EDUCATING DESIGNERS TO TRANSCULTURAL CREATIVE-THOUGHT FOR SUSTAINABILITY

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ABSTRACT

The transition towards sustainability requires radical socio-technical changes (system discontinuity). One of the consequences is that we need an outstanding amount of creativity to produce such social and sustainable innovations. Assuming this position, the education/research working-hypothesis of migrant design creative-thought is explored. This is a design creativity that draws inspiration from *transcultural* cross-fertilisation; a creativity that may lead to ideas able to contribute to the building of visions of possible changes, and become the seeds of everyday sustainable solutions. The issue is discussed in relation to the role of HEIs, and what the establishment of the LEarning Network on Sustainability (LENS) has taught us. This network is working on transcultural and multilateral design exercises for students and involves seven universities from different countries.

Keywords: Design for sustainability, creativity, transculturality, experimental education, network

DISCONTINUITY FOR SUSTAINABLE DEVELOPMENT

It is by now obvious to everyone that the precarious state of health of our planet and the grim predictions in terms of availability of resources, and air, water and soil pollution, have woken us up to the fact that it is no longer possible to persevere in using and abusing Nature. For this reason, in the late 1980s the concept of **sustainable development** was introduced by the World Commission on Environment and Development [1]. The expression sustainable development – as known - refers to systematic conditions, which, on a planetary and regional scale, prevent human activity from exceeding the limits of resilience of the geosphere, and biosphere beyond which irreversible phenomena of deterioration begin. Such conditions also prevent the impoverishment of **natural capital** to transmit to future generations, seen as all non-renewable resources and the systematic capacity of the environment to reproduce renewable resources. To these considerations can be added one of an ethical nature: the **equity principle** which states that within the frame of sustainability each individual has a right to the same amount of environment, that is to say, to the same availability of global natural resources. Although it is no longer just a pleasing expression, public awareness of the dimension of change that such a development model requires is not yet widespread. Some studies [2] have assessed that taking into account the demographic increases foreseen and, rightly, adopting a hypothesis, of an increasing demand for affluence in countries that are now at a disadvantage, we can consider our production and consumption system sustainable only if the use of environmental resources per unit

of service rendered is at least 90% lower than that currently found in mature industrial societies. Although this assessment is approximate, it is fully valid for indicating the measure of change that should take place in the next 50 years.

Therefore a radical change is needed, which will require **system discontinuity**. The prospect of sustainability necessarily places the very model of development under discussion. In future decades we must be able to move from a society in which well being and affluence are measured by the production and consumption of goods, to one in which people live better consuming (much) less. It should be emphasized that the innovation will not only be technological but also socio-cultural. While considering the transition towards sustainability we need to frame it within a profoundly modified conception of the surrounding world; within the increasingly **interconnected** and **multicultural** [3], [4], [5] context of *transnationalisation*. Nowadays it is very clear that contemporary social reality is no longer conceivable in terms of isolated, rooted and independent worlds, nations or communities.

CREATIVITY AND TRANSCULTURAL FERTILISATION

Many observations could be made on how to promote a positive transition towards sustainability (and the related systemic discontinuity), but one prevails: we must discover how to shift to new life scenarios (consumption and production patterns) that **radically differ** from the ones existing. The strategies to follow and the levels on which to intervene are several. However generally speaking, we can observe that we need an **outstanding amount of creativity** to produce social and sustainable innovations. We must be able to create (to imagine in order to innovate) as much as we have to change.

While reasoning on creativity at a socio-cultural innovation level, it is necessary to frame it within the multicultural and interconnected context in which we are living (as previously called to mind). It is now useful to recall a UNESCO document entitled *Our Creative Diversity* [6], which relates the issues we are discussing here to matters of social creativity. "How can countries define cultural policies directed at encouraging a truly constructive pluralism in which **diversity is made a source of creativity**? […] In our "infinite world of questioning and doubt", **creative imagination** and initiative on the part of **individuals**, **communities** and **societies is ever more required**. What are some of the ways in which creativity should be promoted today, not just in the arts, but also in the domains of science and technology and in the theory and practice of governance?" This concept is well expressed by the term *transculturality* [7]: meaning an attitude (within a multicultural and interconnected society) that emphasizes the dialogue nature of cultural influences, moving towards a concept of interaction in which nothing is ever completely "other" (foreign and extraneous). An attitude characterized by the willingness to **interact starting from the "intersections"**, rather than from the differences and polarities. It proposes a vision of flexibility, movement, continuous exchange and **re-negotiation of identity** [8]. In the following paper we will outline a possible path, using the creativity of that particular social actor we usually call designer (and of would-be designers).

MIGRANT DESIGN CREATIVE-THOUGHT

In the above framework, the design education/research-working hypothesis we propose to explore is the following. A **design creativity drawing inspiration from transcultural cross-fertilisation may lead to ideas with a high social and sustainable innovation profile; and some of those ideas may contribute to ~~the~~ building visions of possible changes, and become the seeds of everyday sustainable**

solutions [9]. Here we consider industrial design in its wider dimension: not only product design (as traditionally intended), but also communication, service, system and scenario[1] design. In the above perspective, let us look at the first possible implications. It seems quite clear that we would need to develop a way of thinking design that is able to move between different ideas, recognize the differences and find concrete possibilities for integration, or create/re-elaborate starting from intersections and connections. So, creativity in a transcultural design process can be summarized in the idea of a **migrant creative-thought:** a design process that builds up its own ability by passing from one way of thinking to another, opening up to codes of structures and different meaning systems. What is required is **a design attitude able to decentralize from its own cognitive references and values, reach into those of other cultures and return to its own (culture) enriched by the comparison (and also able to disseminate into other cultures).** If design for sustainability requires a transculturally creative attitude, generally speaking we can observe that what is needed is the **ability to operate in a complex context[2]**. This can be, tentatively described as a twofold ability: the ability to elaborate visions of possible social discontinuity starting from intersections, connections and differences; and the ability to put strategies into action that transform those visions into real solutions. These are fairly new dimensions for the designer, but have some connections with the so-called discipline of *system design*, such as the ability: to generate design orienting scenarios for multi-actor development; generate partnership among various socio-economical actors; co-design Product-Service Systems. This is indeed a very complex path to follow. And, the Higher Education design Institutions (HEIs) could have a key role to play [11], [12]. This will be discussed in the following section of the text through the description of a network experience.

LENS: A TRANSCULTURAL EDUCATION EXPERIENCE

The LEanring Network on Sustainability, LENS was established on the above assumption and on the idea that universities must rethink themselves as places for advanced education and for the production of new ideas on sustainability [13], [14]. In 2002, the Design and system Innovation for Sustainability (DIS) research unit based at the Politecnico di Milano University promoted this informal educational network among Higher Education design Institutions (HEIs), through an experimental didactic experience. The LENS (network) involves seven universities from industrialized and emerging countries: Politecnico di Milano University; the Indian Institute of Technology, New Dehli; the School of Architecture and Urbanism, Universidade de São Paulo (Brazil); the Academy of Art and Design, Tsinghua University, (China); the School of Design, Hong Kong Polytechnic University, (China); the Dept. of Industrial Product Design, Istanbul Technical University, (Turkey); the Ewha Woman's University from South Korea. Generally speaking, the purpose of LENS is to work on design for sustainability, by networking with education/research institutions in industrialized and emerging contexts, in a multi-lateral, transcultural learning process linked to the curriculum.

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[1] This is called *system or strategic design,* meaning the design of the mix off products and services which are jointly capable of fulfilling specific client demands, together with the design of innovative form of interactions between the stakeholders (of a given demand of satisfaction) [10].

[2] This is not a new issue for the culture of design, but in this case there are new connotations and implications.

Its way of networking reflects an explorative approach in which advanced research themes are studied and developed through experimental didactics. In other words the LENS work is to link new open-front research issues directly to didactics, through the designing of appropriate courses (Fig.1). In practice, the educational "curricula" has been re-designed introducing experimental courses in order to explore the research area. In a first phase professors and assistants from the above-mentioned universities collect and send preliminary data on their campus together with the subject for design (e.g. "the eating system in their campus"). In an intermediate phase, students at the Politecnico di Milano develop sustainable system pre-concepts for a foreign campus. In the third phase their pre-concepts are submitted to the international professors and assistants (to those of the campus they made the pre-concept for) who criticize and comment on them. In the last phase students re-elaborate their projects according to this input. This ends-up in a set of sustainable system concepts for the various campuses. Finally, a digital exhibition of sustainable ideas is prepared and put on the web for dissemination and circulation (starting with the HEIs involved).

In 2006 it has been activated the first release a web platform to facilitate the multilateral exchange and to store all results emerged and specifically the catalogue of sustainable ideas emerged (www.lens.polimi.it).
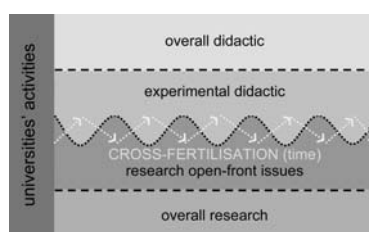

Figure 1: Cross-fertilization: osmotic process between experimental didactics and open-front research.

This learning mechanism results in cross-fertilisation between research issues and didactic projects. Initially it is research that gives the first input to the educational process, but at a later stage it is the didactics that provides further input and feedback to the research. This osmotic exchange (Fig. 1) creates a continuous flow that contributes to develop and verify the new hypothesis on design roles, methods and tools for sustainability.

This creates a multi-lateral, **transcultural learning process** as a result of the exchange and feedback guaranteed by the network.

At this stage the question is: why should university students design for another country's campus? The answer is that this experimental (forced) learning process enables:

- students/professors (designing for other campuses) to discover a different context from their own by strategic analysis and through the direct criticism of their design by local professors.
- professors/students (receiving the concept designed for their own campus) to discover another's culture interpretation (and be surprised by unusual ideas).
- to build shared visions of possible changes (a catalogue of sustainable ideas).

Finally, we should underline the choice of **the university campuses** (of the network institutions) as design **scope/ambit** for the experimental courses. This will result in a set of innovative and sustainable concepts/ideas being interesting both internally end

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externally (to HEIs), because of two main factors (Fig. 2): a) Campus as *lab*: a campus can be considered as a peculiar restricted community (a "community-lab") for which it is effective to design and promote sustainable innovative solutions in technological, socio-cultural, organizational, economical and environmental terms; b) Campus as *window*: campuses could represent an optimum "community-window" because of their potential to show and disseminate the sustainable innovations and ideas later to be spread to wider communities (and to society as a whole).
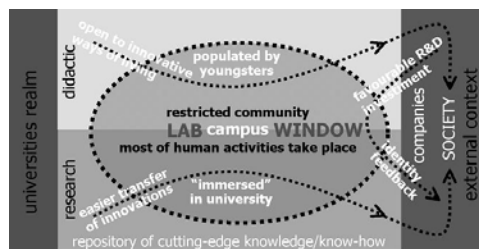

Figure 2. Scheme of forces that configure the campus as lab and window in a successful context for the design and promotion of sustainable innovation

PERSPECTIVES: A MULTI-POLAR TRANSCULTURAL LEARNING NETWORK

Since, 2002 when the LENS experience started, this experimental educational process has been evaluated by both the students (throughout questionnaires made by the Politecnico di Milano University *Didactic Observatory*) and by all the teachers involved asked, at the end of each year, to give their evaluation in relation to the project purposes. The LENS *mechanism* triggers a dynamic debate among participants and helps create shared know-how regarding sustainable design [14]. Results so far have been very encouraging and have spurred us to consider possible further improvements to the project.

So far, the structure has been a radial kind of network, with the actual exercise being developed by students at the Politecnico di Milano fed by experts from the universities in the emerging contexts. It is in the intentions of the LENS participants to move form the existing radial network model towards a **multi-polar** one: a *transcultural* learning networks on (design for) sustainability, in such a way that each participant can act as both provider of background data and criticiser/participant of the design phase. In this case the students from each of the (7 or more) universities would participate in parallel design exercises focused on sustainability. The underlying purpose would be to jointly promote a new shared disciplinary ground on *Design for Sustainability (DfS),* i.e. *a basis for courses/modules development and implementation* in world wide HEIs, as the result of a multi-lateral and transcultural effort/approach.

A positive consequence of an operation of this type would be the activation of "South-South" collaborations, through the connection of different emerging contexts. This is a desirable but rarely explored kind of collaboration that can be extremely fruitful.

This will, as well, improve the circulation of sustainable ideas.

CONCLUSION

As mentioned before, since the LENS experimental educational experience has started, the continuous evaluations made by both the students and the teachers report [14] that such a *transcultural* attitude is an effective approach for a design education process that

is willing to participate actively in the transition towards sustainability. A process where HEIs have to rethink themselves as labs for experimental research/education.

REFERENCES

[1] WCED (World Commission on Environmental Development), *Our Common Future* , Oxford University Press, Oxford, 1987

[2] WBCSD, (edit by Ayres, R.,U.), *Achieving Eco-Efficiency in Business* , World Business Centre for Sustainable Development Second report, Anversa, 1995

[3] Appadurai A., *Modernity at Large: Cultural Dimensions of Globalization.* University of Minnesota Press, Minneapolis 1996

[4] Bauman Z., *Wasted lives. Modernity and its outcasts*, Polity Press, Cambridge 2004.

[5] Sen, A., *Development as freedom.* Oxford University Press, 1999

[6] UNESCO, *Our Creative Diversità,* UNESCO Publishing, Paris, 2005, http://www.unesco.org/culture_and_development/ocd/ocd.html.

[7] Welsch, W., *Transculturality: The Puzzling Form of Cultures Today.* Spaces of Culture: City, Nation, World, ed. by Mike Featherstone and Scott Lash, London, , 1999, pp. 194-213

[8] Brabcato S., *Transculturalità e transculturalismo: i nuovi orizzonti dell'identità culturale*, paper Asnel/Gnel Conference, Frankfurt am Main, Germany, 2004

[9] Vezzoli, C., A migrant design creative-thought. Fostering necessary discontinuity for sustainability, *Proceedings of Research In and Through the Arts*, ELIA and Universität der Künste, Berlino, 2005

[10] UNEP, *Product-Service Systems and Sustainability. Opportunities for sustainable solutions*, UNEP-DTIE United Nations Environment Programme-Division of Technology Industry and Economics, Paris, 2002, available http://www.uneptie.org/pc/sustain/reports/pss/pss-imp-7.pdf

[11] Manzini E., *Design, sostenibilità e innovazione sociale. Le scuole di design come agenti del cambiamento*, seminario Formazione, sviluppo sostenibile e design: strumenti e strategie per la decade, Milano, 2005

[12] Vezzoli, C., *A new generation of designer: perspective for education and training in the field of sustainable design. Experiences and projects at the Politecnico di Milano University.* Journal of Cleaner Production, 2003

[13] Vezzoli, C., Penin L., Campus: "lab" and "window" for sustainable design research and education. The DECOS educational network experience, conference EMSU2004. *Proceedings of Environmental Management for Sustainable Education*, Monterrey, Messico, 2004

[14] Vezzoli, C., Penin L., *Designing Sustainable Product-Service Systems for all.* LibreriaClup ed., Milano, 2005, clup@galactica.it.

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