refers to individual territories, belonging to something and being part of the surrounding environment. Different meeting places become meaningful and a daily or weekly routine. Sometimes older people may have "excuses" to stop in certain places just in order to meet other people. This kind of places can be for example familiar walking routes, coffee shops or even neighborhood of health centers. One may feel embarrassed due to loneliness and making "excuse stops" in order to "accidentally" meet people.

A territory is individual and can be everything from very small to large extending to overseas. Essential is that one feels to have control over one's own life, to be able to make own decisions and to belong to a larger community.

Lifestyle Matrix

Lifestyle Matrix presents the generic needs and requirements of individuality, community, time and surroundings derived from the user study. The matrix groups the individual solutions of the seniors

taken part in the user study into the generic needs mentioned above.

The purpose of the matrix was to help gathering and analyzing the material from the user study. On the basis of the matrix common denominators could be outlined. Behind the individual solutions lie more generic needs. It is important to realize the need that leads to a certain solution. When generic needs are identified, individual solutions can be customized.

Design Drivers

Design drivers are more specific definitions of the goals of concept design. They define what is to be solved and what kind of knowledge and talents are required. [10] Design drivers act as indicators of generic needs and can be seen as requirements set by users.

In this research design drivers were formed on the basis of the Lifestyle Matrix. They suggest how physical, social and psychological environment could fulfill the lifestyle based user requirements of the matrix. The physical, social and psychological aspects were chosen due to the fact that a human being is a social-psychophysical entity. Also the different subprojects of the national research project studied the subject from these perspectives.

Design drivers are guidelines that allow versatile solutions depending on the case they are applied to. Every house, flat or block of flats should aim at fulfilling the individual requirements set by their residents. Design drivers suggest solutions to measure up to those requirements. They do not offer ready-made solutions, but outline the factors that should be acknowledged in order to allow as much individual variation as possible. In the end the resident her-/himself should decide what is the best solution for her/his need.

Scenarios About Possible Future Lifestyle Based Solutions

Scenarios concretize the information derived from the target group, its environment, its products or their use. They describe the interaction between a user and a product. In practice a scenario can be a story about a single event. [11] The following scenarios suggest how certain requirements presented in the Lifestyle Matrix and outlined in the design drivers could be fulfilled in the near future. The scenarios are only introduced here. The complete scenarios are presented in the final report of the research.

	Eeva	Anne	Jukka	Liisa	Saija	Kai
Breaking free	Garden and nature. Spending time in her own garden.	Gardening, rowing in a lake, taking a sauna in a summer place.	Spending summers in his own island. Travelling.	Living in an own household despite being married. (Husband lives in his own house nearby.)	Several hobbies.	Reular walks alone. An intensive long-time hobby.
Own hobby place	Own garden.	Summer place by the lake.	A summer cottage in his own island.	Own garden.	Renovation of her summer cottage.	An antique automobile.
Helping	Relatives and close friends who need help.	Working as a freelance consultant. Interest in societal matters.	Belonging to charity organizations.	Voluntary work related to special hobbies.	Returning to working life when asked. Organizational activities.	Helping family members.
Social interaction	Family and relatives.	Very wide circle of acquaintances due to freelance work and hobbies.	Wide circle of acquaintances due to work and hobbies.	New acquaintances through internet. Pets.	A lot of different hobbies and memberships.	

Part of the Lifestyle Matrix where individual solutions to the generic needs are grouped

	Physical environment	Social environment	Psychological environment
Breaking free	Space or environment in- or outside that enables fast, fluent, barrier-free, accessible and safe transfer. Space or environment that supports the possibility to relax and exclude the surrounding environment.	Possibility to withdraw into oneself from surrounding social contacts or to create optional social contacts according to one's own wishes.	Possibility to be alone, calm and quiet down. Possibility to exclude physical and social surroundings. Possibility to create pleasant social contacts if preferred.
Own hobby place	A heated own space in- or outside that allows one to occupy oneself with hobbies. The space supports different hobbies and is adaptable according to its purpose. The space excludes other physical environment and can be reserved for private purposes.	Possibility to be alone and to exclude the social environment.	Possibility to be alone and to exclude social surroundings. Possibility to concentrate on personal matters.
Helping others	A space suitable for working or hobbies that can be reserved beforehand and that allows versatile ICT connections for several persons. Also a virtual meeting place in the Internet where different notice boards related to work and e.g., peer groups can share information.	Possibility to social contacts and interactions.	Possibility to channel one's know-how and fulfill the needs of appreciation and necessity.
Social interaction	Collective, all-year, barrier-free, accessible and safe spaces and environments both in the block and its immediate surroundings. Kitchen, bathroom (or sauna, swimming pool etc.) and rest room near.	Possibility to easily interact with others in collective spaces and environments. Possibility to spend longer times (kitchen and rest room near).	Possibility to interact socially and prevent loneliness. Possibility to belong.
Routines	Barrier-free, accessible and safe being and moving around the clock and season. Multi-sensorily guided routes and rest areas.	Possibility to maintain one's individual day-rhythm.	Possibility to feel independence, autonomy and control over one's life.
Living in present time	No permanent solutions. Possibility to modify apartments according to changing needs and wishes and also restore.	Life-cycle living. Possibility to satisfy the needs and wishes of different generations and lifestyles. Based on adaptability, no permanent or exclusionary solutions.	Minimizing the reminder of one's disabilities or growing disability in future.
Belonging	Barrier-free, accessible and safe space or environment for freelance, part-time or voluntary work. Possibility to a versatile information transfer.	Possibility to return to working life and interaction with professionals. Possibility to participate and affect in society.	Possibility to feel ability to affect and being needed. Relieving the changes caused by retirement.
Territories	Versatile immediate surroundings that enable building different individual routes and meeting places. Places that are 'socially acceptable' to stop (no need to feel embarrassed due to loneliness).	Possibility to accidentally run into others without feeling pointed out or embarrassed due to loneliness.	Possibility to solve problems caused by loneliness without feeling embarrassed.

Individual – individually   Community – together   Time   Surroundings

The design drivers that suggest, how physical, psychological and social environment could fulfill the user requirements

SENIOR BANK

Senior Bank is a scenario about a shared physical place that enables freelance work and hobbies. In addition to that, there is a virtual database that serves as a channel informing about the services offered in the Senior Bank.

The scenario presents Peter, a 68-year-old pensioner, who wants to continue working and offers mechanic's services. He preserves his tools and works in a tool shed that is built in the shared backyard of the block of flats. The people of the same block can book his time in order to do some repairing.

Senior Bank can affect the changes caused by retirement. Those changes may induce feelings of usefulness, boredom and loneliness. By channeling pensioners professional skills Senior Bank also helps passing on tacit knowledge. Loss of tacit knowledge is a particular problem in societies that age rapidly.

TERRITORY EXPRESS

Territory Express is a scenario about a bus tailored to the needs of citizens of a small rural town. In addition to transport, it offers different services like legal counseling, health care, library and internet tailored to the needs of the people in rural areas.

The scenario introduces Sanna and Aleksi, a retired couple, who spends half a year in a large, urban city and the rest of the year in the countryside. They are active users of the Territory Express.

Due to Territory Express people of rural areas can reach services, meet other people and widen their personal territories.

VIRTUAL TRAVELLING

Virtual Travelling is a scenario about a retired man, Aaro, who wants to continue his active lifestyle despite his disabilities.

An essential part of Aaro's lifestyle has been travelling. Due to his illness Aaro has not been able to travel the way he used to for a long time. Fortunately his

Peter
- 68 years old
- Retired
- Single
- Lives in an active-block of flats in the middle-sized city
- Wants to maintain and teach his professional skills

Peter walking towards the common tool shed in the backyard.

Aaro
- 67 years old
- Retired due to illness
- Single
- City apartment
- Lifestyle: travelling

Aaro has an adjustable chair, head mounted display and data gloves suitable for virtual travelling.

Sanna and Aleksi
- Retired early
- Married
- Two seasonal homes

Sanna and Aleksi impatiently waiting for the Territory Express to start.

friend knew about virtual travelling and introduced it to Aaro. Nowadays Aaro has the appropriate equipment for virtual travelling, which enable a barrier-free and attainable way of travelling. He meets his travelling companion, an Australian friend, in a chat room.

New technology, like virtual travelling, can enable to maintain lifestyles. This is important when one has to face limitations that disabilities may cause. Securing the familiar lifestyle and customs help adapt to changes.

Conclusions

The purpose of this research was to find out lifestyle based factors related to individuals' subjective wellbeing. The requirements should be generic, but based on individual needs. The user study probed the individual needs and wishes that formed the basis for more generic ones presented in the Lifestyle Matrix. Design drivers suggest what kind of lifestyle based requirements should be fulfilled when designing and implementing future dwellings or renovating older ones for senior citizens.

RATHER LIFESTYLE THAN AGE

Nowadays it is if not impossible at least inappropriate to segment people according to their age. Adulthood can be seen in a way as ageless. Lifestyles unite people more than age. However there are certain occasions related to individual benefits and responsibilities in a society that are defined by a specific age (driving license, retirement age et cetera).

At least in western world, people are living longer healthier due to innovations in medicine and technology. Also pensioners' financial resources may improve due to different kinds of personal retirement arrangements. These together with extra free time due to retirement will enable people to maintain the chosen lifestyle and to express themselves. This has effects on senior citizens' hobbies, consumption and other elements related to lifestyle. Certain age does not require certain lifestyle and vice versa.

TWO TURNING POINTS

Even though adulthood can be seen as ageless, two turning points can be detected. These turning points affect one's life thoroughly. The first one is retirement. The most concrete implication is the increase of free time. Along retirement one has about forty extra free hours in a week. But retirement has also other significant influences. An important part of one's life, a professional career, vanishes. This has implications to one's self-fulfillment but also to social life. A considerable part of the day of working people is spent at work and with workmates so the change due to retirement is remarkable. Also financial resources are affected depending on one's personal arrangements (for instance retirement savings and early retirement).

In spite of retirement or perhaps due to it, one probably wants to maintain her/his lifestyle. Certain elements of lifestyle may even strengthen as one has more time. Some people may become "extreme seniors" who want to start new bold hobbies or projects for which they have not had time before.

The second turning point becomes actual, when one's capacities (physical or mental) start to diminish. This challenges the environment and its adaptability. Barrier-freeness and attainability become a necessity. Therefore when planning and implementing environmental solutions, one's capacities should be taken into account for instance through Design for All. Adaptability of apartments and living environments is meaningful due to another reason, too. People do not want to prepare themselves for their weakening capacities. It is important that spaces are adaptable if and when special solutions are needed so that the surrounding environment supports one's lifestyle despite weakening capacities.

THE MEANING OF IMAGE:
AN APARTMENT FOR SPECIAL NEEDS OR
AN ESPECIALLY GOOD APARTMENT?

People generally do not want to be reminded of their disabilities even though most of us have at least minor temporary disabilities in some phases of life. This is especially topical when aging in some point causes different kinds of physical or psychological disabilities.

Therefore marketing has to be sensitive when the target group has disabilities. It is a different thing to market an apartment for special needs or an apartment that is especially good. A spacious bathroom and kitchen are barrier-free and attain-able, but there are also other advantages that could be emphasized.

The meaning of image is central in Design for All. DfA is often incorrectly related to designing only to disabled people or even designing aiding equipment. This does not contribute to attracting a wide range of users, which however is one of the objectives of DfA. Therefore other elements than barrier-freeness should be emphasized, too.

The markets need to acknowledge that seniors are as demanding and conscious customers as everyone else. They have life experience and they know what they want.

INTERACTION BETWEEN THE
GENERATIONS AND PEER GROUPS

In social surroundings Design for All is significant. Generally most people do not want to isolate themselves unless it is a chosen lifestyle and certainly not be pointed out due to disabilities.

It is important that different generations interact with one another. This enables an interesting, positively challenging and inspiring interaction with different kinds of people. Especially meaningful this is for older people and children. Intergenerational relationships also strengthen the exchange of tacit knowledge, whether professional or linked to experience of life.

Even if intergenerational relationships are important, the advantages brought by similar people should not be undervalued. Living environments should be designed and implemented so that they attract various people in different situations in life, but also support emergence of peer groups. It is important to realize that lifestyle can be far more uniting factor than age.

THE IMPORTANCE OF USER-CENTEREDNESS

People are interested in influencing their environment. This means more than just selecting the most pleasing wallpapers or tiles. It is important to engage people already in the planning of the environment. The meaning of user-centeredness is emphasized in every phase of the process.

User-centeredness already at the beginning of the process is often economic in the long run. There are fewer changes in the end, if people have had the chance to affect the planning of their housing and environment. Because the lifecycle of an apartment or a house is longer than the lifecycle of a person adaptability is important and of common sense.

WHAT MAKES AN APARTMENT HOME?

What makes a home? What are the elements that could make for example a sheltered home for older people feel like home? By recognizing individual needs and wishes it is possible to affect how people adopt their apartment and environment. Behind individual needs and wishes often lie generic ones. Therefore also generic requirements that have individual solutions can be stated.

On the basis of this research factors related to individuality, community, time and surroundings cover the needs of different individuals. These appear as needs for

1. breaking free
2. own hobby place
3. helping others
4. social interaction
5. routines
6. living in present time
7. belonging
8. territories

How do the above needs relate to future housing for senior citizens? Individual and her/his needs and wishes are the core of user-centered design. In an ideal situation everyone can contribute to her/his own environment in every phase of the process, from the beginning of the planning to moving in. However in reality this still is challenging due to several reasons.

When the generic requirements of the people are known, environments can be designed so that the outcome is adaptable in a way that allows individual variations within the limits of generic needs.

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References

[1] *Tilastokeskuksen väestöennuste 2000–2040.* The progress of population structure by Statistics Finland. http://statfin.stat.fi cited March 28, 2006
[2] The Finnish Design for All network. http://www.stakes.fi/dfa-suomi cited April 3, 2006
[3] Jordan, Patrick W. (2000). *Design Pleasurable Products: An Introduction to the New Human Factors.* Taylor & Francis, London, 13–14
[4] Keinonen, Turkka (Ed.) & Jääskö, Vesa (Ed.) (2004). *Tuotekonseptointi.* Teknologiateollisuuden julkaisuja nro 12/2003. Teknologiateollisuus ry. F.G. Lönnberg, Helsinki, 86
[5] Roos, J-P (1990). Suomalaisen elämäntavan muutokset. In Riihinen Olavi (Ed.). *Suomi 2017.* Gummerus Jyväskylä, 477
[6] See Keinonen (Ed.) & Jääskö (Ed.), 84
[7] Huotari, Petteri, Laitakari-Svärd, Ira, Laakko, Johanna & Koskinen, Ilpo (2003). *Käyttäjäkeskeinen tuotesuunnittelu. Käyttäjätiedon keruu, mallittaminen ja arviointi.* Taideteollisen korkeakoulun julkaisu B74. Gummerus Kirjapaino Oy.
[8] Gaver, Bill (William W.), Dunne, Tony & Pacenti, Elena (1999). Cultural Probes. *Interactions*, Volume 6 Issue 1 January + February 1999.
[9] Koskinen, Ilpo, Battarbee, Katja & Mattelmäki Tuuli (2003). *Empathic Design. User Experience in Product Design.* Edita Publishing Ltd IT Press. Edita Prima Ltd, Finland.
[10] See Keinonen (Ed.) & Jääskö (Ed.), 53
[11] See Huotari et al., 61

1 *Asunnon arviointimenetelmä ARVI.* Directions by the Housing Fund of Finland (ARA) for barrier-free and attainable housing in Finland.
2 *Future Home Institute* is a project funded research institute in the University of Art and Design Helsinki. The aim is to find out strategic synergy advantages in the interface of research and business. The focus of the research projects is user experience in housing, working, services and leisure. www.uiah.fi/futurehome
3 *Luotain – Design for user experience.* Two and half year research project in the University of Art and Design Helsinki aimed at developing methodological tools to support user-centered pre-design and concept design in the context of industrial product design. The project was part of the DESIGN 2005 program of the Finnish Funding Agency for Technology and Innovation (Tekes). http://smart.uiah.fi/luotain cited Feb 21, 2006

Anna Meroni

Food de-intermediation

Strategic design for the creation of transparent food networks

Modern food intermediation is increasingly unable to cope with the demand for services from its constituent actors, particularly in the case of small scale, quality, local production. It is the protagonists at the beginning and end of the current chain that suffer: the producer and the consumer. On one side, local producers are no longer able to access the market and on the other side, consumers have a reduced possibility of understanding, judgement and choice. This situation is the expression of a serious difficulty suffered by a large number of local food producers who run the risk of disappearing, with huge damage to cultural heritage and quality local economies. Industrial design, which is increasingly involved in the food sector, can intervene in this situation, supporting new models of innovation that shorten the chain between producers and consumers. Service design, particularly, has the proper skills to start rethinking food intermediation in order to create the conditions for a new quality local based food-chain, in which actors can fully find answer to their needs in terms of effectiveness of the service and quality of the exchange of the goods.

Key words
Service design, Strategic Design, Food Chain, Food intermediation, Local produce chain.

1. The workplace

This essay focuses on the problems involved in the valorisation and commercial intermediation of small scale, highly localised, quality, agro-food production, carried out by traditional methods that give the food particular organoleptic and socio-cultural qualities. These are products that stand out for their:
- distinct local character and, frequently, traditional roots;
- production models based on family firms, where the work is mainly carried out by the owner, his or her family and the people they live with;
- production by meticulous processes, respecting the territorial system and paying careful attention to the organoleptic qualities of the results, carried out in limited areas with diversified, seasonal farming.

They are, for the most part, fruit of the labour of single nuclear or extended families, who cannot compete on the market with the rules of mass distribution, but represent the soul and heritage of a local culture.

Mainly with reference to this produce, the modern food intermediation, i.e. the chain that brings food from producer to consumer, is increasingly unable to cope with the demand for services from its constituent actors, particularly in the case of small scale, quality, local production. It is the protagonists at the beginning and end of the current chain that suffer: the producer and the consumer. On one side, local producers are no longer able to access the market and on the other side, consumers pay a lot but have a reduced possibility of understanding, judgement and choice.

In addition, because of the modest quantities, seasonal nature and the fact that they do not form part of the aesthetic/organoleptic standards of mass production, small productions tend to be excluded from the assortments of organised distribution.

So, modern food intermediation demonstrates with increasing clarity the inadequacy of a series of factors, both on an international and a local level:
- the pattern of excessive costs that raises the end price, but pays producers inadequately

- over-standardisation of products, which drastically reduces variety, above all to the detriment of small scale production and small producers;
- growing dissatisfaction among consumers who do not have transparent access to information about the source of the product;
- logistics conceived for large quantities of produce and long distances;
- indiscriminate disassociation from season and region that leads to a lack of food awareness and unsustainable environmental costs.

At the same time, it is possible to find in society an increase in sensibility towards environmental issues, health and fair retribution for work: in a word, towards aspects of *sustainability*, with special attention to the food sector, or rather, to how, where and by whom, food is produced and how it gets to us. This means talking about *transparency* and *ethics*.

2. Demand for innovation and research aims

If we look at local quality production rather than at large-scale mass production, the concepts of intermediation, transparency and ethics intertwine, generating a *problematical knot*. Consequently, they also generate a demand for *design innovation*, launched from several directions:

- the European Commission points to the issue of "Reversed food chain" as a research priority for the coming years. In other words, a rethinking of the food production chain from the end-consumer's point of view. This entails reflection on such issues as: traceability, transparency, new forms of sales and purchasing and demand for knowledge. It also promotes diversity based on quality ("Dai campi alla tavola" 2005), trying to safeguard traditional food and food typical of specific zones, through legislation and attempting to encourage awareness and competence in consumers through informative action;
- organisations such as Slow Food, Organic Agricultural associations, fair trade associations, and certain large distribution chains, act by promoting services that shorten agro-food chains, to the advantage of both producers and consumers.
- Consumers look for and find alternative solutions, demonstrating a marked "entrepreneurial" and creative capacity. Solutions that spring from the impulse of single individuals or small enterprising groups who organise themselves in order to buy quality food at fair conditions.

This demand for innovation requires multidisciplinary responses that integrate technical-scientific and socio-humanistic skills: a rethinking of the local production chains based on *platforms of service and infrastructure* able to support more sustainable intermediation models that are advantageous both to producer and consumer.

We believe that design, in particular *strategic service design*, can contribute positively to formulating these responses. To verify this we have started a series of convergent research activities, all characterised by a significant initial phase of research and analysis of case studies (innovative solutions and best practices), which has been, or will be, followed by a design proposal phase.

This essay seeks briefly to present the results of this case study and the design orientation that can be outlined so far, with the purpose of facilitating the creation of transparent food networks, i.e. systems that:

- support small producers and small scale, regional and quality food production through various strategies;
- safeguard biodiversity and the heritage of local food lore and expertise
- safeguard both producer and consumer, rendering them more transparent to each other and fostering relations of trust
- establish a fairer system of costs, prices and earnings;
- help consumers assess the value of what they buy and purchase more economically

3. Work hypothesis: the network model

The research activities are driven by the hypothesis that, in a situation of growing globalisation of offer, demand and distribution, it is necessary to start *networking* (between producers, between consumers and between the two), i.e. to set up networks to safeguard small-scale producers and offer greater advantages to the actors involved in the small-scale food chain.

Such a model is evidently not exclusive, indeed it is complementary to, and can be integrated with, some of the more conventional ways of organising distribution. This hypothesis is based on:

- the observation of phenomena and ventures already in progress on contemporary society: innovative relationships between producers, consumers and between actors in the chain.

- the corpus of studies dealing with Distributed Economies (see the activity of "DeLabs", on beneath "The International Institute for Industrial Environmental Economics" of the Lund University): an economic model that fosters diversity and the small scale (wherever this makes sense for the type of product and production system), and the distribution of knowledge and action capacity as factors in sustainable development. The concept calls for networking, i.e. the building of an inter-regional network of small scale complementary production units, in order to achieve effective economy of scale. This is a vision of a production and consumption model that, while looking to optimise systems as in an industrial perspective, enhances the value of production diversification from area to area (Manzini, 2005). For example, if we consider the potential currently offered by the most widely used information and communication technology, it is immediately evident that even small-scale producers can not only easily interact together, but can also make their presence felt on the local and global market, interacting with consumers, in an open, active service model. All this is also in tune with the evolution of behaviour in a growing segment of the population, which is calling for personalised solutions and the possibility of taking a more active part in the system of supply and demand.

The emergence of cases of de-intermediation and the concept of distributed economy speak to us of networks, conceived to achieve economy of scope and scale, of :

1 complementary actors, e.g. producers of goods that can be integrated and give rise to a possible solution;
2 similar actors, e.g. producers of the same food items, so that they can share technology infrastructure and plan promotional activities; or consumers in order to reach a critical mass for the purchase of particular items.

Awareness of these network models is the fruit of cases studies (already undertaken or still in progress) in three different research activities:

- EMUDE (*Emerging user demand for sustainable solutions),* a 2 year (2004–2006) EU funded research project, in the 6th F.P., involving 9 main partners in several European Countries. The aim of this project was above all to draw up a conceptual map of promising solutions for sustainability, produced by creative communities scattered over various European countries. And, from here, to draw up scenarios and technological roadmaps to support and disseminate them;
- A course of Service Design (AY 2004–2005) conducted by the Design Faculty of Milan Polytechnic, the design theme of which was the small-scale food chain;
- A research project, still in progress, funded by the Italian Ministry of Scientific research (2006–2008) entitled "The farm park: a new tool for the district planning of open spaces" seeking to draw up guidelines for the support of agricultural production networks in out-of-town parks.

We consider the case studies identified during these research activities as examples of promising food networks in the direction of social and environmental sustainability.

4. Food networks: existing, promising ventures

We can define food networks as the (physical or virtual) links between different types of actors, that exist for the purpose of carrying out activities associated with the production/exchange of food, and the development of food related knowledge. If we look at society, we can see that various types of network exist, where producers, or consumers, come together to achieve a mutually advantageous result:

- *Community Supported Agriculture (CSA):* is one of the most fitting examples of what we may call a network organisation, to be found in the agro-food sector. It is a widespread international movement that links producers and consumers together on a local basis. Groups of consumers purchase a farmer's seasonal supply of fruit and vegetables in advance. This is then delivered weekly. It is not only a way of purchasing, rather it is real form of co-operation with shared advantages and risks, according to a relationship model that may vary, but that supports small-scale producers in an effective and crucial way, and even takes an active part in activities that respect the environment and labour, according to principles that motivate the consumer to join the system and generate direct personal ties between members. The Community Supported Agriculture movement is very widespread in North America and in northern Europe: among the organisations

seeking to spread the culture of CSA and extend access to purchasing groups in Italy is the Associazione Italiana Agricoltura Biologica (www.aiab.it); in the United States there is Farm to City (www.farmtocity.org), Visible Food (www.visiblefood.org); Land Stewardship Project (www.landstewardshipproject.org); in Canada there is Food Share (www.foodshare.net), Sustainable Agriculture Research and Education (www.sare.org) and many others.

- In Italy, CSA is active in the form of "*distance adoption*" ventures for fruit trees, grapevines, olive trees and animals (e.g. Agritime, a society that enables a sort of virtual cultivation of apple trees and grapevines over the Internet, at a fixed cost with extras depending on the choices made by the virtual farmer (www.agritime.it). Or the co-operative movement "La Porta dei Parchi", in Abruzzo, that offers the adoption of sheep in exchange for products obtained from the milk or the lamb itself "for consumption" (www.laportadeiparchi.it). These ventures also offer the possibility of visiting and staying on the farms, checking up on one's tree or animal, and naturally of meeting the farmer "in the flesh". Against a fixed annual payment the supporter receives the fruit from his adopted tree, which is sometimes produced according to choices made by the supporter himself. CSA is an example of alliance between similar actors (consumers at one end and farmers at the other) to make direct contact with their trade reciprocate: the purchaser or producer of the goods;

- weekly or monthly *subscriptions* to a supplier of agricultural products are organisational variations on the CSA theme where, however, producers and consumers do not really share the risks. These ways of selling fresh fruit and vegetables are very widespread, particularly in the north of Europe where they have now been common practice for decades: for examples see Apfelbacher Gemüseabo, in Germany (www.biolandapfelbacher.de) or Ökosahver in Estonia (www.sahver.ee);

- *Ethical Purchasing Groups* are self-organised consumer networks that aim to buy collectively (wholesale) directly from producers who are selected according to ethical and quality criteria. This form of organisation aims to order goods in sufficient quantities to be able to purchase wholesale from the producers, but above all it seeks to select its own suppliers according to ethical and quality criteria (and therefore of solidarity), and also to satisfy the needs of a small elective community motivated by common reasons. A national group of purchasing groups has been set up in Italy: www.retegas.org. Ethical purchasing groups are examples of a network of similar actors on the demand front.

- *Consortia and Associations* are the most common forms of network on the offer front. From a legal point of view their infrastructure and production are shared, so they promote their products on the market through common advertising and direct sales. There are numerous examples: in Italy we have huge consortia like the Parmigiano Reggiano consortium, and small associations of high quality local producers. They are both examples of networks of actors offering similar products;

- *Farmer markets* are forms of direct sale by producers who bring their goods to market, fostering product visibility and the web of privileged relationships with consumers. They are considerable different from neighbourhood markets where goods arrive after several stages of intermediation. In Italy, in Milan for example, there are activities of this kind organised both by the AIAB (Associazione Italiana Agricoltura Biologica), and by VAS (Verdi Ambiente Società, http://vaslombardia.org), in the Biomercatino (market for organic goods in Milan);

- *Direct selling* on the farm or via internet is common and often consolidated practice. The consumer goes to the place of production where, according to the season, he finds freshly harvested or prepared products. There are numerous examples: in Scotland, the Cream o'Galloway dairy farm (www.creamogalloway.co.uk), or the collective distribution networks of farmers on the Isle of Skye (www.foodlinkvan.co.uk). Often farm sales are combined with different kinds of explanatory visits to the fields or production points, sometimes along the lines of *didactic farms,* especially aimed at children;

- *Local events* are activities of various kinds that look to promote products and their places of origin simultaneously. From the point of view of the experience they offer the purchaser, they are very attractive producer-consumer relationship patterns (Pine, J.B., Gilmore, J.H, 1999) and it is not by chance that they are one of the main appeals of wine and food tourism (Paolini, 2000). Local festivals, specific events and fairs, often linked along

"strade" or routes (e.g. of wine: "strada del vino"), can be listed in this category along with museums that tell the history of production processes (e.g. the food museums in Parma, www.museidelcibo.it). Since a variety of actors are often included (food producers, craft producers, hotel and restaurant managers…), in this case we can speak of networks of complementary actors who enhance the value of each others' production activities;

- The great national and international *promotional events* are ventures that take place in locations outside the geographical areas of production: these are activities that seek to unite producers or experts from a given production sector or with similar characteristics. Organised and sponsored by associations of various types, one of the most important in Italy is the "Salone del Gusto", run by Slow Food in Turin, where *Terra Madre,* a world wide event that bring together 1200 "food communities" coming from all the world, also takes place (www.slowfood.it);

- the *Presidia*, which are actions of support and communication promoted by Slow Food in order to safeguard a certain local production. Slow Food's Ark of Taste has catalogued hundreds of extraordinary products from around the world.: the Presidia is the working arm of the "Ark of Taste". Presidia are small projects to assist groups of artisan producers, which operate by creating associations and organising communication campaigns: a network of actors of the same kind.

These networks are possible answers to the demand for shortened food chains: they are the way in which (small) producers on the one hand and (individual) consumers on the other get into direct contact with each other, deciding themselves how to behave and choosing who they wish to set up relationships of trust and transparency with. They also foster a food consumption pattern that is mainly based on seasonal, local produce to the benefit of both health and environment.

5. A strategic design approach

How can design contribute to developing this type of solution, which benefits small scale food producers?

It is becoming more and more common to talk about a convergence between industrial design and food chains: we believe that design need not necessarily be one of the agents that today press for the total industrialisation of this sector, rather we believe

that it can promote different agricultural and food systems based on an advanced industrialised vision that pays special attention to the quality deriving from local variables.

The designer works in society turning social behaviour into products and "services". An industrial designer thinks and acts according to a logic of opportunity in relation to needs and context, and of reproducibility.

By *service design* (or *product-service-system design*) we mean a discipline that designs solutions, i.e. articulated bodies of integrated products and services designed to meet a demand that is altogether similar to the one we are considering here. In such a solution both the interaction patterns and the products used may be totally or partially innovative: this means that the designer can also concern himself with rethinking the forms of intermediation (or de-mediation) for home produced or handmade products, in the light of a global competitive and technological scenario. This also means that design can intervene to improve an existing system just as it can generate radically innovate ideas.

When we then talk about *strategic design*, we refer to a way of seeing product-service-system design that hinges on aspects associated with value, culture, and evolution in our ways of producing and living. We refer not so much to single products (food products in this case) but to a "food system" (Meroni, 2004). A food system can be defined as the technical footprint given by a society's food culture. Thus, talking about the design of food systems means focussing on the strategies by which to plan new solutions within existing structures that are part of a society's cultural heritage. On one hand, the strategic dimension of a project is given by the need to define long term goals: starting from an interpretation of the present we than sketch possible, desirable scenarios. On the other hand, it arises out of the ambition to introduce innovations able to generate long-lasting, shared realities that are both self-perpetuating and able to adapt flexibly to changes in the system of which they are a part. That's to say that the strategically designable aspects of a food system are mainly those associated with values, in so far as they define the identity of a solution within its socio-cultural context.

Thus, the intent of a strategic design project, by establishing conditions for a transparent and correct relationship between producer and consumer, is also to reach certain value objectives, such as

- supporting natural methods and conditions of cultivation and preservation;
- safeguarding and enhancing the local identity of products as demonstrations of the cultural heritage of an area, triggering a constructive confrontation with the modern food industry;
- promoting the quality of products as an expression and recognition of particular skills and expertise;
- promoting better informed, healthier, eating styles linked to local area and seasons as well as to an awareness of one's own nutritional needs.

6. A contribution from strategic design

However, defining the intentions and possibilities of a strategic design approach to the food sector has still not enabled us to say what it can do for the specific issue of de-intermediation between food producers and consumers.

The vast collection of case studies collected during the various research activities have enabled us to grasp certain fundamental concepts (Meroni 2005) that are the necessary premise to any design action:

- first and foremost, the way of collecting (by direct, quasi-ethnographical, observation on the field) and interpreting these cases was a project in itself, with autonomous scientific value, because it was probably one of the first times that these situations have been looked at from the point of view, and using the tools, of design. Furthermore, the collection and public communication of these cases is the first concrete step towards disseminating them;
- the specific nature of the context (its networks of existing social relationships, cultural breeding ground and the presence of highly determined people) and the dimensions of the solution (territorial area, number of actors involved) are not easily replicable or extendable factors. They are not authentically replicable because they are generated by the intrinsic motivation (Inghilleri, 2003) of the people involved; they are not extendable because, if on the one hand they need a critical mass, on the other hand this mass itself is of a limited size, above which the intensity and effectiveness of the relationships risk being diluted;
- the profound quality of the solutions analysed (and therefore of how and why they exist) lies in factors that are by no means obvious: time after time we understood that what may appear "uselessly laborious" or even a "waste of time" to the

eyes of an external observer is actually a source of happiness and satisfaction to those who put the solution into practice. For example, for a purchasing group, periodically meeting together in person to discuss producers and decide on orders is a pleasure, just as, in other cases, is contributing to the cultivation of some of the products they buy.

Having said this, it seems evident that the role of strategic designer as "facilitator" or "multiplier" of good practices is not to be taken for granted in these cases. It is possible to imagine three types of intervention, each with widely differing final goals and operative tools, but all aiming to enhance the value of the intrinsic qualities of the network under observation:

1. support existing activities and foster similar ones, by designing a series of modular, co-ordinated (communicative, technological, operative, logistic) tools for the actors to use at their discretion to "facilitate" some of the phases in their work or to activate new ventures;
2. re-work promising ventures that propose certain values, in different ways and on different scales, in order to make them more feasible for actors who are less ideologically motivated or who may be less prepared to invest time and energy;
3. elaborate and propose new intermediation patterns for the actors in the chain, both starting from those analysed, and fruit of creative inductions and conceptual transferrals from other production sectors with similar characteristics.

This is equivalent to designing service platforms that enable many, small or tiny production situations to be linked in a network, in a subsidiary and complementary fashion. Given that these situations are economically fragile, but are often still compensated by a strong social structure, these platforms must rely on creative combinations of technology and people, volunteers and resources, passion and necessity (Bogliotti, 2006).

This is tantamount to creating shared visions among different actors, whether producers or consumers; visions able to incentivize networking and introduce new ways of acting on the market.

7. Support promising activities

The main goal of the EMUDE project was to identify and get to know promising solutions in order to outline scenarios and technological roadmaps to sup-

port them, in other words, enabling platforms (Manzini, Jegou, 2003) of infrastructure of various kinds. Given the territorial and social identity of these solutions and the communities putting them into effect, we have understood the importance and uniqueness of the human and personal motivation factor, as well as their delicate quantitative balance with context (Meroni, 2006). This is the reason for our conclusion that a designer wishing to design useful enabling services (Cottam, H.& Leadbeater C. 2004) for these situations must:

- facilitate user-friendly access to information that is relevant to a given activity, when required and in appropriate form, by creating platforms for sharing and exchanging ideas;
- plan "modular" services, in other words services able to perform at different levels so that each user can easily understand and choose the desired kind of relationship, and make use of the required support;
- put individuals in contact with others in similar situations, voicing similar needs, for the purposes of mutual help and support. Making something visible and putting people with the same motives in contact, as the event *Terra Madre* teaches us, is the first step to reinforcing it;
- facilitate interconnection between producers with a view to reinforcing the identity of the numerous entities distributed throughout local areas, whose single identity is weak. To do this, technological solutions can be used, but also creative forms of organisation based on the network of interrelationships existing in the local community;
- facilitate interconnection between (intermediate and end) consumers, to bring demand together and organise it into a coherent voice towards producers. Again this can take place through technological facilitators, but also by generating occasions, products and solutions that make consumers transparent to each other.
- help users to map out in their own minds the solution and the system in which they are interacting, in order to help them grasp the various behavioural options open to them.

8. Re-work promising activities

The scientific debate engendered around the EMUDE project and the considerations already made in the previous paragraph have led us to understand that, most times, replication or expansion of the cases analysed would profoundly modify their nature, and cancel their motivations. However, we have also understood that some of the qualities of these networks could become part of new, partially different solutions, promoted from the most advanced point of current agribusiness.

The *advanced agribusiness model* is an industrial system that adapts and rethinks the needs, methods and processes of large quantity industrialisation according to rules dictated by environmentally, socially and economically sustainable local development.

It is an industrial model that: applies biodynamic, organic or integrated cultivation methods, rationally, wherever local conditions require or allow; applies advanced technological systems of pre-treatment and *minimal processing* to facilitate the arrival of food rich in nutriments, fresh to our tables; reintroduces seasonal and regional recipes and food solutions; shapes relationships with intermediaries and distributors on principles of collective value building, correctness and respect for specific characteristics; and operates on the market basing diversification on contexts of use (Jégou, F. & Joore, P., 2004).

National and international legislation aiming to safeguard and guarantee organic products, or products typical of a specific region, area, tradition or production process (DOP Denominazione di Origine Protetta (guaranteed origin), IGP Indicazione Geografica Protetta (guaranteed geographical area), STG Specialità Tradizionale Garantita (guaranteed traditional speciality) constitute the legal umbrella for this industrial model.

The motives for its development arise first and foremost from an awareness of a demand from society: industry has acknowledged a request coming from a growing segment of consumers, for goods of guaranteed quality that safeguard at the same time both product and producer.

Re-working promising solutions means rethinking them on a different scale with different means, in the framework and with the support of advanced agribusiness that, along the lines of medium size enterprise, is able to assume some of its qualities and at the same time generate the economies of scale necessary to produce them, making them accessible and appetising to a larger producer base on the one hand, and to consumers on the other.

9. Elaborate new hypotheses

The intention of the Course on Service Design on the theme of food de-intermediation was precisely to stimulate young designers to creatively rethink the

chain of small-scale, local, quality production, creating platforms of services and infrastructure that support more sustainable intermediation patterns that benefit producers and consumers..

The didactic aim was to make young designers more aware of, and arouse their interest in, a salient issue that is normally far from the average sensibilities of this age group but, probably, not far from their values. And get them to understand the importance of imagining sales patterns other than supermarkets, where consumers and producers are also able to play unprecedented roles.

The projects developed grew out of two different ideas of service that can be summarised as follows:

1. the direct involvement of consumers in the manufacturing and distribution chains of the product itself: active user participation in the preparation of regional specialities sold in local supermarkets ("Da buone mani" by: Aletto, Bernabè, Cammareri); creation of a network of private citizens, to support local produce, united by the desire to share experiences and diffuse common interest in a tradition throughout the community ("I custodi del gusto" by: Brigandì, Colciago, Di Pilato); self-production of bottled preserves for self-consumption or exchange ("Io Bio" by: Andreoni, Manera, Rogel);

2. unprecedented forms of intermediation (often borrowed from other sectors of merchandise or derived from daring concept transferral) to sell small scale local production in cities at advantageous conditions: the train functioning as distributor/sales outlet bringing agro-food products from the country to the urban consumer, ("Mercando" by: Sironi, Spagnuolo, Vezzani, Zocca); the promotion of products that have obtained the De.Co, brand, Denominazione Comunale di Origine (common denomination of origin) through the constitution of a place where they can be discovered ("Non solo sapori" by: Castiglioni, Colagrossi, Donadini, Fantoni); the street-distribution of single, local, washed, ready-to-eat organic fruit in highly transited locations of large cities, the personalised, monthly supply of high quality eggs ("La Gallina ha fatto l'uovo" by: Ballerani, Cantù, Citterio); temporary seasonal fruit shops open for a few hours a week in the centre of the city ("Guerrilla food" by: Macchi, Micheli, Occhipiniti).

10. Conclusions

Finally, the research activities carried out up to now have enabled us to identify certain macro-issues that concern design activities falling into this particular area of work.

These are issues that concern the market, offer patterns and consumption behaviour and are targets for specific strategic design actions:

1. The localisation of production, sales and consumption:
- set up situations within the territory of origin that offer visibility to local produce, highlighting its natural collocation in the context;
- design sales solutions focused on the figure of producer-seller and the socio-geographical context of origin;
- promote a food consumption style that is attentive to season and place of origin, through the communicative appeal and accessibility of the products;

2. The involvement of producers in promotion and sales activities:
- set up simple, transparent ict interfaces for communication and direct trade with consumers;
- design services and infrastructure that facilitate the "display" of produce on the part of the producer, and the management of sales outlets;
- design packaging and containers functional to the production process and also useable for retail sales.

3. Consumer involvement in production and sales activities:
- design accessible physical (spaces) and virtual (information) conditions that facilitate the learning of production techniques, and self-production;
- design easy-to-use interfaces, located in everyday public places, that facilitate joining production ventures and purchasing groups;
- valorise the initiative of people who pass on skills and expertise, by sanctioning their role and creating opportunities for them to spread their knowledge;

4. The configuration of public and semi-public trading spaces in cities:
- design hybrid spaces for trade and social relationship, able to house collective and public activities;
- design flexible, light solutions to occupy new spaces for food trade: spaces inside the urban fabric, along the pedestrian pathways of the residents.

5. The awareness and capacity of the two ends of the chain to act effectively and define their own economic-social behaviour:

- identify and offer visibility to critical consumption activities and virtual agro-food ventures, helping promoters to get to know each other, i.e. placing them in a network.

These design actions, together, enable us to ascribe even the issue of small-scale quality food production to the discipline of strategic service design. By so doing, we can offer a preliminary outline of the contribution that a designer can effectively bring to a design table where experts in the disciplines most directly linked to the issue, i.e. food technologists and packaging, logistics and marketing experts operate.

Furthermore, thinking in strategies means thinking in the long term: thinking up self-fuelling and self-improving systems and solutions able to prosper and improve their context in the future. In contributing to building scenarios of more sustainable situations, such projects go hand in hand with the capacity to adapt to socio-territorial realities, and changing life and production styles. In the end, they are so able to mould themselves with a context that they naturally find there the reasons and resources for their own productive complexity theory, can be called sustainable adaptive systems. In other words, they are able to adapt, they are open and interactive, they "learn" from events that happen, and on the basis of what they learn, they find inner resources to organise or re-organise themselves. They are based on the interaction of local actor subsystems, linked by interests of various kinds but able to act autonomously.

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References

Dai campi alla tavola. Prodotti alimentari sicuri per i consumatori europei (2004 July). Bruxelles, Manuscript by European Communuity. www.europa.eu.int/comm/publications

Manzini, E. (2005, April). *New food networks. Agriculture, food and design for a multi-local world.* Agrindustrial Design Symposium, Izmir University of Economics.

Pine, J.B. & Gilmore, J.H. (1999). *The Experience Economy. Work Is Theatre and Every Business a Stage*, Boston, Massachusetts, Harvard Business School Press.

Paolini, D. (2000). *I luoghi del gusto. Cibo e territorio come risorsa di marketing.* Milano, Baldini & Castoldi.

Meroni, A. (2004). Il design dei sistemi alimentari. In P. Bertola & E. Manzini (Eds.) *Design Multiverso. Appunti di fenomenologia del design*, Milano Edizioni Polidesign.

Meroni, A. (2005, April). *Strategic design for the food sector: food-system innovation.* Agrindustrial Design Symposium, Izmir University of Economics.

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

Bogliotti C. (2006). Progetto per il futuro del cibo. *Slow. Messaggero di gusto e cultura.* n. 53, pp 64–70.

Manzini, E. & Jégou, (2003). F. *Sustainable Everyday. Scenarios of urban life.* Milano, Edizioni Ambiente.

Meroni, A. (Ed.) (2006). *Creative communities from Europe. People inventing sustainable way of living.* (on going publication).

Cottam, H. & Leadbeater C. (2004). *Health. Co-creating services.* London, Design Council.

Jégou, F. & Joore, P. (Eds) (2004). *Food Delivery Solutions. Cases of solution oriented partnership*, Cranfield University.

Carla Cipolla

Sustainable freedoms, dialogical capabilities and design

Abstract

This paper presents an ethical approach in service design in terms of "the expansion of people's capacity to lead the kind of lives they value—and have reason to value" which is Amartya Sen's definition of freedom. Specifically, we analyse how service design can support people who use their freedom to reduce the ecological footprint and regenerate the social fabric, i.e., how to support **sustainable freedoms** through design solutions.

Otherwise, as individuals we can rarely gain the *freedom to do the things that we have reason to value*. Communities are fundamental in achieving *sustainable freedoms*, which are deeply related with people's interactions with others. Martin Buber's theory is used to evaluate the quality of these interactions and to guide the development of design solutions that can support people's **dialogical capabilities**.

These considerations are part of my PhD research which intends to create a model - based on the dialogical approach - to evaluate the relational qualities of services interactions, aiming to contribute to a service design theory (ethics) and practice capable of dealing with the radically new problems that are arising in this phase of transition towards sustainability.

Keywords

I am simply a man
who has seen something
and who goes to the window
and points to what he sees.
(M. Buber)

This paper presents an ethical approach of the design of services discipline in terms of "the expansion of the 'capabilities' of people to lead the kind of lives they value—and have reason to value" which is Amartya Sen's definition of freedom. Specifically we analyse how design of services can support people who use their freedom to reduce the ecological footprint and regenerate the social fabric, i.e., how to give support through design solutions to *the sustainable freedoms*.

Otherwise, gaining the *freedom to do the things that we have reason to value* is rarely something we can accomplish as individuals. Communities are fundamental in the improvement of *sustainable freedoms*, which are deeply related with the interactions people have with others. Martin Buber's theory is used to evaluate the quality of these interactions and to guide the development of design solutions that can give support to people's *dialogical capabilities*.

The starting point of this paper is based on the conclusions of a Specific Support Action, funded by the European Community concluded in March 2006, known as – EMUDE – Emerging User demand for Sustainable Solutions – www.sustainable-everyday.net/emude/)[1] These results are analysed here at the light of the theoretical framework of my Phd thesis, which places service design theory and practice (and its ethics) in the context of dialogical philosophy.

1. Diffused creativity

EMUDE has identified:

> "the emergence in Europe of groups of active, enterprising people inventing and putting into practice original ways of dealing with everyday problems. For instance: groups of people who re-organise the way they live their home (as in the co-housing movement) and their neighbourhood (bringing it to life, creating the conditions for

children to go to school on foot; fostering mobility on foot or by bike). Communities that set up new participatory social services for the elderly and for parents (such as the young and the elderly living together or micro-nurseries set up and managed by enterprising mothers) and that set up new food networks fostering producers of organic items, and the quality and typical characteristics of their products (as in the experience of Slow Food movement, solidarity purchasing and fair trade groups)".

"The field study carried out has shed light on a dynamic new form of creativity: a diffuse creativity put co-operatively into action by "non-specialised" people, which takes shape as a significant though scarcely studied expression of contemporary society. More specifically, EMUDE has identified on this diffuse creativity is one aspect of the design attitude each one of us must develop if we are to organise our lives in a highly turbulent and therefore unpredictable context. For all these reasons these groups of enterprising people were called as creative communities: groups of people who invent new ways of living."
(Manzini, 2006a b)

Creative communities are "*active groups of people who, without waiting for big changes (i.e. changes in the entire economic, cultural, technical and political system) organize themselves to solve a problem or to open a new possibility, and in so doing improve the social fabric and reduce the ecological foot-print*".
(Manzini, 2005 a b; Manzini, Jegou 2005)

Creative communities can play an important role in the transition towards sustainability in attempting to answer two important questions:
1. How to empower existing communities?
2. How to facilitate the start-up of new ones?

2. Sustainable freedoms

Given the intention to increase the skills and will-power of single user-actors to get themselves going, the promotion of creative communities could require (among other things) a design activity. More specifically it requires (also) an strategic and service design activity in terms of "*the expansion of the 'capabilities' of people to lead the kind of lives they value – and have reason to value*" which is Amartya Sen's definition of freedom (Sen, 2004). This leads us to the following question:
• Which qualities can design solutions have to give opportunities to people set up themselves the "sustainable freedoms" they want?
Here we analyse how design of services can support people who use their *freedom to regenerate, rediscover or maintain the social fabric*, i.e., how to give support through design solutions to these *sustainable freedoms*.

We will present here some indications to answer that question, starting from EMUDE results.

3. Services: convergence and circularity

The organisational model we see behind the services offered in the EMUDE cases differs from the common sense related to the idea of "services". In the mainstream model when we imagine a service, we consider two actors: an agent and a client. The common idea is related with a service model on which [agent] and [client] are performing predefined roles.

The service activities subsist in the performance between the two, where the agent serves the client. In such cases it's possible to call this attitude "to stand at the service-counter" and the usual example is a bank. It's an image that usually comes in mind when we think about "services". The "point if intersection" of the service performance occur when the two distinct areas, the provider area and the client area, meet. This is an idea based on a mechanistic or behavioural model of human relating where the actors are performing a "service script", i.e, the participants are performing pre-defined roles, as "actors" in a theatre. The possibility of interpersonal relationships between the participants is reduced by these strongly defined roles.

Instead, in the EMUDE creative communities, the solutions are "services" but introducing a different approach. The roles between agents and clients are not clearly defined, indicating that there is no precise script to be performed. The case called "living room restaurant"[2] is an example: the service lies in the possibility of booking a table for a dinner in a family house rather than in a restaurant. The "client" even helps lay the table. Another example is "Lodge a student at home"[3] where elderly people offer accommodation to university students, using the rooms previously occupied by their children.

These are only some of the examples since most of EMUDE cases present this characteristic: client and agent are interwoven. The solutions are mainly based on a cooperative approach, where the solution is co-performed and the benefits are commonly shared between the participants. Another example is the case "Jardin du Ceres"[4] where the consumer purchases – paying in advance – all the food that will be produced and supplied by the farmer, becoming his "partner" and co-producer.

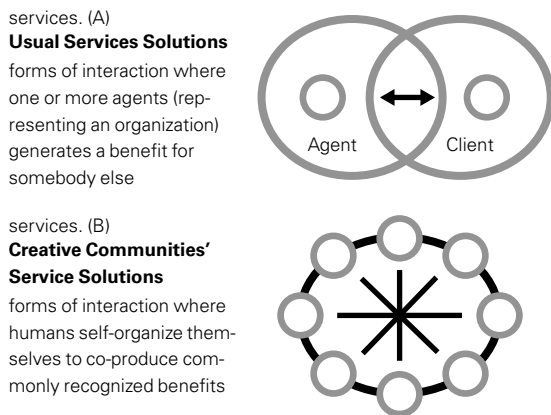The difference is illustrated by the two graphics below:

services. (A)
Usual Services Solutions
forms of interaction where one or more agents (representing an organization) generates a benefit for somebody else

services. (B)
Creative Communities' Service Solutions
forms of interaction where humans self-organize themselves to co-produce commonly recognized benefits

Figure 1: from usual services solutions to creative communities' services solutions

The EMUDE cases (creative communities) have indicated a tendency to avoid linear interactions as illustrated in the first graphic (usual services solutions). Their service solutions present mainly a circular interaction approach, strongly based on the interpersonal interactions between its members as illustrated on the second graphic (creative communities' service solutions).

These emerging tendencies are defining a particular "service" definition. Services are not only a performance between a "provider" and a "client" but services are including –according with these tendencies – the idea of people creating services for themselves through autonomous initiatives, far from services pre-defined performances, but inspiring a new approach: services based mainly on interpersonal "relations".

It's necessary to understand these new service models and its "dialogical" characteristics, starting from the concept of "community" that was positioned in the centre of the EMUDE process when considered the concept of the creative "communities". We have found a key to better understand the relational qualities of the interpersonal interactions (specially led by people self-organized on creative communities) on the dialogical philosophy of Martin Buber.

4. Creative communities and dialogical capabilities

In the twentieth century, it is in the work of Martin Buber that the worth of "dialogue" was realized – and the significance of relation revealed. He wrote – 'All real living is meeting' (Buber, 1958) and looked

to how, in "relation", we can fully open ourselves to the world, to others, and consequently to a genuine community.

I and Thou, Buber's best known work, presents us with two fundamental orientations – relation and experience. We can either take our place alongside whatever confronts us and address it as 'you' (be in relation with the other person); or we 'can hold ourselves apart from it and view it as an object, an "it" ("experience" the other person)'.

Previously we have called *creative communities* the social innovations we are referring to. More specifically, *"they are groups of innovative citizens organising themselves to solve a problem or to open a new possibility, and doing so as a positive step in the social learning process towards social and environmental sustainability"* (Manzini, 2005b)

In practice creative communities reminds us that the personal ability to choose "the life I have reason to value" often hangs on the possibility of "being" together with others who have reason to value similar things. Gaining the freedom to do the things that we have reason to value is rarely something we can accomplish only as individuals:

> *On the far side of the subjective, on this side of the objective, on the narrow ridge where I and Thou meet, there is the realm of 'between'. This reality, whose disclosure has begun in our time, shows the way, leading beyond individualism and collectivism, for the life of future generations. Here the genuine third alternative is indicated, the knowledge of which will help to bring about the genuine person again and to establish genuine community.* (Buber, 1949*)*

We can say, in this perspective, that freedom is communion. It's important to distinguish exactly the "community" considered on dialogical perspective. "Community" is a term that can give rise to many critics, but here the term have a very specific meaning, referred to the "sphere of the between":

> *When a human being turns to another as another, as a particular and specific person to be addressed, and tries to communicate with him through language or silence, something takes place between them which is not found elsewhere in nature. Buber called this meeting between men the sphere of the between.* (Hodes, 1972)

It's important to clarify, for a better understanding of Buber's thought and its application here, that the "dialogical" perspective is not originally integrated

on a sociological or psychological approach. The dialogical approach is "relational", i.e., have its centre in the living relations among people. These relations are unforeseeable, being carried out in the "present" time.

> The primary word I-Thou can be spoken only with the whole being. Concentration and fusion into the whole being can never take place through my agency, not can it ever take place without me. I become through my relation to the Thou; and as I become the I, I say Thou.
>
> All real living is meeting. (Buber, 1958)

True community does not just arise out of people having feelings for one another (although this may be involved). Rather, it comes about through:

> first, their taking their stand in living mutual relation with a living Centre, and second, their being in living mutual relation with one another. The second has its source in the first, but is not given when the first alone is given. Living mutual relation includes feelings, but does not originate with them. The community is built up out of living mutual relation, but the builder is the living effective Centre. (Buber, 1958)

## 5. The dialogical quality: I-Thou relations.

Please note that the "dialogical" approach here is not applied to the design process (as in the "co-designing" processes or participatory design), but is used to indicate the specific quality criteria characterizing services actualisations. The expression "service actualisation" is used instead of the usual "service performance" to indicate that our approach is getting far from the one that consider services as "theatre performances". Performances have a previous script. Relations don't.

"Relations are based on I-Thou interactions between persons. Person, the I of I-Thou, makes its appearance by entering into relation with other persons. Through relation the person shares into a reality with neither belongs to him nor merely lies outside him, a reality that cannot be appropriated but only shared" (Friedman, 1955).

We considered before that gaining the freedom to do the things that we have reason to value is rarely something we can accomplish only as individuals. Communities, according with Martin Buber's approach, are based on I-Thou relations. EMUDE cases have shown communities – considering the dialogical approach – as fundamental relational structures able to support "people's capabilities to choose

services. (A)
I-IT experiences
are based on the I of "I-It", who become conscious of itself as the subject of experiencing and using.
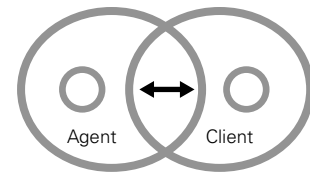
services. (B)
I-Thou relations
neither belongs to me nor merely lies outside me: the I of I-Thou, makes its appearance by entering into relation with other persons.
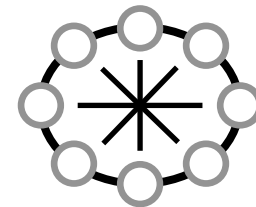

Figure 2: I-It and I-Thou service models

the lives they have reason to value". They provide an arena for formulating shared values and preferences, and instruments for pursuing them, even in the face of powerful opposition (Evans, 2002)[5]

Here is placed on the answer to our initial question. (Dialogical) communities are considered here as a living interaction driving us to a more sustainable way of living. They are a relational basis on which people are realizing their sustainable freedoms. But what can service designers effectively do to give support to these communities, to empower them, to support their possibilities to disseminate, improving other people capabilities to live the sustainable freedoms they want?

Dialogical quality criteria.

Let's take in detail an example from EMUDE cases collection. The case called "walking bus" (literally: "walking to school alone") is a project that encourages children to walk to and from school with the safety of a group under supervision of one or more adults, particularly elderly (the so called "grandfathers/mothers-friends")[6] This case illustrates a service that led us to the consideration of "I-Thou" relations in the "service actualisation": we can see a mobility service that generates "overall well-being for those involved". "Moving" as an action revives the network of neighbourhood interpersonal relations. "Moving" is "crossing" a space, but it is also "seeing", looking about oneself, knowing. Children and "grandparents" walk the roads on foot, interacting with the neighbourhood. Here, "moving" is also "educating" and, we must not forget, "sustaining": walking reduces the number of cars on the road and the pressure on air quality and traffic. The service is also allowing people to live the sustainable freedoms they want.

Clearly, those involved in this service are focusing on the "substantial acquisition" of what they need, i.e. their personal well-being (or that of their family). But not only. This case showed a group of people who, by interrelating, has put into practice an idea of well-being that is at the same time both personal and shared. They have produced a commonly shared benefit. This has improved their quality of life and, at the same time, brought an environmental benefit.

This case illustrates a solution through which people are meeting each other and generating a shared benefit in a relational based way.

But is necessary to remind Buber's warning. The sadness in the dialogical process as well as in our fate, according to him, is the fact that each "Thou" would must necessarily become an "It". Though this presence may have been exclusive, as soon as it is no longer felt or is permeated by various media, the "Thou" becomes a thing among things, an "It". The relation becomes an experience and I have in front of me an object, describable, decomposable, and classifiable.

It means that each community – also if signed by I-Thou relations between it's members – are naturally destined to fade, to change into an experience in the realm of I-It experiences. Design interventions can particularly contribute to this process, looking for the "replication" of the original initiatives promoted by "creative communities". Also this paper, as an intellectual activity proper of the human beings, is classifying and describing the relations, transforming communities in *objects of analysis* (It).

Buber (1958) stresses that the principle-word and the experience "I-It" in itself is not "evil". As we presented before, is inevitable for us classify and describe the **relations**. "Evil" lies only in the fact that the term purports to embody everything. If man allows it, the growing world of "It" will invade him and his own "I" will be lost.

Consequently, the way to increase sustainable freedoms, supported by (dialogical) communities is to empower the latent world of "Thou": specifically considering our approach, this can be potentially done through service design solutions[7].

Solutions that cannot guarantee but can favour the "I-Thou" relational event and, consequently, the foundation of a new community, its replication on a new context or the empowerment of the existing ones, keeping in consideration the relational quality embedded on the dialogical communities.

We propose here the "I-Thou" relation as a "dialogical quality criteria" to evaluate design solutions, as they can for example, be placed on a horizontal axis, getting far from being classified as an "experience" and closer to "relation":
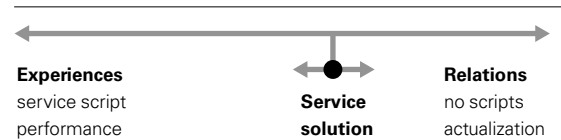

Figure 3: where is your service idea?

Experiences	Relations
Service script	No scripts
Performance (past time)	Actualization (present time)
Reciprocal relationship	Responsive relationship
Method-centred doing	Relationship-centred being/knowing/doing
Main focus on goal attainment	Understanding the meaning and complexity
Individual	Person
Interests intersection	Shared convergence
Contract	Trust

Table 1: describing the differences between experiences and relations to evaluate the relational quality of service design solutions.

6. Context and follow-ups

These considerations underpin an action-research program – currently developed at our university – that is analysing in depth the cases of social innovation identified by EMUDE as expressions of a new idea of welfare called "active welfare".

"The active welfare definition that has been adopted in the EMUDE research is the following: a welfare system where people directly involved, take direct part in the definition and achievement of the results they intend to reach. The possible connection between the emerging phenomenon of creative communities and the problems of welfare and social cohesion is maybe EMUDE's one of the most meaningful outcome. A point of arrival for EMUDE is the starting point for the research that now we are developing" (Manzini, 2006a)

The evolution of promising cases from their original forms invented by the creative communities, to more mature, generalisable forms of social organisation to answer the increasing welfare demands, requires the conception and realisation of favourable conditions. This corresponds to our first two initial questions:
- How to empower existing communities?
- How to facilitate the start-up of new ones?

This paper is part of my PhD research which intends to create a model – based on the dialogical approach – to evaluate the relational qualities of services interactions and to generate guidelines to a design practice capable to empower such qualities, considered as an essential contribution to a transition towards a more sustainable ways of living.

This model is being used to evaluate the interaction qualities embedded in the active welfare solutions created by creative communities and to create guidelines to empower and/or multiply these cases through design activities without "*loss of quality*":

> *"The need to increase the capacity of individual user-actors to "get themselves going" and the maturation of these new forms of organisation, require a strategic, service and communication design activity to identify, case by case, the facilitating tools needed. Hopes for the success of these design activities are based on the possibility that such cases can multiply without loss of quality."* (Manzini, 2006a)

Given the dialogical approach, this quality is based on and reassumed on people capabilities to pronounce the principle-word "we", i.e., on the people capabilities to pronounce "community":

> *"The narrow ridge is the meeting place of the We. This is where man can meet man in community. Any only men who are capable of truly saying 'Thou' to one another can truly say 'We' with one another".* (Buber quoted in Hodes, 1972)

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References

1 /EMUDE, Emerging Users Demands for Sustainable solutions is a program (more precisely: a Special Support Action) that is promoted as part of the 6th Framework Program (priority 3-NMP) of the European Commission and coordinated by INDACO, Politecnico di Milano. To the program participated 10 research centres and universities and 8 European schools of design.

2 "*The 'Living Room Restaurant' is an occasion for people to have a cheap dinner and to meet other people, located in the residence of the solution providers. After reservation via email or a phone call, people can literally come and sit at the dining table with the residents. After a short chat and getting acquainted with all the guests, dinner is served. Guests can choose the music they want to play in the background and only have to help with clearing the table between each dish. The providers sit on the ends of the table and between the dishes they switch places so they can talk to everyone who is present. It depends on the cheerfulness*

how long the evening lasts and after it you have to pay 15 euros." (Meroni, 2006)

3 "*The solution provides a service to improve the quality of life of elderly people, in search of company and security, and students looking for low cost accommodation. Megliomilano is an association which realised that independent elderly people could provide young students with low cost accommodation in change of little help. They started a communication campaign and received a lot of offers from elderly with at least one room free in their house, and a lot of requests from students. With the help of a psychologist they do the selection and interviews, visit the houses and matche the human profiles in order to couple a pensioner with a student. MeglioMilano provides the users with free legal assistance and free psychologist support, they also ask for a weekly feedback from the users and organise monthly meetings with all users*". (Meroni, 2006)

4 "Les Jardins de Cérès" (Coordination nord-Essonnienne pour une Ruralité et un Environnement Sauvegardés) is an association, a group of people who gather as consumers, which make a local farmer produce goods under the circumstances (organic farming) they wish. Therefore the whole produce is bought in advance in order to "motivate" the farmer and guarantee his economical benefits." (Meroni, 2006). The book "Creative communities. People inventing sustainable futures " edited by Anna Meroni, about to be published, contains a EMUDE case studies collection.

5 Evans, P. (2002) comments: classic liberal exaltation of the individual and an implicit acceptance of individual (as opposed to social) preferences as exogenous still characterize Sen's work. His analysis focuses on individuals and their relation to an overall social context, not on collectivities or communities as the necessary link between the two. Here, we are considering communities (as identified on EMUDE) as signals of a path taken by people to achieve the sustainable freedoms they want.

6 "Walking to school alone" is an initiative taken from some teachers of an Elementary School in Milan to improve the health and the well-being of children by enabling and encouraging them to walk to school. In Milan everyday, a significant part of the traffic jam is due to the need to bring (by car) children to school and back. But the possibility to adopt different options is threatened by some negative factors as the insecurity of routes to school and the bad structure of the sidewalks often parked by cars. The walking bus trays to give remedy to this situation, organising an appropriate service which protect and organise the groups of children. This project raises the children's awareness on vital road safety skills, improves the pedestrian safety, the healthy and walkable community environments and gives the possibility for friendlier neighbourhoods as people get out and interact with one another. Finally, it reduces traffic pollution and road traffic crashes involving child pedestrians (Meroni, 2006)

7 This affirmation apparently contains a contradiction and we will not here develop further considerations about this paradox, this was done in a previous paper: considerations on the development of design solutions using a dialogical approach, see (Cipolla, 2004).

Bibliography

Buber, Martin (1958) *I and Thou* 2 ed., Edinburgh: T. & T. Clark.
Buber, Martin (1949, 1996) *Paths in Utopia*, translated by
    R. F. C. Hull, London: Routledge; Boston: Beacon Press;
    Syracuse, NY

Cipolla, C. (2004), *Tourist or Guest – Designing Tourism Experiences or Hospitality Relations?*, In Willis, Anne-Marie (Ed.), *Design Philosophy Papers: Collection Two*, Team D/E/S Publications, Ravensbourne, Australia.

EMUDE – Emerging User demand for Sustainable Solutions – www.sustainable-everyday.net/emude

Evans, P. 2002 'Collective Capabilities, Culture, and Amartya Sen's *Development as Freedom*',

In *Studies in Comparative International Development* 37(2).

Friedman, M. (1955) *Martin Buber: The Life of Dialogue.* Chicago: The University of Chicago Press.

Hodes, A. (1972) *Encounter with Martin Buber,* London: Allen Lane/Penguin. Cited on Smith, M. K. (2000) Martin Buber on education. In T*he encyclopedia of informal education*. Retrieved January 28, 2005, from, http://www.infed.org/thinkers/et-buber.htm.

Manzini E. (2006a), *Active welfare*, internal document.

Manzini E. (Ed.) (2006b) EMUDE Executive Summary.

Manzini E. (2005a). Creative communities and enabling platforms. An introduction to a promising line of research and actions on sustainable production and consumption. In Declan, D. *Taking responsibility* ISBN: 82-7671-498-6: Hedmark University College Publishing (NORWAY).

Manzini E. (2005b). Enabling Solutions for Creative Communities. In *Designmatters*. vol. 10 pp. 64-68 ISSN: 1603-1059.

Manzini E., Jegou F. (2005a). Communautés créatrices: le design pour le developement durable a l'époque du résaux. In Guillaume, V. *D.Day. Le design aujourd'hui*, Paris: Edition du Centre Pompidou.

Meroni A. (Ed.) (2006), *Creative communties. People inventing sustainable futures*, to be edited, Milano.

Sen, A. (2004) Why We Should Preserve the Spotted Owl. In *London Review of Books*, Vol. 26 No. 3 dated 5 February 2004

Smith, M. K. (2000) Martin Buber on education. In *The encyclopedia of informal education*. Retrieved January 28, 2005, from, http://www.infed.org/thinkers/et-buber.htm.

Vermes, P. (1988) *Buber*, London: Peter Halban.

Renate Menzi and Martin Lötscher

Redesign teaching and learning

1. Introduction

At the beginning of 2006, from January 9th to January 20th, the seminary "Redesign Teaching and Learning" was held as a pilot project at the University of Art & Design Zurich. According to the initiators' scheme this course is supposed to be conducted in the same way by other European universities and in Morocco too. Launched as an experiment the course wants to impart new perceptions on teaching and learning.

The research project "Fès Studies" is an expansive venture, which was initiated in May 2005 by the Swiss magazine for visual culture, soDA and a number of designers, architects and photographers.

Currently the focus lies with the conception and realization of an international University of Design in the Moroccan city of Fès (opening planned in 2012). The two-week seminary course "Redesign Teaching and Learning" (taught module) is part of this project. It concentrates on the current state of knowledge and the objectives of "Fès Studies". It involves creating visual statements significant to the training of forthcoming professional designers.

The experience made by the students themselves will be substantial. Based on their own learning experience the students will develop and visualize statements for an ideal University of Design. This visual discourse (viscourse) will act as a method to include other European and Moroccan Universities of Design in the project "Fès Studies". The founding of a Design faculty and correlating issues of ethics and moral principles can only be approached by means of an argumentative discourse, a viscourse in this case, being both a challenge to the participating students and future designers and a method to overcome language barriers.

2. Collecting the important questions

The research project "Fès Studies" collects, demonstrates and analyses the results of all seminaries (taught modules) considering issues like: how should an ideal multi-cultural meeting place look like, what would the studies involve and how the course's contents be imparted. (Keywords: site, building and facilities, methods of tuition, proportion of theory and practice, traditional crafts versus modern techniques

and so on).

The material contributed by the participants of these modules will lay the basic questions for the "Fès Institute de l`Art et de Design" (FIAD) and its concept in teaching. In the course of the two-week module the students concentrate on theories and studies of Design, detached from the current situation in Morocco. Based on their own needs and training they will collect and record data and ideas on the subject of higher education in Design. They will discuss and evaluate various teaching methods from experience.

3. Chain reaction

"Redesign Teaching and Learning" is not an ordinary study project, i.e. conveyance and shape of knowledge and production follow new methods based on a workshop-like and process-oriented performance within varying constellations. The students are required to be willing to cross boundaries, to be open-minded and opinionated. The two-week seminary does not take place within ordinary institutional premises, but will be held in an external space, temporarily used to work (and live) in.

In this empty "projection room" the participating students – debating with designers, artists, pedagogues and managers – will design scenarios, paradigms and visions regarding a model scheme education in Design. At the end of the course a joint exhibition displays the students' solidified reflections on vibes, wishes and criticisms in the form of a room installation. Focussing on a thematic issue the students are asked to raise topical and cross-cultural questions and problems, to describe connections, establish links and make propositions. Subdivided into interdisciplinary teams (Industrial Design, Graphic Design, Scenographic Design, Fashion Design, Interaction Design, and Scientific Visualisation) they work within a modular structure that subsequently can be applied to courses held at other Universities of Designs.

Step by step, there will be a collection of visual statements about teaching and learning, the results of each teaching module, made by design-students all over Europe and Marocco. This visual material will be primary the base to ask questions. And Questions will lead to new visual statements. In this way, each module is part of a chain, the students get to know the results of other Universities and complete the catalogue of questions. The project "Fès studies" is working with this catalogue in different fields.

A selection of the visual material will be presented to the public in different medias (exhibitions, magazines, workshops, blogs).

4. Theoretical approach

The concepts of "Redesign Teaching and Learning" are geared to current cultural trends. This cross-cultural, design-orientated project (based on viscourses) wants to contribute to the professional training of future designers and aims at spreading specialist know-how to other cultural areas. It is founded according to the following scientific theories:

Within society's production process the body of knowledge holds a key-role. It is the decisive production force. A knowledgeable society does not understand knowledge in terms of specific knowledge but as an integral part of a culture that fundamentally promotes the evolution of human abilities and relations. It is the nature of knowledge to be a common property to society and equally the nature of a knowledgeable society to see itself as a culturally evolved society. (bibl.1)

Design historiography only states examples of products designed and made in highly developed, capitalist countries of Europe and North America. Modern practice in design is ruled by western strategies and expressions and once imported to the peripheries moulds to a large extend the respective cultural identities. As early as in the sixties and seventies Gui Bonsiepe referred to this issue, the nature of which in today's era of globalisation has become highly volatile.

The tuition of knowledge (At an Art & Art Design University for example) is not decreed by nature, but is coined by social, cultural and public standards, values and structures. Theoretical discourse, i.e. discussing knowledge and particularly institutionalized discourse on human faculties and knowledge, has been considered – ever since Michel Faucault – a discourse of power. Therefore the question of circumstances and standards defining contents and tuition of knowledge needs to be raised. (bibl.2)

In the field of design a possible (linguistic) discourse on design specific knowledge – i.e. tacit or practical knowledge and pictorial knowledge (compare Michael Polanyi and Ernst Pöppel) has been controversial. Despite their completing nature, the different bodies of knowledge are not treated as equals: within a scientific context explicit knowledge – the rational, verbal and written body describing facts and observations – is still considered to

be the sole indicator for validation and verification. Tacit, implicit or pictorial knowledge is in this context of only marginal importance (at least on the surface). (bibl.3)

Bonsiepe describes visual influence on modern condition in "From discourse to viscourse" with regard to the "Picturial, or iconic turn". Competence and knowledge about the visual world, visual processes and their media communication have become a new and essential task of modern design and visual arts. (bibl.4)

Bonsiepe considers "interfacing" to be one of the most important issues of design, the designers become the experts in this "specialist discipline". They operate on material, graphic and digital interfaces amid users, intentional performance and artefacts. (bibl.5)

5. First experiences

For two weeks the participants of the study course (taught module) project their own University of Design. They determine a model scenario of their choice. The given setting consists of a place with a room structure, a selection of materials and media as well as a rudimentary schedule.

The working space is divided into the areas of production, publicity and theory. Each student is supervised by a host. The assembly room (pict.1) is a gathering place to have meals, to receive guests and to sell products. It is equipped with a kitchen (pict.2) , a place to sit and tables. In the production room – the studio – products get designed and prototypes are built (Materials and tools are laid out). In the theory room (pict. 3) information is gathered and structured, research is being processed into knowledge (The room provides an Internet connection). The work in all three spaces deals with the current studies in Design and relate to the future University of Design. Products and visuals are created in the easiest possible way. (pict.4,5,6)

6. Finding pressures and lacks

Both the working process and its resulting products have led to a number of surprising realizations. The lack of an institutionalized school structure initiated a dynamic group process and challenged the students to organize themselves. They found it rather difficult to juxtapose their current professional training to a new school model and to create visuals exposing criticism on the existing institutions.

Some common tendencies, though, could be detected. Professional training should involve a broader range of individual choices and paths. A broadly discussed topic was the training's lack of orientation and the issue of career prospects. The works essentially reflected a tension between personality and network, between the freedom of creativity and passed on values.

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Bibliography

1 Gorz, André: *Welches Wissen? Welche Gesellschaft?* A text contribution for the congress *Gut zu Wissen*, Heinrich-Böll Foundation, 5/2001

2 Foucault, Michel: *Archäologie des Wissens* (L' archéologie du savoir, 1969), Frankfurt a. Main, 2002

3 Polanyi, Michael: *Personal Knowledge: Towards a Post-Critical Philosophy,* Chicago, 1958, (1974)

4 Bonsiepe, Gui: *Von der Praxisorientierung zur Erkennt-nisorientierung*, in: *Swiss Design Network* (ed.): Erstes Design Forschungssymposium (First Research Design-Symposium) , Zurich, 2004, p. 24

5 Bonsiepe, Gui: *Design: Von Material zu Digital.* In: *Interface. Design neu begreifen.* Mannheim, 1996, p. 19

Di Fleming and Grace Lynch

Digital eco-sense: An innovative terrain

Abstract

Digital Eco-Sense is a concept that has emerged from the intersection and integration of information communication technology, design thinking and the critical principles for eco-sustainability. The potential of the digital eco-domain was explored in practice through a series of studios in university design schools in Australia. This paper provides an overview of the theoretical underpinnings and highlights some specific examples from these dynamic eco-sense design studios, which involved over one hundred students in industrial design, interior design and architecture from three different universities. As a consequence of the eco-sense initiative, lab.3000 has become vitally committed to the development of eco-sustainable tools for students across all educational levels. Eco-Sense is a collaborative network of design studios in university programs, a global what-if space to create visionary products, services and systems for a sustainable future. The digital eco-brief was described as an innovative challenge to explore the transformative potential of the digital to create new concepts for sustainable products, services, businesses, culture and lifestyles. A broad based design scenario, or 'open-ended' design brief, was the topic for the design studio work. The design activity had to be located within two innovation spaces – the digital and the sustainable. The complex nature of incorporating these two innovation spaces provided an interesting challenge for the students and staff.

Keywords

Context

Lab.3000 – centre for design is a community of design professionals, educators and businesses who share a commitment to design as a bridge between creativity and innovation.

Funded by the State Government of Victoria and hosted at RMIT University in Melbourne Australia, lab.3000 aims to position Victoria as a world leading centre for digital design and a hub for the intellectual and creative talents that underpin the growth of our innovation economy. In a world threatened by global concerns including terrorism, disease, global warming and the depletion of natural resources the role of designers has become deeply embedded into the search for solutions for the future of our world.

As designers are challenged to respond to prescribed challenges, educators must create learning environments where students are challenged to consider the environmental and ethical contexts in which they seek to find answers to the most difficult questions. Students today are far more aware of the holistic contexts in which they live and must prepare for the future. One of the reasons why lab.3000 was so keen to integrate and work with Professor Ryan in the publication of a Lab Report was its commitment to new ways of teaching and learning that would reflect the fundamental principles of sustainability in the design process. All design teachers, design professionals, policy makers and manufacturers have a moral and ethical responsibility to champion principles and practices which will protect and preserve the earth's fragile ecosystems and resources.

Introduction

Specifically, Digital Eco-Sense is a concept that has emerged from the intersection and integration of information communication technology, design thinking and the critical principles for eco-sustainability. While working in Sweden in 2001, Professor Chris Ryan first developed a program of coordinated design studios known as Eco-sense. This program was supported in part by the International Institute for Industrial Environmental Economics in Sweden (Ryan 2004). Around the same time Lab.3000 was trialling a shift in teaching and learning from a

prescribed process to a hypothesis based approach across disciplines.

Eco-sense is a collaborative network of design studios in university programs, a global what-if space for design students and staff, to create visionary products, services and systems for a sustainable 'future for the present'. Eco-sense supports university design studios by offering a critical resource: theory, research and speculation and a coherent set of scenarios which point to emerging sustainable solutions. (Ryan 2004, p. 130)

The eco-sense concept integrated smoothly into lab.3000's charter as determined by the Victorian Government's commitment to the building, connecting and promoting of digital design across industry, education and research. In 2003, Professor Ryan was seconded by lab.3000 to explore and publish the theoretical base and associated research underpinning the eco-sense studio development in three Australian university design schools. Other members of lab.3000 were involved in monitoring, implementation and the student assessment process.

This paper provides a brief snapshot of the philosophical background and along with the accompanying conference presentation showcases specific examples from these dynamic eco-sense design studios, which involved over one hundred students in industrial design, interior design and architecture from three different universities.

As Ryan (2004) explains the nature of business, social organisation, individual and cultural values are being shaped by two significant forces: information communications technology (ICT) and sustainability. The importance and relevance of the digital world is having an enormous impact on teaching and learning. An important new terrain for innovation lies at the intersection of three domains of knowledge and skills: the sustainable; the digital; and design. This paper focuses on the digital and design aspects and the actual outcomes of the digital eco-sense studios. Those interested in a comprehensive research review of sustainable development as the next industrial revolution are directed to *Lab Report 03 – Digital Eco-Sense: Sustainability and ICT – A New Terrain for Innovation* (Ryan 2004).

Sustainable

The terms sustainability and sustainable development are used almost interchangeably to describe a concept of development in balance with natural ecosystems and the needs of future generations. Sus-

tainable development has been institutionalised as the 'triple bottom line' for current business activity and strategic planning and has become a fundamental aspect of decision-making including: social progress, ecological balance and economic growth.

The World Business Council for Sustainable Development (WBSCD) which represents more than 170 large corporations in 34 countries project sustainable development as a 'significant new opportunity for business and as a new terrain for innovation: finding new ways to do old things as well as new ways to do new things" (Ryan 2004, p. 16).

Digital

One of the key elements in the development of the Digital-Eco-Sense Studios is the integration of information communication technologies. While most of today's learners in developed countries are digital, connected, experiential, immediate and social (Oblinger 2005), the appreciation of the power of digital communication and the ways it empowers the learner is still not completely understood. The web is the first source for information for today's learners, they multitask, use multiple media, are visual, enjoy working in teams and with their peers, and want to be engaged.

Resisting today's digital technology is an act of educational negligence. While many tertiary educators are technologically savvy, many are not. Many underestimate the impact on the potential learning dynamics for their students. Through the integration of information technology students may assume dynamic roles as researchers, simulators, programmers, designers, artists, economists, environmentalists, and indeed futurists. The power of certain software enables the modelling of ideas that can traditionally be drawn using two dimensional pen and paper. By simulating ideas and concepts students can play, improvise, invent and innovate in a space that can bridge history and science fiction.

We currently live in an incredibly fast moving world; significantly different from the one we grew up in. Our students not only need things faster than their teachers are used to providing them, they also have many new learning needs as well, such as random access to information and multiple data streams which are generally outside the experiences of most educators. Many of our current learners, (digital natives) were born into digital technology and they assume that their personal expression and response to studio challenges may be explored in a multi-

dimensional digital sandpit. Conversely, their teachers and other older adults are 'digital immigrants' whom having learned about digital technologies later in life, retain their 'accents' such as thinking that virtual relationships are somehow less real or important than face-to-face ones (Prensky 2006).

Our current school and university students expect digital technology to be used in their education and have a perception that the current use of technology in education is inadequate (Oblinger 2005). If teachers enable their students to connect and engage within the context of access and application of the technologies of the day, then computer labs and laptop programs will be replaced by hardware, middle ware, software and connectivity that provides a seamless relationship between school, home, parents, teachers, families and friends. "Until the nature of the educational relationships change in the classroom and at the institutional level, we will not realise the full value of the computer, communication, and information technology investments we are making today" (Frand 2000, p. 24).

In the ongoing development of the eco-sense studios it is important for educators to understand and accept that the current generation of students have mobiles, ipods, multiple email addresses and chat identities that sit alongside the traditional view of information communication technologies. Our students expect to communicate anywhere at anytime and nothing should be restricted within the classroom. For many of today's students, "learning is not about technology; rather, one ha(s) a learning experience with the help of technology. Thus, learning is regarded as a social activity with a technology component" (AASCU 2004). Most of our current university and TAFE students have grown up with technology and view it simply as a means of communication. This means that educators must rise to the challenge and align their teaching methods with these changing learning styles of learners who are the emerging leaders of tomorrow.

Earlier research contends that Net Generation learners may be 'chaotic' learners. "There is a contrast between the paper-based, formal, linear and teacher controlled approach with a 'screen based seemingly chaotic, constructivist and multi-faceted approach, where 'play' is central" (Baron & Maier 2005, p. 58).

The learning process itself needs to be emphasised rather than body of knowledge, since that knowledge is so rapidly changing and evolving. We need to guide the learning process more by posing questions rather than providing "the word" that everyone needs to "know" (memorise). People are products of their environment: ICT is an influential part of that environment. Those influences are inextricably linked to the changing demographics of students' characteristics and learning styles (Rickard & Oblinger 2003).

Design

Design is becoming a critical economic and environmental driver as design thinking is providing differentiation in the marketplace. A vital step in transforming ideas into creative, practical and commercial realities is design. "Design is both a noun and a verb, and has multiple senses. As a noun it denotes a field as a whole, an end product or a thing – a designed object or entity – as well as a concept or proposal. As a verb, design denotes an action or process" (Barnacle 2003).

Digital Design is the intersection and integration of digital technology with the design process and across disciplines of design including architecture, engineering, new media, industrial and product design (Fleming & Lynch 2005).

Design is a bridge between the tangible and intangible, it is the intellectual process that gives shape and form to ideas. To be innovative is to do something differently, to explore new territory or to take a risk (Lynch 2001). One way of describing the linkage between creativity, design and innovation is:

- Creativity = generating ideas
- Design = giving shape and form to ideas
- Innovation = placing the shape and form (design) into a new or different context (Fleming & Lynch 2005)

Designing products, processes and systems within a framework of sustainable principles and outcomes is difficult; particularly when and where students have been raised in a world where unsustainable practices have been their life. As international agreements are created and globally responsible practices expected, students are challenged to design within complex social, ethical and environmental contexts.

Digital Eco-Sense Design Studios

The Digital-Eco-Sense studios produced students' projects that support and value the integration of information technology, design thinking and empathy for sustainable practices.

A trial was undertaken in the second half of 2003 in three Australian Universities – Swinburne University in Melbourne, Royal Melbourne Institute of Technology (RMIT) also in Melbourne and the University of Technology Sydney (UTS) in Sydney. Over one hundred students in industrial design, interior design and architecture participated in the Australian eco-sense trial. A team of academics in the three universities supervised the students and their work. Students attended lectures from their design professors, researchers in digital media, people working in digital industries, experts in sustainability, professional designers and artists. The students were encouraged to make contact with relevant government agencies and technology companies in order to thoroughly research their particular sustainability target area. An eco-sense website was used to communicate the project brief, provide a short background paper (a short initial draft of Lab Report 03), and a set of resource materials for students. There was a great deal of networking using the Internet between the design schools.

The digital eco-brief was set as an innovative challenge to explore the transformative potential of the digital to create new concepts for sustainable products, services, businesses, culture and lifestyles. A broad based design scenario, or 'open-ended' design brief was the topic for the design studio work. The design activity had to be located within two innovation spaces – the digital and the sustainable. The complex nature of incorporating these two innovation spaces provided an interesting challenge for the staff and students.

The digital eco-brief was described as an innovative challenge:

> As systems of production and consumption confront environmental limits, the need to reduce material and resource flows in the economy will shape the process of sustainable development. Growth in the economy has to be decoupled from resource use.
>
> These Eco-Sense studios will explore the transformative potential of the digital to create new concepts for sustainable products, services, businesses, culture and lifestyles.
>
> These studios will expose a parallel world of sustainable artefacts, services and systems which challenge current boundaries between high-tech and low-tech, public and private possession, the inert and the active, individual behaviour and eco-system awareness. (Ryan 2004, p. 130)

The Task

Students had to complete the task in about 10–15 hours per week over a thirteen-week work term. The design activity had to include both digital and sustainable learning contexts and principles. The studio leaders were required to define a 'sustainability target area' relevant to their context and student interest. These targets included: addressing the impacts of tourism; addressing water consumption; and addressing household waste and consumption.

Any new product or service developed would need to successfully compete in the marketplace against existing products. All of the projects were to be completed digitally, that is no hard 3D models or prototypes. The following examples are selected to show the breadth of the students' accomplishments across their diverse backgrounds.

The Eco-Sense Designscape as described on the lab.3000 website is as follows:

> As our systems of production and consumption confront environmental limits, it has become clear that constraining material and resource flows in the economy is the most important factor which will shape sustainable development. Growth in the economy has to be dramatically de-coupled from resource usage.
>
> The designscape of the EcoSense studio is shaped by the following approaches to sustainable production and consumption:
> - **Lightness** – attaching desire to dematerialised things.
> - **Preciousness** – designing a desire for lasting attachment to artefacts that do not 'flow'.
> - **Distributed possession** – shifting value to the co-ownership of joint objects.
> - **Modularity and cyclic re-production** – products as assemblages of modules, updated/refurbished to extend product life.
> - **Distributed production** – a mix of localised and mass production.
>
> The transformative potential of the digital (information and communications technology and the 'information society') forms the other half of the EcoSense designscape:
> - **Aware-sense; smart senses for system status:** Smart eco-alert indicators; information on systems conditions.
> - **Intelligent feedback:** (Re)connecting key elements of the environmental system.
> - **Tele-presence and virtual extension:** Virtual transportation to another environment.
> - **Virtualising potential realities:** Immersive virtual environments for simulation.
> - **Reversing the hardware / software balance:** Eternal hardware, mutable software.
> - **Eco-logistics - eco-efficient resource tracking:** The power of new logistics and location systems.

Addressing the Impacts of Tourism

1. **InVIEW**: Reusable digital camera, Blair Kuys, Swinburne University

    This project developed a system involving a digital camera-sharing kiosk that can be distributed around the city. The kiosk dispenses and takes back reusable digital cameras, returning a small CD of the images taken by the user at a proposed cost of $15AUD. The system was designed to be useful for tourists who wish to photograph their experiences without having to take an expensive camera with them, avoiding damage and theft while eliminating the negative environmental impacts of single use cameras.

2. **Scarpet**: Living sensory map for protection of sensitive sites, Barbara Landorfer, RMIT University

    Many sensitive or protected sites cannot find enough funds to establish adequate monitoring of environmental conditions. A sensitive site is wired with a sense-net for real-time monitoring of conditions. A protector community of visitors contribute to the cost of the sense-net by purchasing a display – Scarpet – which they can take home. The data from the sense-net is downloaded regularly from the Internet to be displayed as a piece of furniture/art on the floor or wall. The Scarpet uses a polymer-dispersed liquid display or ink-cell displays, which can be produced as large flexible films.

3. **Re-Place**: The virtual replacement of protected sites, Ben Stakus, RMIT University

    This project addressed the controversial issues of eco-sensitive sites that have to be closed off to mass tourism in order for their preservation. Re-place involves the virtual replacement of eco-sensitive sites. The territorial boundary of a sensitive site is extended in virtual space through the use of real-time, interactive, communications systems. This allows the experience of visitation to be re-placed to another location, or to more than one location, that is selected because it is not as sensitive to physical visitation. Sensors, cameras and sound recorders are placed in appropriate locations within the restricted eco-sensitive sites: the stream of real-time images and data is available to visitors in special centres, which are located outside the boundary of the protected sites. The intent is to maintain the act of visitation, of travel and of immersion in the temporally contingent conditions of the real place.

4. **Digital Pocket Guide**: A local tourist guide through Bluetooth mobile phones, James Jeffry, Swinburne University

    Fixed information centres would be dispersed around the city to be accessed via any mobile phone with Bluetooth capacity. By utilising existing mobile phones for this service it is unnecessary to produce special devices such as those used for interpretation in art galleries and museums. It also makes the system more sustainable. If you could see behind the physical image and understand your surroundings your behaviour may change. Eco-tourism involves more than visiting unspoilt nature, it means also changing understanding and behaviour, being more aware of cultural, social and environmental issues and impacts. The digital pocket guide would replace static information currently available through historical plaques with

a dynamic and interactive system that could be updated regularly as different experts provide different interpretations of the city.

James Jeffrey   Digital Pocket Guide
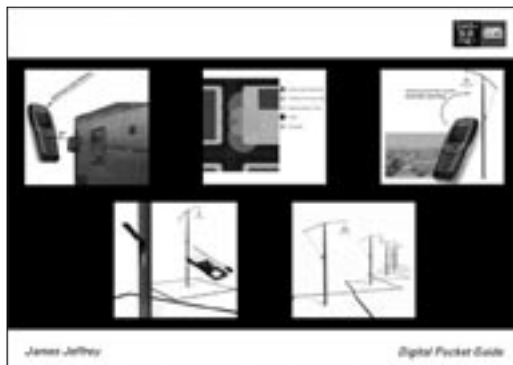
Addressing Water Consumption

5. **Murray Darling Water Co-op**: Water use and quality system for farmers, Liam Ryan, UTS

This project aims to increase public access to information on water quality for farmers and to promote sustainable farming methods. The Murray Darling (MD) river system is the largest water system in South Australia and its basin covers 14% of the total continent of Australia. At the river's mouth the flow is one-fifth now of what it was in 1901. This new water co-op provides a place for water metering, water quality testing, and water use monitoring. This new water meter includes water quality testing and has remote telemetry to be installed in all irrigation pumps on all farms. All information would be uploaded to a website which would provide a visual record of all water use on each farm and as an aggregate for particular regions. A notification system would alert farmers to quality problems such as increased salinity levels. The website would be able to collate large data flows in real time and display them in easily understood ways. It would facilitate communication between farmers in a way that sustainable farming methods are promoted.

Liam Ryan   Murray-Darling River Co-operative
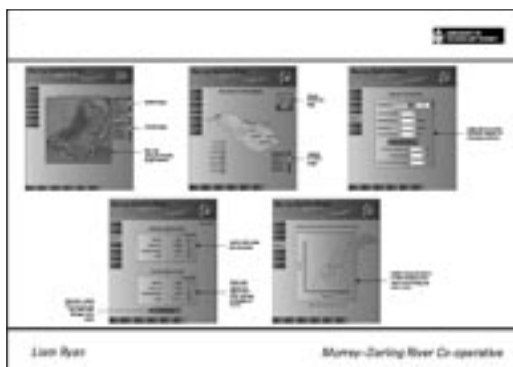
Addressing Household Consumption and Waste

6. **Planet Usage Charge**: An RFID system for household recycle collection, Cath Erthler, Michael Zarb, UTS

This project proposes a system for measuring household waste, providing feedback on waste levels and recycling and incentives for reduction. There are currently huge disparities between rates of household recycling in different countries. Britain is at approximately 11%, the USA, Canada and Australia are at approximately 30% while Germany is at 48%. The European Union believes a 65% rate is a reasonable target. This system proposes a variation on pay by weight – as the percentage of recycled waste per total waste collected increases toward the target figure, household charges reduce. Above the target rate, households would be rewarded with points to be redeemed at special local council events. Each household bin would have an attached RFID tag to be read by collection trucks. The householder separates the waste into a number of streams. The weight of rubbish / recycled material would be recorded against the RFID with data downloaded from the collection trucks at the end of each collection day.

Cath Ertler   Planet Usage
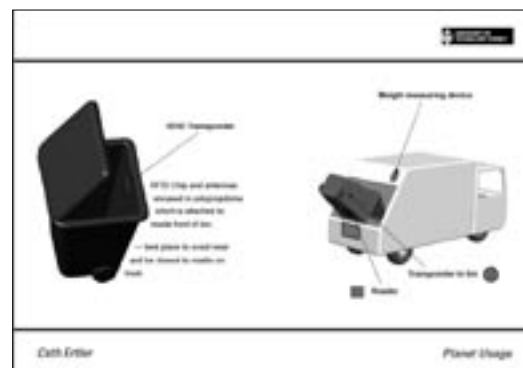
Student Assessment Point

As a consequence of lab.3000's involvement in the eco-sense studios a number of issues arose. Both Lynch and Fleming participated in the assessment of a number of the student studios and realised a new approach to industry engagement in the assessment of student design thinking. Student assessment point has been piloted with the intention of creating a model of practice for the tertiary sector more generally. Because the student projects were steeped in real world problems and given the quality of their outcomes, a number of them have commercial potential.

At the point of assessment, invitations are extended to potential industry partners who may have a shared interest in a particular theme, process or system. Each student is given ten minutes to present their hypotheses, share their research method and exhibit their solution using digital and in some cases a functional model or prototype. At the conclusion of the student assessment/presentation small teams of interested parties are created to explore the viability of the idea, its design and innovative potential.

Beyond the issues of sustainability is the intellectual property of the students. Like industry sponsored competitions where students are challenged to design solutions that may benefit the commercial operations of a particular industry, eco-sense students need to understand the commercial potential of their designs. Business 101 is not often a part of design studios and while universities normally do not claim ownership of student intellectual property, more commercial guidance could be built into programs. Intellectual property is a legal and ethical dilemma when student design and innovation meet industry face-to-face.

Lab.3000's Tertiary Network also offers the tertiary sector a number of regular showcases where institutions select their best student projects which are then showcased to industry in a public forum in a professional environment. Part of lab.3000's core business is to work with the tertiary sector in the strategic management of design skill.

Exhibition

A showcase of students' work from the digital eco-sense studios was held in the Victorian State Government Cabinet Rooms in Melbourne. This exhibition of the student work and outcomes from Lab Report 03 by the Victorian State Government demonstrates and integrates government policy reflecting design, innovation, information communication technologies, and eco sustainability agendas. This showcase involved the lead Minister for Design, the Minister for the Environment and the Minister for Innovation, Industry and Regional Development. After the official launch, the student work remained on show in the cabinet rooms for six months in 2004 to enable it to be reflected upon by many people in the hope that lessons learned could become tools for critical thinking and practical action in the sustainable development of our future.

Conclusion

As is evident from the wide variety of these few examples students grappled with the challenge in different ways. Design based learning focuses on the learner and discovery. Through a hypothesis or design brief students are challenged across a learning context to create something new that can be exhibited using digital learning tools that are vital for access, acquisition and application of knowledge and understanding. Educational environments today can draw upon a wide range of digital resources where the only limit to learning is imagination, access, capacity and motivation.

An important aspect of the digital eco-sense studios was the nature of assessment. A major way of building sustainable outcomes was having students present their ideas and final projects to key industry members. This real world relevancy not only impacts on the importance of their design work but also has the potential to change current industry practices to ensure a more sustainable future for all.

In many educational environments, lecturers are so intent on content and information transfer that they lose sight of the importance of the learning context and its potential as a place and space for new design thinking and innovation. Innovation and creativity demands that we create time, space and exploration of intersecting ideas and wide-ranging influences. Contemporary students are aware of the condition of their world and studios such as Digital-Eco-Sense can give them the context where they can become agents of change. As students digitally build models and create prototypes they are able to make sense of what is and what is possible. By responding to hypotheses based learning students can identify the issues and set the agendas for change. This is the heart of our educational approach where design thinking provides the bridge between creativity and innovation and where the cycle of learning becomes central to the process of systemic social, environmental and economic responsibility and change.

Di Fleming
Grace Lynch
RMIT University, Australia

References

American Association of State Colleges and Universities (AASCU) (2004) The Key to Competitiveness: Understanding the Next Generation Learner, A guide for College and University Leaders. September 2004 EDUCAUSE and Microsoft Conference, hosted by University of Central Florida.

Barnacle, R. (2003) Mapping design research @ RMIT, prepared for Pro Vice Chancellor (Research & Innovation), October, RMIT University, Melbourne.

Baron, J. & Maier, H. (2005) The challenge of maintaining the momentum, Conference Proceedings Ascilite 2005: Balance, Fidelity, Mobility: maintaining the momentum? Brisbane.

Fleming, D. & Lynch, G. (2005) Innovative Learning and Unlearning, in Conference Proceedings 13th International Conference on Computers in Education – Towards Sustainable and Scalable Educational Innovations Informed by the Learning Sciences, C.K. Looi et al. (Eds) IOS Press, November 2005 Singapore.

Frand, J. (2000) The Information-Age Mindset: Changes in Students and Implications for Higher Education. EDUCAUSE Review, September/October 2000, p. 14–24.

Jollife, A., Ritter, J. & Stevens, D. (2001) The online learning handbook: developing and using web-based learning. Kogan Page, London, UK.

Lynch, G. (2001) Towards Innovation, Executive Excellence, 18(8), August, Australia.

Oblinger, D. (2005) Educating the Net Gen. Keynote address, EDUCAUSE Learning Initiative. The Key to Competitiveness: Understanding the next generation learner, date accessed on 6 February 2006. < http://educause.edu/content.asp?PAGE_ID=7341&bgc0=1 >

Prensky, M. (2006) Adopt and Adapt: 21st Century Schools need 21st Century Technology. EDUTOPIA, Dec/Jan 2006, date accessed 13 February 2006. < http://www.marcprensky.com/writing/default.asp >

Prensky, M. (2001) Digital Natives, Digital Immigrants. On the Horizon, NCB University Press, Vol. 9 No. 5, October, date accessed 13 February 2006. < http://www.marcprensky.com/writing/default.asp >

Ryan, C. (2004) Lab Report 03 – Digital Eco-Sense: Sustainability and ICT – A New Terrain for Innovation. Lab 3000 – innovation in digital design, Melbourne, date accessed 10 March 2006 < http://lab.3000.com.au/research/research/index.jsp?page=article&id=44da11f7-0013-4ede-b446-9c3b5f487ba4 >

Ian Grout

More of less – Ethics and its embodiment in design

Abstract

If we are to explore the role of ethics in design then it would seem logical to define a context in which it may be embedded the nature of which would allow for it to flourish, be tangible, be of use and of value when considering designing in a future of increasing ecological awareness.

What context(s) may serve designers well when designing ethically? May there need to be a paradigm shift in our view of the role of design for this to happen?

How may this affect design education?

What may be the new tools, specifications, visions, inspiration and opportunities for designing ethically?

In contemplating these questions this paper will support the view that a deeper understanding of quality of life as opposed to standard of living may open up new avenues of design opportunity and action better able to respond to the future needs of designers operating within an ethical context.

This paper will explore a wide-ranging view of quality of life including wellbeing, health and happiness with the view to articulate and enable a context for ethics in developing a deeper cultural understanding of what it could mean to live and design humanely, spiritually and meaningfully in this our 21st Century.

Key Words

Design led, pragmatic perspective, paradigm shift, ethical context, developing tools, theory into practice, future ecological awareness

Preamble:

- The author accepts that this is a wide-ranging paper and, as such, reads more as an essay. This is entirely intentional as it intends to map a critical journey towards an evolving and pragmatically supported paradigm shift in design education. The author maintains such journeys and the sharing of them supports a much needed pragmatic action attitude to research, one that, in its approach enables designers and design educationalists to act as well as to think.

- This paper is concluded with references not just specifically to support this paper but also to aid the reader to use such sources to take further action in developing an enabling design philosophy the principle aim of which is the embodiment of ethics into design activity.

- The presentation in Nantes was of a highly visual nature, illustrating the case studies outlined in the paper with the ambition to promote action towards a critical mass paradigm shift in design education. Further information may be obtained by contacting the author at the address given below.

Paper

"Experience rather than analyse … be excited by the fire rather than how the fire was lit"
– Alan Fletcher, The Art of Looking Sideways

A speculation on the near future

If we accept, as I think that we all do or must, that we are in an emerging ecologically aware society then it would be logical to accept that in that near future our relationships with and expectations of the things we live with and by may well be radically different. In this shifting landscape it may be imagined that designers will need to respond to a shifting set of social and cultural values. It may be argued that a clearer ethical construct for design will be central to this.

If design and designing is to remain current and of value in this emerging society then it may be argued that we will be required to construct a new form of design education, one in which we may prepare and enable our students to be proactive in this shift-

ing value for design. If this is so then it is of pressing need to take action now. This raises questions that design education will need to answer:

- What context(s) may serve designers well when designing ethically?
- May there need to be a paradigm shift in our view of the role of design for this to happen?
- How may this affect design education?
- What may be the new tools, specifications, visions, inspiration and opportunities for designing ethically?

This intends to be a pragmatic paper, read as a story it maps and reflects on a continuing journey that is trying to form a design led experimental and experiential context for design education centred in a deeper understanding of ethics, quality of life, happiness and well being. It is intentionally wide ranging. Essentially it accepts that sustainability needs to move beyond recycling, reuse and disassembly towards a more integrated, involving and holistic context for design. It is intended to shift perspective on designing, deflecting it away from traditional norms towards more socially inclusive ones. In its ambition this ongoing work is attempting to balance theory and practice in enabling students to design with confidence within an increasingly complex and ecologically aware society.

Definitions and specifications

"Far from being boringly sensible, a radical design approach could be part of a culture that is capable of making products generated by an attention to detail, love for the life of things in their relationship with people and the environment; subtle and profound expressions of human wit, creativity and even wisdom" – Ezio Manzini, The New Frontiers, Design, September 1990

There are an increasing number of definitions of ethical approaches to design. Included in these are some which may prove of value in defining this new direction of design and design education. Of value and current they may broadly be categorised into 4 main streams and illustrated by central protagonists:

1 Theoretical and Academic: David Orr, The Nature of Design:
"Designing ecologically (sustainably) requires a revolution in our thinking that changes the kinds of questions we ask from, how can we do the same old things more efficiently to deeper questions such as:

- Do we need it?
- Is it ethical?
- What impact does it have on the community?
- Is it safe to make and use?
- Is it fair?
- Can it be repaired or reused?
- What is the full cost over its expected lifetime?
- Is there a better way to do it?

The quality of design in other words is measured by the elegance with which we join means to worthy ends".

2 Professional. ICSID (The Industrial Design Professional body):
ICSID – Tasks for Industrial Designers

- Supporting cultural diversity despite the globalisation of the world (cultural ethics)
- Enhancing global sustainability and environmental protection (global ethics)
- Giving products, services and systems those forms that are expressive of (semiology) and coherent with (aesthetics) their proper complexity
- Giving benefits and freedom to the entire human community, individual and collective, final users, producers and market protagonists (social ethics)

3 Design Consultancy. PRE:

- Do not design products, but life cycles
- Natural materials are not always better
- Energy consumption is often underestimated
- Increase product life time
- Do not design products, but services
- Use a minimum of material
- Use recycled materials
- Make your product recyclable
- Ask stupid questions

4 Design Pragmatic Banana:
We started Banana design because we wanted to use our creativity to benefit people, animals and the environment. We strongly believe in social responsibility and in the value that individuals and organisations can make in improving the world. Ethics can be defined as:

- The moral value of human conduct and the rules and principles that ought to govern it.
- A code of behaviour considered correct, especially that of a particular group, profession or individual.

Our clients; We aim to work with organisations that try to bring about positive change in the community and the wider world in which we live. This includes charities, not-for-profit organisations, public sector bodies and individuals. Our main criteria for working with others is whether the main purpose of the organisation or project has social benefit. This can be difficult sometimes as increasingly companies with poor social responsibility records are supporting social projects with the aim of improving their public image. We feel this is a cynical approach and is usually designed purely to show these companies in a positive role. However it is not always clear-cut whether this kind of sponsorship is a bad thing; we try to determine whether the project benefit outweighs not being involved at all.

There are organisations who we won't work with under any circumstances: those involved with animal testing, meat or fur production of any kind, those with questionable human rights or environmental records.

Our processes and how we work; we are fundamentally against free-pitching, a practice which unfortunately still persists in the industry; design is an important resource that should be valued. We think it is unfair to ask anyone to work for nothing. Free-pitching debases design and encourages one-off projects; we believe in building relationships for the long-term so that we can better understand and meet our clients' needs. Design agencies should be appointed on their credentials and of course their cost effectiveness.

We aim to operate in a socially-responsible and environmentally-friendly way. Wherever possible we:

- Use recycled or low-impact materials
- Specify recycled paper stocks for clients
- Recycle as much of our waste as possible
- Buy ethical or fairtrade products
- Support like-minded organisations
- Be open and honest with our clients and suppliers
- Donate to charitable and voluntary organisations who benefit society
- Use public transport as much as possible
- Prevent waste by educating clients about efficient and low-impact printing methods
- Are friendly and tolerant!

Trying to break free:

"If you want to truly understand something, try and change it"
– Kurt Lewin

In our first action we were interested to find out what would happen when trying to put these principles into practice and when we also take that essential step beyond recycling reuse and disassembly?

We initiated in The Glasgow School of Art a project entitled "Breaking Free from the Unsustainable Now" in the Autumn of 2002 involving 17 year 3 product design undergraduate students for 6 weeks,

What we asked the students to do was to see how far they could push the idea of a *'product'* in a sustainability context. As designers generally like to work from known *'things'* in any new speculation we encouraged them to take as their starting point – an existing product - something domestic and everyday and use this to kick start a broad and explorative investigation. We asked them to challenge themselves and to think wide, think deep and think free. Furthermore we asked them to interrogate, orientate and rationalise their findings and to move a clear concept forwards to a manifest conclusion.

We wished from the outset to create an educational ethos for the project, which was centred in the explorative journey to a more objective and inclusive view considering qualities, which focused in and were resonant with human centred experience and need; lively, playful, creative, extended, connected, integrative, transformative, democratic, participatory and inclusive.

This project sought to challenge the traditional concept of "the product" in our contemporary addictive consumer society and embarked on an interdisciplinary journey to design a way to break free from the unsustainable now. This was achieved by taking the product's perspective and placing it in a context where it may no longer be viewed as a transaction between buyer and seller, but becomes part of a much greater and more complex system. By utilising ecological system dynamics, such as; ability to change, rhythm and interconnectedness, the idea and implications of a *'living product'* concept was explored (Kajzer, 2004). With this project we wanted to liberate ourselves from the constraints of 'everyday', current thinking and actively promote different ways of designing. An extract from brief found below:

Brief

In the here and now/near future, how far can we push the idea of a "product" in a sustainability context and then how can we gauge its marketability in terms of position and acceptability?

As designers like to work with "things" and in any new speculation it's good to "start from what you know" take as your starting point – an existing product – something domestic and everyday and use this to kick start a broad and explorative investigation.

Challenge yourself. Think wide, think deep, think free. Use the enabling philosophy of "the living product" coupled to principles of sustainability and the idea of products as service providers in a system of activity to formulate a strategy to break free from "the unsustainable now".

Interrogate, orientate and rationalise your findings and move a clear concept forwards to a manifest conclusion that, in an open forum of experts, will provoke a discussion about the marketability, positioning and acceptability of your evolved "product".

Reflection on the outcome:

Starting from ground zero with young designers who's minds had potentially fewer ingrained assumptions about the world and who would be relying on their intuitive intellectual and visual abilities, we anticipated no major difficulties in them taking action. It was thought that the students would be positive about the project and use their creative skills to explore breaking free in an uninhibited manner. On the contrary the students generally expressed considerable insecurity, a strong need to be given direction and their goals clearly defined for them. As the project started to progress most students tried to remain firmly object fixated, some continued to express a need for permission to explore; still looking for acceptable answers and pre-determined goals. Out of the 17 students who participated we found just 3 able to make a positive outcome to the project. The most positive reflection was that the results, at best, were like breaking free within a straight jacket.
• Had we got it wrong?
• Had we gone to far?
• What could we learn from the experience?

Why didn't it really work?

"Carrying out the Great Work of making an ecologically durable and decent society will require us to confront the deeper cultural roots of our problems and grow out of the faith that we can meet the challenge of sustainability without real-

ly changing much. This is a design challenge like no other. It is not about making greener widgets but how to make decent communities that fit their places with elegant frugality"
– David W Orr, The Nature of Design

This led to further speculation as to why it didn't really go as well as we had, perhaps optimistically, expected.

I have been curious for some while about why we haven't, both in the design profession, business and production, got to far on with this sustainability thing. We are well able to; we have the tools, we have the methodologies, we have the markets and we have the reasons.

I have a sense, a gut feeling if you like, that the territory for sustainable design has not been defined clearly enough, a future projection if you will, and that if we stop short with this notion of re-use and recycling and that we will:
• Not really solve our ecological problems in the long term
• Continue designing the same old things in pretty much the same old way
• Miss a great opportunity in designing in new and more meaningful ways

So, if we are to move more surely forwards, this asks further questions:
• Should we look at design in a different way?
• Could this have a benefit in how we design objects services and systems by reflecting a better understanding of the territory they inhabit?
• What kind of projects could work better?

Undoing the straight jacket:

"No Problem can be solved from the same consciousness that created it. We have to learn to see the world anew"
– Einstein

From this has streamed as set of projects, in the Glasgow School of Art, attempting to answer these questions. The results have been of increasing clarity as our understanding through experience improves. These projects have included:
• Final Year Undergraduate – Alex Thomas exploring next generation sustainable projects centred in principles of long term attachment, desirability, simplicity, resilience, engagement and enchantment
• Final Year Undergraduate – Pete Hewitt creating community based manufacturing opportunities centred in adding value through an innovative fu-

sion of new materials together with waste moving projects up the value chain

- First Year Undergraduate – Green mapping charity shops in Glasgow defining new ethical methodologies for design conception, manufacturing and distribution
- Second Year Undergraduate – Batteries not Included, exploring a playful and engaging relationship with energy by replacing batteries in existing products with a range of mechanical inputs and exploring solutions where it is more fun to put the energy in than the service out.

These projects have a common root in exploring design for a clearly cultural and social perspective and developing solutions based in an intellectual and pragmatic understanding of human activity. They also take some first steps away from the traditional added in sustainable design approach towards a more holistic indirect one in which ethics and quality of life take greater prominence.

On a wider platform is EMUDE, a project looking at emerging user demands for sustainable solutions. It is a programme of actions and ran from June 2004 to June 2006. It is a European Commission 6th Framework Programme Project. It's primary objective being to use design students to map into a framework emerging user demands for sustainable solutions from a broad cross section of Europe, North South West and East. This was then translated into an interactive data base from which the consortium could construct future trends, scenarios and prospects which may have influence in a wider social context.

An interesting by product has been a clearer understanding, in particular amongst the antennas of the state and depth of sustainable activity across a range of European Design Schools. It has also led to the beginnings of a network amongst a number of the schools.

Background

The present society, in its high complexity, emits a variety of contradictory signals, some of them are the very bad news of more and more unsustainable ways of living (they now represent the *main stream*). Some of them are cases of promising initiatives (these are emitted by *active minorities*).

The project starts from two hypotheses:

To:

- propose solutions that may help to solve big and urgent problems
- regenerate the social fabric (and propose solutions to the crisis of the welfare state)
- present a lower ecological foot-print (promoting organic food, alternative mobility, renewable energies, better use of the residential services, etc.)
- to discover are (socially and environmentally) promising cases because they have an high probability of being positive steps towards sustainability.

HYPOTHESIS 2

To:

- rise new demands for products and services
- ask for enabling solutions to make them more accessible
- ask for scenarios and proposals to facilitate their diffusion
- give new directions to technical innovation (information and communication technologies as enabling solutions and as community building tools)
- open new market opportunities (for the companies that will be able to recognize the new, emerging demands)

EMUDE aims

The aim of EMUDE is to explore the potential of social innovation as a driver for technological and production innovation, in the view of sustainability. To this end it seeks to shed more light on cases where subjects and communities use existing resources in an original way to bring about system innovation. From here, it intends to pinpoint the demand for products, services and solutions that such cases and communities express, and point to research lines that could lead to improved efficiency, accessibility and diffusion.

Consortium

- Politecnico di Milano, INDACO Department (Polimi) – co-ordinator
- National Institute for Consumer Research (Sifo)
- Netherlands Organisation for Applied Scientific Research (TNO)
- Strategic Design Scenarios (SDS)

- Doors of Perception (Doors)
- Philips Design (Philips International)
- Joint Research Centre – Institute for Prospective Technological Studies (JRC–IPTS)
- Central European University, Budapest Fundation (CEU)
- Consumers International (CI)
- United Nations Environment Programme (UNEP DTIE)

Antennas:
- The School of Design, University of Applied Science, Cologne
- POLI.design (Consorzio del Politecnico di Milano), Milano
- Glasgow School of Art, Glasgow
- The University of Art and Design (UIAH), Helsinki
- Innovation Center of Estonian Academy of Arts, Tallinn
- ENSCI Les Ateliers, Paris
- Academy of Arts, Architecture and Design, Prague
- Academy of Fine Arts, Krakow
- TU Delft, Delft

EMUDE long term objective

The basic objective is to encourage a virtuous circle between social and technological innovation.(this being between society's capacity to emit positive signals, its capacity to recognise, reinforce and effectively communicate them, and then its ability to pick up these signals and act on them, putting them to good use) EMUDE is a collective subject working as a signal amplifier.

Reflection on the Project

We simply ran the EMUDE project as a parallel activity, giving an additional experience to our students. This approach also allowed us to attract participants from all year groups and especially those with a committed or growing interest in sustainability. It also enabled us to be inclusive of our visiting international students. In preparation we sent out a general invitation and started from an initial interest from some 30 students. Eventually, 20 were involved in the light cases search with 12 completing the in depth studies. We also took the strategic choice to extend our antenna activities beyond the city of Glasgow. Our rationale for this was to reflect more holistically the true nature of the Scottish culture where it can be observed that a significant proportion of communities leave the urban environment to

live and act differently. Our intention from the outset was to be as inclusive as possible within the EMUDE framework.

We found working with the EMUDE methodology complimentary to our educational approach in Glasgow. Our courses are concerned with human centred design drawing influence from culture and society, working from a sociological perspective, to form new approaches and roles for design education and practice.

In undertaking the project we found that we were able to interact with our communities in a natural way and the experience was involving and rich, engendering an awakening realisation in the students of the value of being hands on and feet on the ground in their research approach. Likewise, we found that the communities were afforded and took the opportunity to reflect on and communicate what they were doing, why they were doing it and what value this had to their interaction with the wider world. One of the enduring memories is of being with people who, being driven by passion and vision make their own sense of an increasingly complex society. Another experience is watching the realisation within the students of the possibilities of researching and potentially designing from a different perspective, for a different set of values and a different kind of client. The project generated great commarderie amongst all the students helping them to grow in confidence, maturity and perspective as they develop towards the new designers of the future.

In Glasgow the value of the EMUDE project can be seen as part of a wider initiative, a new piece of the jigsaw puzzle of sustainable design if you will. The project occurred in Glasgow at an important time of experimental change enabling us to, in a concrete and physical sense, take theory further into action. Building on the EMUDE framework we have started creating projects more able to reflect the needs of society. Overlapping the EMUDE project and running on to its conclusion some months later was a Green Mapping project looking at the extent and sustainable value of Charity Shops in Glasgow. It was informed and enhanced by our experience of EMUDE. This project encouraged our students to be more attached to the wider issues of design for society through active participation in the process of understanding people, their actions, needs and desires more clearly. It involved students being out in the environment and working with the users and stakeholders in a very direct way. Through this project

we have begun to develop a new methodology for design, production, distribution and consumption being more clearly centred in an inclusive ethical framework. This will be taken forwards and developed in further projects.

In depth case studies by the Glasgow School of Art

Coach House Trust
Eric Lemaresquier, Natalie Lambert
Earthship Fife
Joanne Tauber, Natalie Lambert
Slateford Green
Pete Hewitt, Kerry McGowan
Findhorn
Sophia Westwick, Arianna Madiotto
The Local Food Link Van Group
Julia Schaeper, Emmy Larsson
Ayrshire LETS
Alex Thomas, Florence Andrews
Cream o' Galloway Dairy Farm
Alex Thomas, Florence Andrews
Common Wheel
Eric Lemaresquier, Brian McIntyre

Further details of this and other schools case studies may be found on: *www.sustainable-everyday. net/emude/*
- From here is it possible to transcribe any form of trajectory?
- If these projects are bridging a way into an ethical design future then what is the context we are bridging to?

A small revelation

"We have enough for our needs but not for our greeds"
– Mahatma Gandhi

I was struck whilst listening to the recent (2005) General Election in Britain that when the issue of Global Warming did get onto the political agenda the only comment was:

"To combat Global Warming and to maintain and grow our standard of living we may not be able to do this through alternative energy alone – we may well have to build new nuclear power stations".

What struck me was the assumption that increasing standard of living was the only accepted view in government. This would appear to be all the more

astonishing against an increasing view that quality of life may hold some value in how and why we use energy and could possibly lead to a reduction in energy consumption, together with an increase in well-being.

It also occurred to me that we have a well defined definition of standard of living – this is what we use as our current design paradigm, this is what we're geared up for. But we don't have the equivalent for quality of life.

Could a clear understanding of "Quality of Life" help enable:
- a viable alternative design specification to the current "standard of living" paradigm?
- more effective solutions for resource depletion, reduced biodiversity, global exploitation and global warming?
- products, services and systems better able to promote health, happiness and wellbeing?
- new tools by which designers can design in ethical ways creating things of true pleasure and delight?
- new and ethical sustainable design opportunities for a truly sustainable society?
- and trigger change in how, when and what we create and consume?
- us to begin to really deal with these issues and enjoy doing so?

Opening new doors

"The meeting of two personalities is like contact of two chemical substances; if there is any reaction, both are transformed" – Jung

We have begun to open up and understand this landscape with final year projects including:

Charlie Hill playfully designing out waste at large outdoor events and in product packaging

Jennie Dowds designing clothing in an integrated and socially responsible manner for the quality of life of arthritis sufferers

On going from here are two projects with which it is intended to further extend our experience and knowledge. The first, wasted, is at a macro level with year 1 product design students starting in April 2006 and will be finished for the Nantes conference and the other 7×4×7 is a much larger affair, involving a world wide audience, which is planned for the September 2007.

1) WASTED

This project intends to encourage our students to be more attached to the wider issues of design for society through active participation in the process of understanding people, their actions, needs and desires more clearly. It involves students being out in the environment and working with the users and stakeholders in a very direct way. Through this project we intend to develop a new methodology for design, production, distribution and consumption being more clearly centred in an inclusive ethical framework. This will be taken forwards and developed in further projects.

It will further explore and build on elements of co-designing and specifically:

- The value of understanding which comes from understanding research done specifically within a community for a specific purpose
- Design led quantative and qualitative research methodologies able to give statistical as well as more visual intuitive results
- Using primary sources in which the student becomes attached to the context and the issues being subjected to the design activity
- Creating a design environment able to creatively value open focus in approach with an objective of designing for human purpose

BRIEF

Waste on our streets is a social problem. Let's start with the premise that it can be designed out. How may we design it out? Who should be involved in designing it out? In what way may the environment look and feel when it is designed out?

This project will take a specific area and community of Glasgow and explore and map its street waste problems. You will then work in this specific place with the persons involved with creating, experiencing and having to deal with this waste. With them you will then visualise, design and communicate ways in which the waste can be designed out.

2) 7 X 4 X 7. – An International Symposium Supported by CUMULUS to be hosted by HDK, School of Design and Crafts Göteborg University, Sweden in the Autumn of 2007

This project intends to take a pragmatic design research into action stance. It will embody evolved principles of quality of life and develop methodologies by which we may create areas of opportunity and action for ethical design activity.

THE BIG IDEA

The emergence of an increasingly ecologically aware society raises fundamental questions and sets fundamental challenges for design:

- What will designers be doing in this new future?
- How will we educate the next generation designers able to face the challenges of a rapidly changing society?
- How is our profession going to evolve and remain current in this far more complex future?
- Will we need a new paradigm for the enactment of design in this emerging new landscape?

In exploring these questions we would support the view that a deeper understanding of quality of life as opposed to standard of living may open up new avenues of design opportunity and action better able to respond to these future design needs of society. In this endeavour we would aspire to a common motivation to evolve the education and practice of design towards an open sharing of a deeper cultural understanding.

We believe this to be both an issue and a challenge worthy of our collective interest. We wish to bring to Göteborg 7 world class designers, 7 world class educators, 7 world class students and 7 world class thinkers for 7 days to debate and to define the nature of quality of life as a tool, specification, vision, inspiration and opportunity for future designing.

KEY OBJECTIVES

- To create a mutually beneficial "open doors" dialogue between design education, design profession and those outside of design that will enrich, proactively, the value of designing into the future
- To explore, collectively, a key emerging issue for the future of design from both the professional and educational perspective and offer the ability to take productive action. In doing so we would seek to move through theory and philosophy to activity
- To facilitate ongoing collaborations through the establishment of networks, research and design activities able to take action into the future to enrich both design and education

Both these projects are intended to open doors into a new arena for designing. They also aim to begin to give access to a new paradigm through which may enable us to explore, in a pragmatic way, the nature of ethical sustainable design to the benefit of our society.

Conclusion?

"You have to become what you wish to see" – Gandhi

In conclusion, if there can ever be one in this arena, we would wish these tentative steps to be seen as neither conclusive or definitive but rather part of an evolving learning process. We can see that in this way we can encourage our students to participate in and reflect on the needs of the various stakeholders, both in the process and also the extended value of the activity of ethically driven design. We maintain this to be of high relevance and pressing need.

Finally, I return to the notion that, as we all know, the role of design is changing and as we continue to increase our knowledge we can, with a more certain assurance, project forwards to a new designer and way of designing. This future will be one in which it is essential to continue to construct new methodologies, opportunities and meanings for design and to aid this we will need to develop new models of ethical, holistic, flexible and co participation through which we may be able to give deep and meaningful sustainable design solutions for our emerging ecologically aware society.

I would also maintain that to do so our growing number of ecologically aware students will need an experimental project based approach to design education. This approach will need to be one in which we will discover the appropriate balance between practice and theory. This approach, I believe, will be the best able to be flexible and continuously ongoing in our quest to bring a wide ranging view of quality of life including wellbeing, health and happiness to designing ethically. With this view we would wish to articulate and enable a context for ethics in developing a deeper cultural understanding of what it could mean to live and design humanely, spiritually and meaningfully in this our 21st Century.

"There are none so blind as those that will not see
(and none so dumb as those that will not take action"
– Mathew Henry (Ian Grout)

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References, Sources and Influences:

David Orr The Nature of Design
David Orr The Earth in Mind
Ricard Layard Happiness
Ed van Hinte Time in Design
John Thackara In the Bubble
Stephen Sterling Sustainable Education
Mc Donough / Braungart Cradle to Cradle
Womack / Jones Lean Thinking
Richard Rogers Technological Landscapes
Victor Margolin Social Design / Cumulus Singapore
Grout and Kajzer EAD, Barcelona
Grout ERA 05, Copenhagen
Kajzer The Living Product

O2 www.o2.org
PRE www.pre.nl
ICSID www.icsid.org

Banana www.bnanadesign.co.uk
Cumulus www.uiah.fi/cumulus
EMUDE www.indaco.polimi.it/emude

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