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WHAT'S ON:  
CUMULUS  
CONFERENCE  

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AVEIRO 2014  

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8 — 10 MAY  

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Cultural Diversity  
Social Engagement  
Shifting Education

title

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8-10 May, Portugal, On-line Proceedings**

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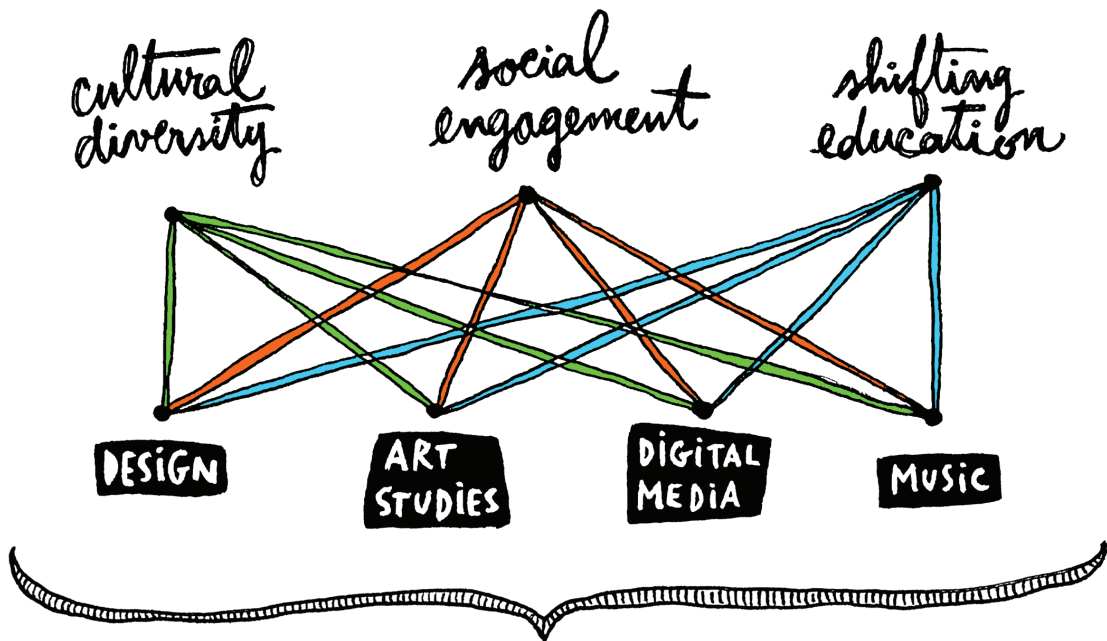
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# WHAT'S ON:

*cultural diversity  
social engagement  
shifting education*

The 2014 Spring Cumulus conference “**what’s on: cultural diversity, social engagement and shifting education**” aimed to bring together theory and practice to discuss ways in which Design, Art, Music and Digital Media are contributing, or can contribute, to challenges in an era of global transformation characterized by uncertainty, ambiguity and complexity.

This edition was held at the Department of Communication and Art of University of Aveiro, which is a multidisciplinary department that gathers the areas of Design, Art Studies, Digital Media and Music.

The conference had joined together designers, artists, musicians, theory-based researchers, and educators and developed interdisciplinary discussions on the proposed themes:

## **Cultural diversity**

- // Olden urban vs new rural realities
- // Future cultural heritage
- // Contemporary antagonisms (local/global, analogous/digital, hi-tech/low-tech, craft/industrial, convergences/divergences, ...)
- // Inter/ Trans/ Multidisciplinary approaches
- // Ludicity and communication artifacts

## **Social engagement**

- // Social-driven approaches
- // Co-“everything”
- // Community activation
- // Social empowerment
- // Responsible citizenship
- // Economics for the people

## **Shifting education**

- // Education for future generations
- // Beyond lifelong learning experiences
- // New media for new education
- // Customized learning environments and self regulated learning
- // Transdisciplinary educational approaches
- // Open educational resources

All the papers, projects and posters were double blind-reviewed by the scientific committee.

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## AESTHETIC TASTE AND CULTURAL DIVERSITY: The emotional and rational of the individual

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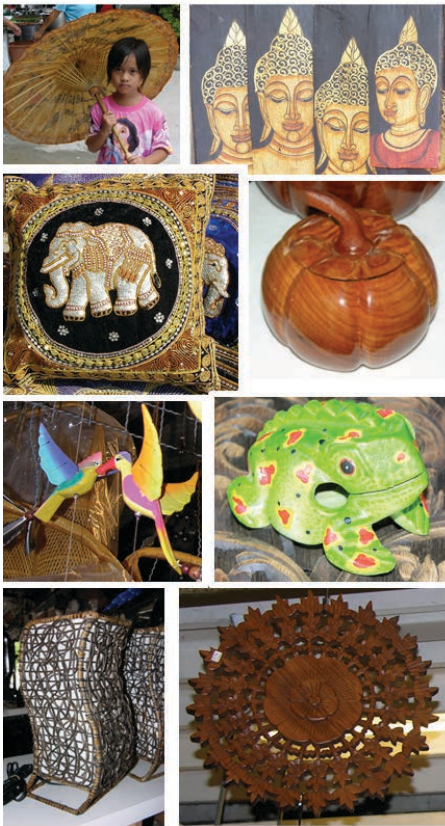
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### ABSTRACT

This article explores the development of an aesthetics framework that aims to provide designers with parameters to understand emotion, taste, and aesthetic judgment under their own cultural influence. This framework will equip designers with tangible criteria for judging cultural influences that have an impact on industrial design while preventing designers from adopting subjective options or being “followers of the current trend.” To address the complexity of the topic, a systemic approach is taken so as to be able to capture its several elements. Therefore, the aesthetics framework adopts a systemic approach, which enables its constituents to be compared and the interplay or “links” between these different elements to be identified.

### KEYWORDS

Aesthetic judgment. Cultural diversity. Emotion and reason.  
Consumer behavior



**figure 2** Exemples of choices of Tunisian objects by Tunisian people (2008).

## INTRODUCTION

The diversity of aesthetic taste is a fact recognized by philosophers and, more generally, by anyone who considers the topic. Given such evidence, this paper seeks to go further and to explore in greater depth some of the numerous reflections on the issue of aesthetics in design, and shall endeavor to present the designer with tangible answers by developing tools for analyzing consumers behavior.

From a practical viewpoint, this paper seeks to fill a current gap in terms of knowledge of, and methods and tools for analyzing aesthetic taste. Our ambitious aim is to bring about a more objective and transparent discussion of aesthetics as an interface between the user and the product, while taking the individual's rational and emotional being into consideration.

This paper fits within the field of design with a view to making the individual's perception vis-à-vis various products more tangible.

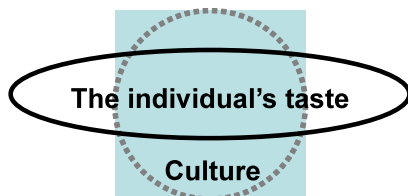
## PROBLEM

If aesthetics is important in the design world, it should be dealt with in a much broader way than in the art world, because in design it also covers use and its value includes the relationship of the body linked to action and movement.

NORMAN (2004), LIU (2001), DEHIL (2006), HEKKERT (2006) are among the authors who stress the importance of aesthetics and culture in design and show the influence of the environment on the taste and judgment of the individual when faced with objects. However, these issues are often left on the subjective plain and subject to random decisions and even arbitrary ones. The functional aspect of the object cannot be neglected nor can one forego the aesthetic aspect, because the goal of design is to respond to the needs and forms of usability, among other issues. Therefore, the designer should seek to coordinate both aesthetic and functional aspects. We can even speak of an aesthetic function which is aesthetics functioning as an important element of the interface with the user.



**figure 3** Exemples of choices of Brazilian objects by Brazilian people (2008).



**figure 4** Interrelationships of the individual's taste and culture (2008).

## HYPOTHESIS

It is believed that it is possible to construct a benchmark in design so as to situate individuals' aesthetic taste with regard to various products, by taking the influence of the cultural context into consideration.

## METHODS AND TECHNIQUES

The conceptual end-purpose is to understand the individual's behavior vis-à-vis their aesthetic or utilitarian/functional judgment of objects from different cultural sources.

Through the systemic model and its interrelationships of the individual's taste and culture, the conclusion can be drawn that individuals have their own way of feeling and/or judging; culture is always represented in the universe of the individual; the individual's characteristics that arise from human nature are a bridge of equality among all individuals, because they are hereditary and universal.

### SURVEY OF STRUCTURING ELEMENTS FOR CONSTRUCTING A SCHEMATIC REPRESENTATION

Let us start by introducing the synthetic representation of two central elements - the rational and the emotional of the individual – regarding taste. This first step enables knowledge of "the individual's emotional taste" and "the individual's rational taste" to be examined in greater depth vis-à-vis the perception of the beauty and the utility of a product.

### THE INDIVIDUAL'S EMOTIONAL TASTE

David HUME (2000) states that "the objectivity of the beautiful, if it exists, will not be sought outside human nature, it can only consist of a concrete universality of feelings". He also says that "The feelings of men differ constantly in relation to beauty and deformity of every kind, even when the discourse as a whole is the same" (...) "every feeling is just, because the feeling has no reference outside itself; it is always real, whenever a man is conscious of having it". HUME (2000) also says that trying to define a real beauty or deformity real is fruitless because "beauty is not in things, but is in the spirit of whomsoever contemplates

them".

Emmanuel KANT (2006) simplifies the issue by writing that "a beautiful object pleases us". The judgment of taste expresses this pleasure which we experience when an object is before us. Any other judgment is a judgment of knowledge: "The judgment on the beautiful reveals the analysis of this thing that makes an impression on us: it is a universality that is not conceptual but rather aesthetic; not objective, but subjective".

In the contemporary references on design, NORMAN (2004) considers that "attractive things make working better" - they produce positive emotions, by prompting a mental process that does not become more creative, but more tolerant given the difficulties.

### **THE RATIONAL TASTE OF THE INDIVIDUAL**

KARLSSON (2005) wrote that understanding feeling (which comes from reason) is not evident (...) and that a judgment or an opinion may be a desire or an aversion. In other words, the rational side - based on an opinion founded on logic - can generate the desire for or aversion to an object. A rational principle, in particular, a rational objective, can only exist in beings who are endowed with reason. But the question of an emotion which may also have effects on reason should not be neglected.

### **THE INFLUENCE OF THE CULTURAL CONTEXT**

MATTELART (2002) says that "cultures are a vision of the spirit. Since the dawn of history, of the changes in the world, the cultural and institutional models peddled by hegemonic powers, have come across people and cultures who have resisted their domination and who have been contaminated or have disappeared. In this cultural crusade, forms of syncretism were born".

Genevieve VINSONNEAU (2002) considers culture as a human production, directly dependent on the social actors and their interactions.

Culture, then, is anonymous, the fruit of common efforts, but to the extent that the singular individual separated himself/herself from the group and acquires a certain autonomy of thoughts and feelings, he/she expresses an individual identity.

HOFSTEDE (1994) sees culture as a kind of mental programming and states that each of us carries within ourselves ways of thinking, potential feelings and actions that are the result of continuous learning.

He presents three levels of human mental programming:

- Personality – unique to the individual and is hereditary and acquired.
- Culture – that is specific to one group or one category and is always acquired.
- Human nature – which is universal and also hereditary.

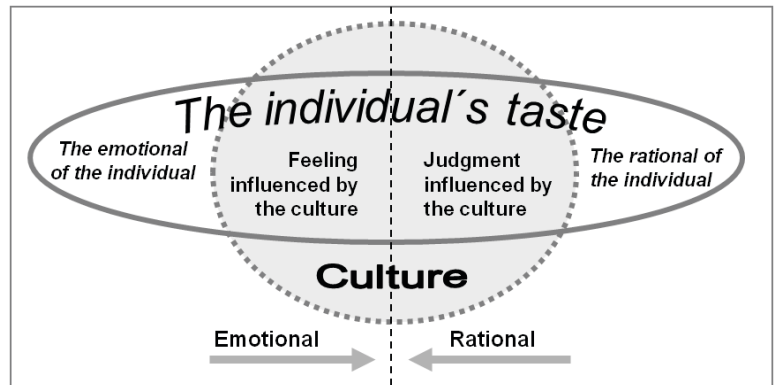
We will use only two: "culture" and "human nature". The "personality" will not be considered, because it encompasses the individual psychological question which goes beyond the focus of this study. Therefore the construction of the model allows each individual to locate himself/herself in their culture of origin and the emotional and rational tendencies.

Hofstede's statement about continuous learning - "each of us carries within ourselves a way of thinking and potential feelings and actions that are the result of continuous learning" - confirms the force of the culture on feeling and consequently on aesthetic taste based on feeling. But the mental programming differs from one group to another and from one category of people to another, in addition to which "every nation is strongly implicated morally in its own dominant mental programming" and the differences between each culture end up being made explicit.

### **GRAPHICAL FORMALIZATION OF THE SYSTEMIC MODEL**

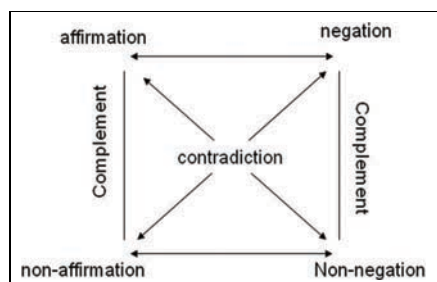
The approach to the systemic model aims to compile the different elements in question and to identify the multiple interrelationships between culture, the rational and the emotional of the individual. The study of a graphical representation of this system is both a tool for reflection and seeks a form of communication to facilitate dissemination and understanding in new horizons. The graphical representation is equally a very common form of communication and reflection for designers.





**figure 5** Systemic model 'the taste of the individual versus cultural influence.

The taste of the individual, the object of reflection of the user of the model is represented by an ellipse that occupies the center of the figure. The extremes on the left and right represent the emotional and the rational. The superimposed circle represents the culture.



**figure 6** Semiotic square of opposition by GREIMAS (1987) and CHANDLER (2002).

## RECOGNITION OF THE VALUE OF THE 'BEAUTIFUL' AND THE 'USEFUL' BEING ATTRIBUTED TO OBJECTS

This development considers that a central element is the opposition between the rational and emotional developed in the analysis model. Given this principle, two aspects were considered in relation to individuals' perceptions about the objects: the first concerns the products that people consider 'beautiful'; the second, those that individuals consider 'useful'. The 'rational' and 'emotional' aspects of individuals are at the base of the structure of the method for analysis that was developed.

To achieve a more thorough and detailed analysis, a method was developed that presents the results graphically in a clear and understandable way. This tool is based on the principle of the semiotic square of opposition put forward by GREIMAS (1987).

## EXPLOITATION OF THE MODEL

This tool built from the perspective of design addresses the subjects from uncommon angles that belong neither to marketing nor to sociology, nor to philosophy, but have a little of each of

these disciplines. For example, we take into account not only the individual's preference, but also the best-selling products (marketing) and the perception of usefulness and beauty. The method was developed to bring the 'beautiful' and the "useful" face to face, thus enabling the status that the individual gives the product design to be perceived. The objective is to control the relationship between (culturally different) individuals when in the presence of objects / products (from various sources). The purpose of the method is to help designers, ergonomists and even marketing professionals to better understand the individual and what attracts him/her.

BEAUTIFUL		0 useful	1 useful	2 useful	3 useful	BEAUTIFUL and USEFUL	
3 beautiful	3 beautiful	3/0	3/1	3/2	3/3	3 beautiful	
	2 beautiful	2/0	2/1	2/2	2/3	2 beautiful	
	1 beautiful	1/0	1/1	1/2	1/3	1 beautiful	
	0 beautiful	0/0	0/1	0/2	0/3	0 beautiful	
NEITHER BEAUTIFUL NOR USEFUL.		0 useful	1 useful	2 useful	3 useful	USEFUL	

figure 7 Shaure of the analysis of the beautiful and the useful.

## RECOGNITION OF THE VALUES OF “BEAUTIFUL” AND “USEFUL” ATTRIBUTED TO THE OBJECTS

As a central element, this procedure places the opposition between the emotional and the rational model developed in the first model – by applying this principle to the relationship between the individuals and the objects while considering two aspects: the first corresponds to the products that people regard as beautiful; the second corresponds to the products that people regard as useful. The rational and emotional aspects of the individual are at the base of the structure of the method.



To achieve a thorough and detailed analysis, which gives evidence of the nuances between the perception of the object as beautiful and/ or useful and the preference for these objects in a clear and objective way, this tool is based on the principle of the opposition of the semiotic square.

GREIMAS (1987), CHANDLER (2002), KLINKENBERG (2006) and others claim that the opposition structures the semiotic universe. Thus we work on this aspect of opposition between the 'beautiful' versus the 'useful' and also the 'beautiful and useful' versus 'neither beautiful nor useful'. Using these considerations, we present all the variables that we managed to identify.

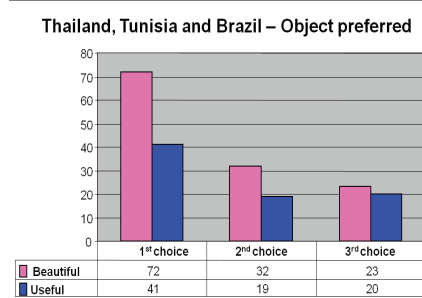
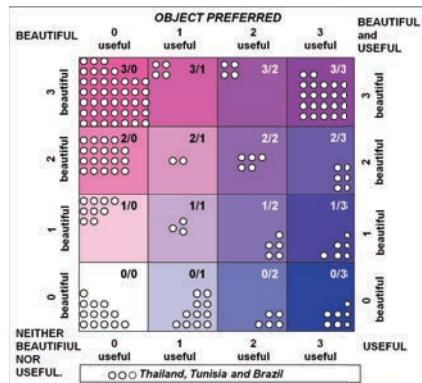
### **ANALYSIS SQUARE OF THE PRINCIPLE OF THE OPPOSITION OF THE BEAUTIFUL AND THE USEFUL.**

This model is intended for organizing the field work carried out on products by asking respondents to classify from (0) to (3) what they considered beautiful and useful. The answers appear in the corresponding square. Example: utility "two" and beauty "one". So we have a mapping of the perception of the object. Sometimes the same product can be considered as both beautiful and useful. In this case, take into account the different values are taken into consideration within a scale from 'zero' (nil) to 'three' (maximum) as per the individual's judgment. Each internal square illustrates a possibility worthy of note. The colors from pink to blue and violet to white, also illustrate the change of judgment: pink for the 'beautiful', blue for the 'useful', violet for the "beautiful and useful".

### **APPLICATION OF THE METHOD IN SURVEYING HANDICRAFT PRODUCTS WITH A CULTURAL CONNOTATION**

This is a research field that uses the model to study the perception of handicraft objects sold in stores in three countries with a strong cultural identity which, however, are very different from each other. They are: Thailand, Tunisia and Brazil (with a total of 173 surveys completed).

The procedure adopted in the field research began with the selection of the regions and the stores considered as the most



**figure 8** Graphs of the 'best-selling product' in the three countries surveyed: Thailand, Tunisia and Brazil.

representative ones in cultural terms. The form of data collection occurred similarly in the three countries surveyed, and used the same approach and interview procedures. Those surveyed - small and medium traders and artisans - who served a public of tourists at the international level. Thus, the results led us to reflect on the behavior of the individuals within their own cultural context and having come up against the look and expectations from other countries.

The questions asked for the nomination of the three most beautiful objects, the three most useful objects, and among them the one preferred and most sold in the shop.

The factor of 'preferred' was considered the most important one because the answer comes directly from the individual's opinion who spontaneously classifies the object as 'beautiful' and/ or 'useful' which refer to the emotional and the rational.

As to the cultural influence, it is important to remember that the trader and the product he chooses belong to the same cultural context.

The factor of 'most-sold' can shed light on consumer preference which is based on information relating to the sale of products. In this case we can obtain an estimate of the products most consumed that would represent the preference during purchase.

## RESULTS

During this study, we found logical and expected answers but also revealing answers of surprising facts. The logical answers are proven in discussions on aesthetics and philosophy. In this case, this study obtained results that confirm both the respective discussions and the validity of the method.

The analysis of the results shows a study at two levels: in the first, it is a question of checking which objects are classified as 'beautiful' and 'useful' by the traders who took part in the survey. Then we will check the preference and the sale as per the classification. The objective is to know if the preference is associated with emotion, through choosing the 'beautiful' or the 'rational', through choosing 'useful'.

In both cases - both in the preference and in the most sold - the products considered the most beautiful are in front. We can then anticipate that the emotional plays an important role in the

preference and choice of products.

For the products 'preferred', the preference is expressed more based on beauty than utility but the rational cannot be overlooked.

For the 'best-selling' products, the results confirm that the ones most sold are always the most beautiful ones, but this proportion, the difference between the beautiful and the useful is less representative.

It can also be said that the 'rational' aspect by means of perceiving the utility should also be considered as a non-neglectable factor in the preference and sale of a product.

The analysis square by considering the principle of opposition enables us to visualize all the answers that were classified twice, by also considering the order of choice.

The analysis of the results of each country confirms to us the behavior given the similar judgment in the three cases. That is, the procedure of the individual is universal. Therefore it is associated with the characteristics of human nature, for there is no noteworthy difference between individuals from different cultural contexts.

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## IN SEARCH OF AN ORAL FORM OF DESIGN: Mobilizing Inuit Cultural Heritage

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### ABSTRACT

This paper explores the notion of an “oral form of design” in response to questions at the heart of a new major partnership project titled “Mobilizing Inuit Cultural Heritage.” It brings together Inuit and Qallunaat (non-Inuit) who are all engaged in various ways of exploring the cognitive and cultural gap between orality and materiality — information exchange and manifestation of knowledge for Inuit in the Canadian Arctic. Our team will work with Inuit, particularly in Nunavut, to create new forms of cultural production, to exert their voices and in so doing attempt to redefine contemporary Inuit identity. Through discussion of Deleuze and Guattari’s smooth and striated space, Ong’s orality and literacy, and the role of art and design, the author suggests that design practice that deploys Ong’s secondary orality can provide opportunity for Inuit youth to participate in making a future that evolves contemporary Inuit identity, and gives agency for exerting Inuit voices.

### KEYWORDS

Inuit Art and Design. Design Process. Cultural Production.  
Smooth and Striated Space. Secondary Orality

An abiding belief in the power of creative expression to affirm identity, reinforce cultural connection and to heal social wounds is at the heart of a new six-year Partnership Grant being funded by the Social Sciences and Humanities Research Council of Canada (SSHRC). Our project is titled “Mobilizing Inuit Cultural Heritage” (MICH). The project brings together ten academic collaborators and nine institutional partners who are all engaged in various ways of exploring the cognitive and cultural gap between orality and materiality — the primary mode of information exchange and the manifestation of knowledge that comprise the basis for cultural and personal well being for Inuit in the Canadian Arctic. The problems caused by the current misalignment include alarming high school drop out rates, the suicide rate among young people, especially men, lack of hope and loss of collective voice. Through the course of the project, our team will work with Inuit, particularly in Nunavut, to create new forms of cultural production, to provide forums through which they can exert their voices and in so doing attempt to redefine contemporary Inuit identity. See table below. *There will be a table listing all co-applicants and partners.*

The central issue that unifies this diverse group of participants is how digital technologies can facilitate a range of creative practices to reconnect Inuit young people to their culture and define it for the 21<sup>st</sup> Century. In seeking ways to reconcile new and so-called alienating technologies with traditional and interpersonal oral culture, the principle investigator and visionary behind the project, art historian Anna Hudson, asked, “Is there an oral form of design?” In other words, can design practice provide a means for accessing and externalizing traditional, oral-based knowledge? This paper is an attempt to respond to that question. I will discuss Gilles Deleuze and Félix Guattari’s concept of smooth and striated space and relate it to fundamental differences between Arctic Inuit and Qallunaat (non-Inuit) world-views. I will compare those oppositions to Walter Ong’s definitions of orality and literacy. Then I will discuss them as they relate to the Inuit creative practices we know as art and design. At the intersection of these spatial and intellectual dichotomies emerges Ong’s secondary orality via web-based tools, the deployment of which may lead us to an “oral form of

design” that allows for transnational communication, dissemination of Inuit voice and re-affirmation of identity.

## **SMOOTH AND STRIATED SPACE**

According to Deleuze and Guattari (1987: 474) the concept of smooth and striated space describes differences between nomadic and sedentary orientations. Smooth space is that which is occupied without being delineated. Striated space is delineated in order to be occupied (Deleuze & Guattari: 477). In striated space, fixed points are the priority while in smooth space the destination is subordinate to the journey, or the process. This dialectical construction of spatial relations conjures the vastness of nomadic experience, as in the Arctic, contrasted with surveyed lots on once unoccupied territory, such as the settled communities in which Inuit were compelled to live. Deleuze and Guattari add, “smooth space is constantly being translated, transversed into a striated space; striated space is constantly being reversed, returned to a smooth space.” (1987: 474) They make the process seem gradual, almost evolutionary but the shifts from one state to the other can be cataclysmic as well.

“Nunavut can be understood only within the context of [the] dramatic shift from land to village life” (Billson, 2001:284). During the mid-20<sup>th</sup> Century the entire cultural orientation of Inuit was upended, as they were systematically driven into settlements in order to secure Canadian sovereignty in the Arctic. “The sedentarization of Inuit in the 1950s and 60s alienated them from the land and from their traditional culture, and contributed to engendering social pathologies that are still being battled today: low self-esteem, alcohol and substance abuse, family violence, youth suicide, and welfare dependency” (Légeré, 2009:211). In a matter of mere generations, Inuit transformed from self-sufficient nomads to being dependents of a state system based on a cash economy in which most lacked skills or means to participate.

Concurrently, the Inuktitut language was undergoing a similar permanent transformation, into syllabic form to allow for written texts. While written texts feel to many like a betrayal of the oral culture, they are necessary for conducting the government in



Inuktitut (<http://www.gov.nu.ca/en/Fonts.aspx>) a, priority of the Nunavut government.

These three modes of striation — permanent communities, cash economy, written language — and the continued struggle of Inuit to prosper within each system are physical manifestations belied by the genteel way Deleuze and Guattari state, “That there is such a distinction is what accounts for the fact that the two spaces do not communicate with each other in the same way” (1987: 475).

Within the last decade, another form of striation has appeared in the Arctic via digital media including mobile telephones and, despite intermittent and expensive Internet service, networked computers and handheld devices. While elder Inuit fear these devices are objects of cultural alienation, our project suggests the opposite. We see the Internet, that ultimate striated place, as a site for exploratory possibility for a return to smoothness.

Inuit youth already patiently and methodically upload videos to YouTube, to give voice to their daily life. By reaching out over digital channels they “mediate aspects of their everyday realities for public viewing and root themselves simultaneously in global Internet and Arctic spaces” (Wachowich & Scobie 99). We believe that the ability to transcend geographical and political boundaries will help young Inuit reconnect to a smooth way of being in and of their world. Access to Inuit-owned media providers such as Isuma.TV, and to sites like YouTube also foster communities of peers, based not on striated measures like social status, but on the smoothness of common interests.

## **ORALITY AND LITERACY ACCORDING**

A major concern of Inuit, and one that would seem to be the basis for other forms of their wellbeing is the preservation of their stories. Inuit scholars are in the midst of transposing their oral culture to written texts in an effort to record what is known as Inuit Qaujimajatuqangit (Khao-yee-muh-yah-tut-khang-geet) (IQ) or Inuit traditional knowledge held by elders who remember life on the land before settling in communities. There is a palpable

sense of urgency around this work as the elders age and pass away. The generation of scholars doing the recording, with experience in both the oral and literate worlds sense that “though words are grounded in oral speech, writing tyrannically locks them into a visual field forever” (Ong 2012:12). The knowledge of a word’s existence in visual form forever after precludes the conception of that word as sound, as having basis in orality, as being smooth.

The apprehension and suspicion of written culture felt by Inuit is expressed by senior instructor of Inuit Studies at Nunavut Arctic College, Susan Enuaraq when she asks, “Does it continue the colonialist mindset when I, as an Inuk, always have to refer to the written word rather than relying on my ancestor’s knowledge stemming from oral traditions? When will we have the same credibility? Isn’t an Inuk’s knowledge of her world sufficient” (ISC:77)?

Ong writes that for oral cultures, “The past is not felt as an itemized terrain peppered with verifiable and disputed ‘facts’ or bits of information. It is the domain of the ancestors, a resonant source for renewing awareness of present existence, which itself is not itemized terrain either”(2012:97). Ong is describing oral culture as being akin to Deleuze and Guattari’s smoothness. Ong also insists, “without writing, human consciousness cannot achieve its fuller potentials, cannot produce other beautiful and powerful creations. In this sense, orality needs to produce and is destined to produce writing” (Ong 1987:14). Ong suggests that the smoothness of orality must, by necessity transverse to the striated practice of writing. However we know from Deleuze and Guattari that the striation will not last either, but eventually allow for different forms of smooth expression.

Preservation stabilizes and reifies that which used to be — whether actually or nostalgically. It resists change even as the Inuit scholars have embraced contemporary media including written text and digital audio/visual recordings. The resistance to change has created irreconcilable conflict as “Culturally, Inuit are rapidly losing the traditional life skills that ensured survival for their grandparents; yet, they have not acquired all the skills that

postindustrial techtronic society requires” (Billson 2009:289). Renowned Inuit artist, Abraham Anghik Ruben, lamented Inuit youths’ near complete adoption of digital devices and claimed them technologies of cultural alienation. Our project has at its core a belief in the very opposite of Ruben’s notion. Wachowich and Scobie insist that, “Internet technology must be seen within a long history of the technologies used by Inuit to bring their world into being” (2010: 98). And in fact, they posit, “the Internet has become one of the tools that will ensure the survival of Inuit young people in the 21<sup>st</sup> century” (2010:99).

Building on a basis of respect for the IQ (traditional knowledge) principle of Pilimmaksarniq or “acquiring skills through practice, effort and action” the digital gaming company Pinnguaq has launched the Nunavut Code Club, at which participants ranging from ages 6 to 20 use code to develop games. Pinnguaq and Code Club founder, Ryan Oliver says, “Long term, my hope is that this interest leads to further pursuit of computer science and eventually that Nunavummiut are able to compete and represent themselves on the world stage through technology” (XX) He believes that Inuit need access to technology, not only as users, but as computer scientists and technicians, in order to gain control over ubiquitous devices and their role in daily life. Oliver and others view these forms of technology as equivalent to the advent of snowmobiles in the Arctic, once frightening now essential and understood.

Through television and film production to personal video diaries, through cataloging and curating archives of artifacts, through creative making practices, the primary goal of all participants on the project is providing a channel for Inuit to exert their voices. The apparent irony of our being in the position to lend a traditional oral culture their “voice” is tempered by our use of the word “mobilization.” For the non-Inuit (qallunaat) on the team, preservation is not our primary concern. We find the word, “mobilization” more useful for our purposes in part because it seems more active and is not under the burden of a time constraint. The most significant difference we see between preserving and mobilizing is in the potential for systemic change. MICH seeks to counter decades of erosion of cultural identity by

helping instill Inuit youth with agency to create cultural artifacts and by extension redefine Inuit identity. We see mobilizing as calling for active engagement on the parts of both makers and viewers of cultural artifacts. Mobilizing creates space for anyone to become a maker, and for makers to awaken their voices and share their stories. Our hope is that mobilization activates people to claim agency in changing their current conditions.

## ART AND DESIGN

Inuit art production as a commodity for participation in the cash economy was introduced to residents of Cape Dorset and developed in large part by James Houston in the 1950s. After several years of experimentation the first collection of prints was released in 1959 (Lalonde & Ryan 2009). With international critical acclaim, the business of art making has flourished in several communities throughout the Arctic and particularly Nunavut ever since.

The art was (and continues to be to a certain extent) about nomadic experience, revealing a smooth world-view, without being of or essential to it. The prints and drawings on paper function as a form of text, spatializing a version of Inuit experience.

All the visual manifestations of communication, from graphic images to the syllabics that visualize and spatialize the language to books preserving oral tradition in written form, are emblematic of that which is not oral, a striation no matter how expressive, a surrender of familiar smoothness. These inscribed forms of visual media are detached from their maker-authors (2012: 77). Ong describes that detachment as a loss of accountability because there is no ability for immediate interaction with the author. Unlike these forms of cultural expression for which Inuit have become known, today's youth seem more interested in the relative immediacy of the networked digital realm. It is at once ephemeral and established, and most importantly, allows for a kind of interaction with the maker, through commenting and sharing.

Former Nunavut Arctic College Campus Director, Peesee Pitseolak-Stephens said, “Art is in every thing. It is in nature, it is in our tools — where the tip of the harpoon meets the handle — there is beauty there. It is art. I don’t know why we separate this idea of art out of everything else we learn. Everyone can make art.” I replied that what she described is the way we discuss design — as human endeavor to devise things that are beautiful in their utility, powerful in their ability to communicate, and at their best, aid in our survival. However, I knew I did not convince her. Art — as a word, an enterprise, a category of artifacts — is powerful, laden with decades of painful meaning as the drawings and prints continue to represent a way of life that is lost to Inuit. Writer and curator Bernadette Driscoll Engelstad confirms that, “The art historical canon describing the development of contemporary Inuit art consistently — and persistently — overlooks a basic fact: that art has always been fundamental to Inuit culture. Design sensibility, aesthetic appreciation and skill in craftsmanship are richly evident in the archeological and historical record, informing the utilitarian function of objects and enhancing the efficacy of hunting tools, clothing and other forms of cultural production” (McMaster ed. 34).

Proof of Inuit affinity for design is embodied in the documentary film made by Bernadette Dean and Zacharias Kunuk. Their documentary, called *Inuit Piqutingit (What Belongs to Inuit)*, follows a group of elders as they travel to museums in several North American cities to see, for the first time, Inuit artifacts from the nomadic era held in the museums’ collections. As curators open drawer after drawer of categorized artifacts, the elders see their ancestors’ tools for both survival and leisure, laid out in striated presentation. In some cases the elders explain to the unknowing curators the purpose of particular objects.

An elder by the name of Rhoda Karetak said to a group of Inuit youth at the end of the documentary, “Our ancestors were smart. We saw they could make anything. You can be proud” (Kunuk & Dean 2009). The proof they found was in the artifacts, in the patterns of the clothing, which the women could read for their utility and regional differences, the craftsmanship and ingenuity of the objects for the purposes they served.

Art on paper was brought to the Inuit, an expressive practice in a striated context. Design as an iterative process for externalizing utilitarian and aesthetic knowledge has always been present. The evidence is their survival for thousands of years. So then, can design — usually relegated to the striated side of creative practice — claim a place in this project as distinct and legitimate for the reclamation of Inuit identity? If the transference of knowledge orally is smooth and design, in this context, is also smooth, then we are approaching something akin to an “oral form of design.”

## **SECONDARY ORALITY AND A RETURN TO SMOOTHNESS**

Ong writes, “Our understanding of the differences between orality and literacy developed only in the electronic age, not earlier. Contrasts between electronic media and print have sensitized us to the earlier contrast between writing and orality. The electronic age is also an age of ‘secondary orality,’ the orality of telephones, radio and television, which depends on writing and print for its existence” (2-3). The Internet is certainly another channel for secondary orality. Its presence in the Arctic bolsters our belief that the timing is right for our project, which seeks to connect organizations and people engaged in various forms of Inuit cultural production, through digital platforms.

Questions that originally inspired this project were, “What are the young people doing in terms of creative expression?” “Why is visual art production — drawings, prints, carvings — for which their culture is known, on the wane for this age group?” “How can we engage young people in meaningful ways through the forms they wish to make?” Increasingly popular among young people are oral and performative modes of expression — spoken word, rap, throat singing, uploading videos on YouTube. On the surface, this activity would seem to be, at least in part, a collective effort to reconnect to their oral heritage.

Students at Nunavut Sivuniksavut in Ottawa, an eight-month college program for students from Nunavut, produced a video

parody of the popular “Gagnam Style” video to promote the Inuktitut Language program at their school. Although the video has had over 81,000 views, it has also drawn criticism for its use of traditional clothing in what some commenters consider a disrespectful context. Nineteen-year-old Kelly Fraser, recent alum of the program says, “Our intention was to make our language stronger and just make a fun song. I understand that people might feel the songs disrespected our culture, but if we don’t do anything about our culture, if we don’t promote it, then we’re going to lose it. It might not be traditional but there are a lot of things that are not traditional, like skidoos (sic). . .” (August 15, 2013). Fraser is quickly gaining popularity in her own right across the circumpolar region as an Inuk singer because of her YouTube videos that are all covers of famous songs she has translated to Inuktitut. “I even saw a young girl from Akulivik who made a video of herself lip-synching to my song” (August 15, 2013). Fraser is describing cultural information exchange across a vast distance that is made possible through web-based platforms demonstrating Ong’s secondary orality.

MICH originally also grew out of a regional museum’s desire and political impetus to reconnect Inuit people, art and by extension, their traditional knowledge through the digitization of an archive it holds of over 100,000 artifacts. Ultimately, the digital archive will be available for people to input information they may have about the subjects or makers of the artifacts. It will inform public school curriculum and be accessible throughout the communities via large servers called media viewers, which can hold enough information that they simulate an internet-based platform in a vast region where wide-spread connectivity is still a challenge and prohibitively expensive for many residents.

In addition to facilitating access to archived images, we will conduct workshops and contribute to public school curriculum to provide a reconnection to making through an iterative design process. Whether using analog or digital means, Inuit youth and young people will engage with a form of smooth orality. We are confident they will move between analog and digital realms as effortlessly as their southern counterparts. Contemporary indigenous artists are engaging in both handmade and digital

practices. Christine Lalonde, Associate Curator of Indigenous Art at the National Gallery of Canada says, “I think the emphasis on the handmade is because it’s recognized that that process is knowledge, and that knowing how to do these things is a way to transmit knowledge and keep it alive” (12 August 2013). In a related and, we would argue, legitimate vein, Wachowich and Scobie declare of young people posting videos to YouTube, “It is not the form that matters, but the act itself of uploading” (2010: 100). Each is an act of exerting voice, knowledge, and identity through available and meaningful tools.

Deleuze and Guattari warn us not to place the burden of cultural survival on the concept of smoothness. Nor do we wish to romanticize its potential. However, we believe that movement toward a form of smoothness — the proposition of seeking an oral form of design, engagement with an iterative process that relies on varied skills and contributions of makers and honors the role of the user — can provide opportunity for Inuit youth to participate in making a future that evolves Inuit identity, redefined for survival in the contemporary context.

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## COLOR CULTURE OF CHINESE SPRING FESTIVAL IN THE ERA OF GLOBALIZATION: A case study of Shanghai

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### ABSTRACT

China enjoys a colorful traditional festival culture, among which the Spring Festival is the most important. The color "Red" has always been the most dazzling color of the Spring Festival. Color has a distinctive visual priority to disseminate culture and express creativity. Chinese people's preference for the color "Red" is closely related to traditional culture. To study more targeted, this paper focuses on the color culture of the Spring Festival in Shanghai. Account of Shanghai's coastal geographical location and unique history background, it appears as an amalgamation of East and West. As a globalizing metropolis, creative inheritance of the Spring Festival color culture in Shanghai is supposed to be more typical. There is no other big city in the world like Shanghai, which binds together many incompatibilities: old and new, nationalism and globalism. How can its traditional color expressions develop with the times to achieve harmonious communication on a global scale without losing their own ethnic representation, thus obtaining a more multi-cultural identity? Based on analysis of color culture's change and development from ancient Shanghai to nowadays modern Shanghai, this paper attempts to propose several practical methods to deal with the previous question from the perspective of creative thoughts.

### KEYWORDS

Shanghai. the Spring Festival. Color. Culture. Globalization. Creativity.

## **COLOR ENJOYS HIGHEST VISUAL PRIORITY**

Aristotle thought that human beings are social animals(Aristotle 1920). Actually, Colors are a sort of essential media, only through which, can humans become social animals. Living in such a colorful world, diverse colors bring people particular visual interests and aesthetic enjoyments. Color is a ubiquitous physical phenomenon, which is the brain's subjective perception of specific wavelengths of light (Leonard Shlain 2007). Studies have shown that 83% of the information is received through visual sense, Human has five senses: visual sense, auditory sense, gustatory sense, olfactory sense and tactual sense, whose functions are not equivalent. Normally, visual sense is far more important than the other four senses. Georg Wilhelm Friedrich Hegel has pointed out that in all human senses, only visual and auditory senses can help human to recognize the world, while the other senses are relatively not so useful (Georg Wilhelm Friedrich Hegel 1994). Studies have shown that 83% of the information is received through visual sense, and the second most helpful sense-auditory sense only accounts for 11%. Gustatory sense, olfactory sense and tactual sense respectively takes the proportion of 3.5%, 1.5%, 1% (Wang Daiming 2007). Such fact is known as "Visual Sense Priority Principle" (Jean-Francois Lyotard 2011). From the angle of conveying information, color covers the largest part of the visual sense, up to 80% (Li Jiequn 2007:241). Therefore, color has the highest distinctive visual priority.

## **CULTURAL SUBJECTIVITY OF COLOR PERCEPTION**

Color is a media with strong expression as American artist Hans Hofmann said (Helmut Friedel 1998). It can not only touch the desires people hiding inside, but also can perform the delicate emotions from happiness to hopelessness abundantly. The imaginations, thoughts and emotions about colors is a

psychological process that colors stimulates, collides and intersects with the information stored in the mind of human beings after passing through optic nerve to center nerve system, thus causing colors' associative meanings (Cheng Shuxiang, Zhang Guiqiu 1988:1919). US systematic philosopher Ervin Laszlo held the opinion that culture is not only confined to pure literature, art, music and philosophy, but also describes creative ways of technology and skills, control of nature environment, personal feeling to beauty and harmony and personal identity and imagination of the world. Overall, what differentiates one ethnic from another is the ethnic's own culture, not geographical locations and nature resources (Ervin Laszlo 1993). When colors become the way in which people use to express their ideas, ideals and feelings, different cultures have different color perception accordingly.

## **COLOR CULTURE OF THE SPRING FESTIVAL IN SHANGHAI**

Shanghai is located in the east of the Asian continent and the west coast of the Pacific (Yizhi Wang, Hiroyuki Shibusawa, Edward Leman, Yoshiro Higano, Guoping Mao 2013), belonging to the Yangtze River Delta. Owing to the superior geographical position, globalization has had a tremendous impact on Shanghai. Since Shanghai was compelled to open to foreign trades as a port in 1843, tremendous changes have taken place in the city. Shanghai was the first city to take in advanced western culture. That's why it was once called "Paris of the East" (Wakeman, 1996). Moreover, with the help of foreign capitals, investment and technologies, Shanghai started the modernization drive earlier than any other cities in China. Consequently, the Spring Festival of Shanghai is changing along with globalization too. However, globalization is not a single causal mechanism but a complex and even contradictory trend resulting from many causal processes (Jessop 1999). Globalization and localization seem to be contradictory, but actually they can integrate to a certain degree. As the bellwether for China, even Asia, Shanghai never pauses in its struggle to rebuild itself as a global city (He Shenjing, Wu Fulong 2005) and

nowadays is standing on the frontier of modernization. Meanwhile, Shanghai still reserves traditional characteristics. There is no doubt diversity and harmony to the rhythms of the city, a sense in which modernity and post-modernity, industrialization and post-industrialization, globalization and localization are fused and juxtaposed (Amanda Lagerkvist 2013). Compared to other ancient cities with long history in China, Shanghai is considered to be a “young” city. Nevertheless, its glorious and exclusive past, together with promising and prosperous future have drawn the world attention and are worth studying. Shanghai has underwent three periods, so has its festival color culture.

### **FIRST PERIOD: A TRADITIONAL AND ISOLATED PORT**

Shanghai was originally a fishing village. In 1292, it was set up as an administrative country by officials of the Yuan Dynasty (1271-1368). During the Ming Dynasty (1368-1644), Shanghai gradually became the national textile and handicraft center. On the whole, during the first period, counting from the birth of Shanghai to two Opium Wars<sup>1</sup> in the late 19<sup>th</sup> century, the agricultural city was isolated and not open widely enough. Festivals are the mirrors of a nation's history and civilization. Owing to China's glorious history and splendid oriental civilization, China offers the most fertile soil for the birth of various traditional festivals.

In primitive society, the level of productivity was quite low. Ancestors were not strong enough to fight against nature. Instead, they feared it, so they had sincere worship to nature. They began to hold regular activities to offer sacrifices, such as pig, cattle, sheep, and even little children to hope for great harvest, pleasant climate and good fortune, those were embryonic forms of Chinese festivals. Accordingly, most Chinese traditional festivals originated from superstitious primitive worships and owned sharp agricultural characteristics. Worship of colors was very common in ancient China, for they were natural products.

With the development of human society, human being's

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<sup>1</sup> The Opium Wars are divided into the First Opium War from 1839 to 1842 and the Second Opium War from 1856 to 1860 (Julia Lovell 2011).

recognition of nature and strength to struggle against nature were growing simultaneously. Most festivals weren't known to all and fixed to a certain date until Qin Dynasty (221-207B.C.). The Han Dynasty (206-220B.C.) witnessed the gradual finalization of festivals, in which historical traditions and conventions were shown in festivals. Little by little, festivals were progressively getting rid of superstitions. Stepping into the Tang Dynasty (618-907B.C.), a period during which Chinese traditional festivals underwent radical changes. Thanks to rapidly developed economy and tranquil social environment, people's living standards were enormously improved. Only when their material as well as spiritual life was developed to a higher degree, could festivals grow healthily. Festivals became nationwide celebration and entertainment holidays, such as the Spring Festival, Lantern Festival<sup>2</sup>, Dragon Boat Festival<sup>3</sup>, Mid-Autumn Festival<sup>4</sup> and so on. At the same time, festival colors were attached more attention. Colors could add joyous atmosphere and express best wishes. Moreover, preference for colors has been inherited as well. Among all the festivals, the Spring Festival is of the greatest significance and has the closest relevance to color. The Spring Festival is a period which lasts from the first day to the 15th day of lunar January. The first day of lunar calendar is determined as the beginning of the Spring Festival, while the westerners regard the first day of solar calendar as New Year's Day. Before the foundation of PRC (1949), Chinese people used lunar calendar founded according to the growing cycle of crops. Because limited by the climate, geographical condition and productivity level in ancient China, crops were sowed and harvested once a year. It was not until the invention of the ten Heavenly Stems<sup>5</sup> in the Xia Dynasty (21<sup>st</sup> century-16<sup>th</sup> century B.C.) and the twelve Earthly Branches<sup>6</sup> in the Shang Dynasty (17<sup>th</sup> century-11<sup>th</sup> century B.C.),

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<sup>2</sup> Lantern Festival is celebrated on the fifteenth day of the first month in the lunar calendar, marking the last day of the lunar New Year (the Spring Festival) celebration.

<sup>3</sup> Dragon Boat Festival is celebrated on the 5th day of the 5th month in the lunar calendar. It commemorates the death of the poet and minister Qu Yuan (c. 340–278 BC).

<sup>4</sup> Mid-Autumn Festival is an official harvest festival, which is held on the 15th day of the eighth month in the lunar calendar. It's a time for family to gather together.

<sup>5</sup> The ten Heavenly Stems are 甲(Jia)、乙(Yi)、丙(Bing)、丁(Ding)、戊(Wu)、己(Ji)、庚(Gen)、辛(Xin)、壬(Ren)、癸(Kui).

<sup>6</sup> When counting years, people use them with the 12 Chinese zodiacs and strictly one Earthly Branch corresponds to one fixed zodiac. They are 子(rat)、丑(Ox)、寅(Tiger)、卯(Rabbit)、辰(Dragon)、巳(Snake)、午(Horse)、未(Sheep)、申



**figure 1** Red color at the Spring Festival.



**figure 2** A family is preparing for the family dinner on New Year's Eve.



**figure 3** Public space in the first period.

were people able to designate years, months, days and hours adequately to arrange agricultural production reasonably. The main color of the Spring Festival was red. Based on archaeological discoveries, the color “Red” might be the first color that Chinese ancestors, even human beings produced and used (Jia Lanpo 1987:127). Thanks to Chinese advanced stone manufacturing technology and rich hematite resources, it was convenient and easy to get the pigment “Red”. Besides, because red is the color of fire, the sun and blood, which were extremely vital in ancient times, it is natural that people were fond of red. There were many traditional customs, which can be classified into three parts.

Firstly, people hung up lanterns, Spring Festival couplets, paper-cuts, and the Chinese character “福”<sup>7</sup> and so on, all of which were in red (see figure 1<sup>8</sup>). The original emergency of the Spring Festival on account of profound humanistic cares: the winter of coldness, hunger, death is leaving; the spring of births and hopes is coming. Red expressed warm and safe feelings and carried the meanings of driving away devils. When pasting the character “福”, people tended to paste it upside down, which meant the happiness was coming.

Secondly, people had a grand family banquet on New Year's Eve. It was a time for family reunion. Because of human's low productivity, the annual dinner was supposed to be the most sumptuous. They gathered together and shared food accumulated through fishing, hunting, or farming. Singing, dancing and chatting happily, Chinese ancestors enjoyed the wonderful festival, left behind unpleasant memories of the past and begin hopeful life anew (see figure 2<sup>9</sup>).

Thirdly, besides color expressions of individual family, the city public spaces were also decorated red: red lanterns, red slogans, red flowers, red clothes, red fireworks and so on (see figure 3). The color “Red” undoubtedly created lively festival atmosphere. Red preference culture is in accordance with traditional worship and heartily emotions. People were looking forward to the Spring

(Monkey)、酉(Rooster)、戌(Dog)、亥(Pig).

<sup>7</sup> Chinese character “福” means blessedness or happiness.

<sup>8</sup> Picture Source: 千门万户瞳瞳日——春节简介. 2011.01.28.  
<http://stustar.com/Item/33797.aspx>

<sup>9</sup> Picture Source: 图说古代中国春节风俗. 2012.01.08.  
[http://news.folkw.com/www/qqs/060620513\\_3.html](http://news.folkw.com/www/qqs/060620513_3.html)



Festival, as it was such a cozy, relaxing and meaningful time spent with the whole family.

## SECOND PERIOD: A TRANSFORMING AND MODERN CITY

Heading into Qing Dynasty (1644-1911), Shanghai had a population of about 50,000, making it a crucial and prosperous port. When the First Opium War (1839-1842) broke out, Shanghai underwent a vital change, entering another social period. Compelled to sign the Treaty of Nanking<sup>10</sup>, the Qing government had to open 5 ports, including Shanghai, to trade. In 1843, the first British consul moved into Shanghai. Since then, Shanghai has become an international colony. It was called "Paradise for adventurers". Foreigners poured in Shanghai, who brought much investment, advanced technology, democratic thoughts and exotic culture, leading to the establishment of a large number of foreign banks, insurance companies, department stores and other multipurpose commercial houses. Shanghai quickly transformed from predominantly agricultural city to the center for foreign trade and receiver of modernizing impulses from the rest of the world. The globality of Shanghai was already a fact in the 19th century (Wasserstrom, J. N. 2008a). The color culture was creatively inherited. Red still represented the Spring Festival. When the new year was coming, every household was busy with preparations (see figure 4<sup>11</sup>). As to the annual dinner, it was better cooked and became incredibly plentiful. While gathering together, the whole family enjoyed delicious food, summarized the past and prayed for bright future (see figure 5<sup>12</sup>).

The city public spaces were also decorated in red. The mixture of Chinese traditional culture and western diverse thoughts made Shanghai turn to be more fashionable and modern, even more commercialized, which can be told from people's festival wearing. Many fashion companies offered discount aggressively to break open the market and entice customers (see figure 6<sup>13</sup>).



figure 4 Spring Festival couplets reserved in the second period.



figure 5 A grand family banquet of the Chen's in 1954 in Shanghai



figure 6 On-sale marketing advertisements in the second period

<sup>10</sup> The Treaty of Nanking was signed on August 29<sup>th</sup>, 1842 to mark the end of the First Opium War (Hoe, Susanna; Roebuck, Derek 1999:203).

<sup>11</sup> Picture Source: Painted by a Shanghai Painter Yang Yunping.

<sup>12</sup> Picture Source: 细数家宴六十年来“年夜饭”习俗文化变迁. 2012.01.25. <http://news.sohu.com/20120125/n332953373.shtml>

<sup>13</sup> Picture Source: 老上海的户外广告牌.2010.06.17.





**figure 7** Chinese character “福” is printed instead of hand writing.

### THIRD PERIOD: A RISING AND GLOBALIZING METROPOLIS

Shanghai keeps marching forward in the process of modernization. It was not until the 1970s, when supreme leader Deng Xiaoping carried out the policy of reform and opening to the outside world, that Shanghai started developing rapidly and opened up a new splendid chapter. Influenced by the world trend and domestic reform, Shanghai shows prominent inclusiveness and tolerance. Citizens were given more freedom, respect and opportunities. Therefore, color culture of the Spring Festival is changed accordingly. Previously, people wrote spring couplets in Chinese calligraphy by themselves or asked someone who wrote best to help to do so. However, nowadays spring couplets are printed and handwriting is no longer needed (see figure 7<sup>14</sup>). Moreover, people used to visit each other to greet “Happy New Year!”, but now it is more popular to extend spring festival greetings through telephones, mobile phones, Internet and other electronic platforms. (see figure 8<sup>15</sup>)

### SUGGESTION TO FUTURE CREATIVE EXPRESSION OF THE SPRING FESTIVAL IN SHANGHAI

Globalization is like a two-edged sword: on one hand, it brings various festivals to raise the standards of human's spiritual life; on the other hand, more trendy and fashionable festivals such as Christmas, Halloween, Thanksgiving Day lead to the dilution of the Spring Festival culture in contemporary Shanghai. The gradual cultural decline is more obvious in the west than that in the east, in rural countryside than that in urban cities. This paper proposes three suggestions as follows.

First of all, culture carries immaterial characteristic the same as information, which means it will not suffer any impairment through communication. So cultural exchange is essentially reciprocal. It is not necessary to worry about that hegemonic culture will threaten culture safety of those vulnerable cultures.



**figure 8** Mobile phone messages about Happy New Year.

[http://ww1.yinhong.sh.cn/ShowNews.asp?news\\_id=179&Sid1=1](http://ww1.yinhong.sh.cn/ShowNews.asp?news_id=179&Sid1=1)

<sup>14</sup> Picture Source: 打印机最新玩法 春联福字不用毛笔写.2010.02.17.

<http://digi.tech.qq.com/a/20100217/000165.htm>

<sup>15</sup> Picture Source: 拜年短信再创新高.上海商报.2012.01.31.

[http://rich.online.sh.cn/rich/gb/content/2012-01/31/content\\_5101126.htm](http://rich.online.sh.cn/rich/gb/content/2012-01/31/content_5101126.htm)

Friendly and positive interaction makes the world culture more abundant and lovely. That's why cultural diversity is the world theme. On the basis of the developing track of human, the society develops upward spirally. People can't stand living in a single lifestyle. "Similar transmigration" of cultural patterns can easily be found, which refers to the phenomenon that a cultural pattern will return to the mainstream later after replaced by another cultural pattern. Now Shanghai meets a terrific chance to open to the outside world and enrich its own culture.

In addition, communication scholars hold the view that each culture has its own "cultural-knowledge map", which plays a vital role in communication. If different countries share the same part of the "map", in other words, they have common experience, the communication process will be successful. In conclusion, it is important to explore the common elements carried by the Spring Festival, which are interested by the global people. So why not combine world elements and Chinese traditional elements together? Using general language to tell Chinese story should be an effective way, which will make Chinese traditional culture more vivid and easier to accept. Take the logo of Expo 2010 Shanghai China for example (see figure 10<sup>16</sup>)<sup>17</sup>.

Moreover, combining elements of pop culture with the Spring Festival color system is deemed to help traditional culture go further. Color culture and pop culture share some common characteristics. Firstly, the common characteristics of the two cultures are belonging to the content of merchandise. Especially color culture can be globally spread through commodity trading. Secondly, both of them have popularity, so different people from various backgrounds, classes, cultures have no trouble to interpret the Spring Festival culture. Thirdly, they are both entertaining. The Spring Festival is the festival of the longest



figure 10 Expo 2010 Shanghai China logo.

<sup>16</sup> Picture Source: Expo 2010 Shanghai China official website.  
<http://www.expo2010.cn/>

<sup>17</sup> Color design of the logo is excellent, which main color is green. In the upper left area, there is a Chinese character "世" (means the world) in Chinese calligraphy, and its shape looks like the silhouette of a happily united three-member family. The design connects common citizens with the world harmoniously. The color "Green" means environmental protection and hope, which stands for the theme of the Expo: Better City, Better Life. The words "EXPO" and "SHANGHAI CHINA" are in black. The striking but solemn color shows Shanghai's respect to the world event. Above the image of the character "世", there lies a small rising sun in red. Though it is seemed a casual point, actually it is a miraculous creativity, which not only makes the logo more vividly but perfectly integrates the other elements together, conveying sincere aspiration to better life and bright future.

history, when people can relax themselves and indulge in the grand carnival. Fourthly, they have to rely on the mass media. Before entering the era of mass media, the communication of the Spring Festival culture is mainly dependent on interpersonal communication. Nowadays, the culture is spreading faster and further with the aid of the strong support from mass media. Based on the 30 years' practice of CCTV, mass media has the power to reconstruct the Spring Festival. The spring festival gala proves to be a typical instance. Consequently, pop cultural elements can be guided into the creative color system of the Spring Festival.

Last but not least, owing to Shanghai's accumulation of cultural capital through the construction of large-scale cultural infrastructure, it is believed that such a globalizing city display quite a lot cultural institutions to support cultural activities, exude a cultural ambience, and develop cultural ballast, thus sustaining global flows by attracting the creative class in turn. Creative industry in Shanghai can support a global culturally enriched lifestyle. The Spring Festival should develop along with the rising industry. Plenty of creative clusters such as M50 will provide extensive and vigorous platforms for creative color expressions. Creativity is heavily based in cultural contexts. A supportive cultural background clearly has a positive impact. Shanghai, an open society is able to offer a creative knowledge environment, which give birth and promote the development of color creativity.

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## INFORMATION DESIGN AND (NEG-)ENTROPY: A desirable uncertainty

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### ABSTRACT

Twentieth century's last decades witnessed a growing importance of information design, since then characterised and named in many ways, in a process of affirmation and self-discovery. The flood of available data gave design, namely to this field of design for understanding, an increased visibility and responsibility to find new ways of making sense through information. From design to computer sciences, there are several disciplines that converge in this endeavour, even if under different tools and models.

This convergence enables a comparison between models of representation, which tend to be more respected if neutral and rational like. However, are not metaphor, paradox and poetics also tools able to provide structure to a set of complex data? The fear of uncertainty reveals a kind of insecurity, natural on a discipline with such a recent history in the academy, and that sometimes seems, for that same reason, to behave non-critically in choosing its own path. But if even physical sciences admit uncertainty, why should not design do it?

We argue that it is possible to represent with accuracy without blindly accept generic and algorithmic systems, and that the doubts that can emerge from such representations may contribute to non-communication but also elicit curiosity, enabling understanding thus promoting knowledge. It is the metaphor that will render possible the communication of the new, thus subjecting it to the rigors of poetics. Only poetics will make 'newness' possible.

### KEYWORDS

Culture. Representation. Freedom. Knowledge.

## INTRODUCTION

This text is part of a larger study on information design, a field that has been growing in the last decades in the proportion of the need for making sense of an ever-increasing amount of data. As we shall see, even its name — information design — is not consensual, but *information* seems to be recurrent in almost all names proposed for this operation of visually representing a data set. Starting from this, we will somehow evolve around subjects apparently disconnected from information design but nevertheless important to understand the complexity and extent of the field. So, what are we talking about when we talk about information?

## INFORMATION AND DESIGN

In 1948, Claude Shannon coined the term 'bit' (from *binary digit*), "a unit for measuring information" wrote Shannon, "as though there were such a thing, measurable and quantifiable, as information" ([Gleick, 2011](#)). It now seems incredible that something so apparently common in nowadays could not exist only sixty years ago. And this is not, even today, a trivial matter. Gleick describes very well how difficult the task was facing: "The raw material lay all around, glistening and buzzing in the landscape of the early twentieth century, letters and messages, sounds and images, news and instructions, figures and facts, signals and signs: a hodgepodge of related species. They were on the move, by post or wire or electromagnetic wave. But no one word denoted all that stuff." Shannon, while corresponding it self with another researcher, came up in 1939 with a basic concept: *off* and *on*.

It is important to take into account that information has different values. According to Fernando Ilharco ([2003](#)), information is a "basis for action, communication and decision (...) primary and fundamental expression that seems to mark our time, which, significantly, is referred to as 'information society'"<sup>1</sup>. However, the

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<sup>1</sup> "fundamento da ação, da comunicação e da decisão, (...) manifestação primária e fundamental que parece estar a marcar a nossa época, a qual,

word 'information' that Shannon uses when describing his theory, which then gave rise to the society Ilharco mentions, has nothing to do with semantics or decision, quite the opposite. As Shannon stated: “«information» here, although related to the everyday meaning of the word, should not be confused with it. In everyday usage, information usually implies something about the semantic content of a message. For the purposes of communication theory, the «meaning» of a message is generally irrelevant”([Shannon, 1993](#)).

Shannon was only interested in how to transmit a certain amount of information from one point to another (hence the importance and necessity of a measuring unit); and for that, it would not matter if that information was a poem or an accountant report. Nevertheless, the impact of these proposals was so comprehensive that the word 'information' has become part of many disciplines. In fact, everything could now be considered information in communication, “not only written and oral speech, but also music, the pictorial arts, the theatre, the ballet, and in fact all human behaviour” as Warren Weaver would say. ([Shannon & Weaver, 1964 \(original 1949\), p. 3](#)).

In this context of a growing number of disciplinary fields associated to the word information – information theory, information sciences, philosophy of information – it's normal to find all the names we are addressing now: information design, information architecture, information representation or visualisation. Rob Waller, a founder of IDJ states that “when Information Design Journal was launched in the UK in the late 70s, the term was deliberately employed to divert graphic designers away from a simple concentration on graphic issues, and see design processes – that is, planning processes – applied to all aspects of information, including its content and language.” ([Waller, 2011, original 1995](#)). Waller also said that this activity was not being invented at that time, but an attempt to group all activities related to this practice under a same label.

Information, the “very elastic term” that Hartley was talking about

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sintomaticamente, é referida por 'sociedade de informação'”



in 1928 ([Gleick, 2012](#)), was now allowing to group under a designation, multi-disciplinary practices difficult to characterize.

## DESIGNATING THE DESIGN OF UNDERSTANDING

Information design, Communication design, Information architecture or Information visualisation are only some of the most current terms that designate a design field that we are now trying to describe, in order to find a stable base upon which we can build an argument. It is fairly simple, for those who work in design, to single out information design examples, namely the ones that come from graphic design: transportation networks diagrams; buildings or city signage; statistics data tables; bar graphs and others. The growing need to organize and represent information endows this field an apparent autonomy, which, in turn, generates discussion on the practice and the relevance of this new space. The symptom of this 'autonomy' is, as the word implies, the creation of new ideas (new laws) and the birth of new designations.

But these attempts to find the right name are troubling giving its polissemic nature. If 'design' already implies form and content, why then add, in a pleonastic way, the word information (Information – form giving)? Some authors choose to emphasize the importance of content (information or message) over form (appearance, graphics). Others will say that there is nothing beyond form (form is content). Thomas Kuhn ([Chalmers, 2000, p. 103](#)) argues that escaping a precise definition is in the nature of a paradigm, being however impossible to build knowledge if the essential foundations of a research field are continually questioned. Chalmers addresses this issue by stating that it is impossible to assign precise meaning to concepts not embedded in well defined theories, giving as an example the concepts of 'mass' in Newton's law, or 'democracy'. While the former is perfectly framed, *democracy* is not, which enables rather different and often contradictory readings.

Almost every authors discussing these information design ontological concepts present their own word combination to

define this field, each one differently enhancing its social, economic or emotional characteristics. The thing in common in most of them is its eminently functional role.

## DESIGN AS INTERFACE

By trying to describe design, Gui Bonsiepe proposed an ontological scheme where interface emerges as the key concept. According to Bonsiepe ([1999](#)), design does not operate within a specific paradigm as science or technology, but within several paradigms. Interface would thus be the intellectual mechanism that enables the link between the necessary skills that can render design possible, that being the normal context of the designer. Also Providência ([2012](#)) defines design as the *desenho*<sup>2</sup> of artifacts, devices and services for cultural mediation, hence, as an interface.

It is important to recall Krippendorf when he states that “probably the most notable pathology of design discourse is its openness to colonization by other discourses” ([Findeli, 1999](#)). From the perspective that Bonsiepe proposes, this openness does not entail a loss of identity, but, on the contrary, that it is the identity of a discipline thus unique, not part of other paradigms. Some other authors, like Fatina Saikaly ([2004](#)), argue that to the three traditional areas proposed by Bonsiepe - Science, Technology, Arts (Humanities) – it should be added design as a new field of knowledge.

Connection with other fields is mandatory in information design. According to Jef Raskin ([1999](#)), fields such as physics, computer sciences or medical information have a lot more experience on working with information, and this implies that acknowledging the role of interface should be clearly restated. Will then technology have the first word about information design? How would Bertin

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<sup>2</sup> *desenho* is a portuguese word that in english could be translated as *drawing*, or, in spanish, *dibujo*. However, when used like in this text of Providência, it has a different meaning, closer to the spanish *diseño*, that in english would be *design* (also the Portuguese word for *design*) and not *drawing*. Hence the difficult in translating this sentence, in which design would be defined with its own verb: “design is the design of artifacts...”. As Joana Quental puts it: “(This) drawing (...) is not confined to graphic marking, but also something prior to representation, the «drawing in the mind»” (Quental, 2009, p.50)

write a XXI century's 'sémiologie graphique'? How would he address issues such as multidimensionality or computer sciences' powerful tools of handling data sets in order to get different readings? Multidimensionality was never an exclusive of technology. Regarding information design, the question can be discussed in the context of quantitative data, namely the dimension of a given sample. In other contexts, in signage for example, multidimensionality is, and has always been, part of the project – posting any kind of (bidimensional) information on a wall of a city has to take into account all three-dimensional space around it, possible paths, reading speed possible, the incidence of light on the chosen material or to whom this information can be helpful, etc.. This proves, once again, the mediator character of design when users and products interact ([Bonsiepe, 1992](#)) and, as Providência argues, its “emotional and affective dimension”.

## MEANING, ENTROPY, CONSEQUENCE, FREEDOM

It is important to note that Raskin directly relates the how information should be presented with the expected results in a particular audience, an expected meaning. We therefore have a *before* (that Raskin calls information, content) and an *after* (meaning), information representation (the form). This notion of a result, the fruit of the representation (albeit being a representation already a fruit) is perhaps the strongest concept on the definition proposed by another author, Robert Horn ([1999](#)) – *Effectiveness*. This concept values what happens after the created form, the downstream effects of conformation, a concept of action linked to information representation, an idea reaffirmed several times that led to expressions such as DD4D: *Data Designed for Decisions*<sup>3</sup>, or to more theoretical approaches such as the one Klaus Krippendorf ([2006, p. 58](#)) proposes, linking *action* with *sense* and *meaning*. But does this efficiency imply an exact or absolute kind of message, like the one mentioned before, through binary code? The thrill caused on the scientific

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<sup>3</sup> DD4D – Data Designed for Decisions. Enhancing social, economic and environmental progress. A joint IIID and OECD conference. Paris, 18-20 June 2009. <http://www.dd4d.net/>

fabric by Shannon's theory in the 50s, led many disciplines to question its consequences on their own fields of study. While engineers and mathematicians were trying to find *how* to transmit, social sciences' researchers were concerned with *what* was being transmitted. We saw earlier how Shannon was trying to take 'meaning' out of the equation. On the other hand, philosophers and anthropologists were centred on the message. Norbert Wiener, mathematician, on the interest of other disciplines in those recent findings, said that "all these sciences, the social sciences especially, were fundamentally the study of communication, and that their unifying idea was the *message*" ([Gleick, 2011](#)).

Margaret Mead, anthropologist, then introduced an important issue: "if you are trying to communicate the fact that somebody is angry, what order of distortion might be introduced to take the anger out of a message that otherwise will carry exactly the same words?" The question we address here is if this distortion Mead is referring to is comparable to entropy, another key element of Shannon's theory. "Entropy", according to Norbert Wiener, was a measure of disorder; to Shannon, it was a measure of uncertainty. "Fundamentally, as they were realizing, these were the same" says Gleick ([2012, p. 293](#)).

The etymological meaning of words has always been more or less fluid, depending on several variables such as culture, geography, literacy, age, among other factors that may be summarized as context. Oral language allowed and encouraged this fluidity of sounds, accents and places. With writing came the ability to set the spelling of these sounds into words, and with this normalization, the need to stabilize the meanings of these spellings. The first dictionaries were created, periodically revised, trying to keep up with the speed of production of new sounds, new spellings and especially new meanings.

Science, while searching for unambiguous clarity for its models, attempts to isolate these variable factors creating a specific context in which the words mean only what the peers decide that they must mean. Newton had to (re)define words for his gravity theory, but, as always, our communication is based on pre-

established levels, experience. Hence the contingency, even the scientists use existing words, which then become metaphors given the semantic contamination between different contexts. They then coexist in two universes: the everyday, subject to the entire history of meanings; and the particular context to which that word was recruited, a context that sometimes is strengthened by the creation of new symbols that can be used instead of the word. They can sometimes coexist in more than two universes, being the first one (the everyday) already a universe of different universes.

There is thus a factor of uncertainty in the speech. And despite continuous efforts to purge it, even in science uncertainty is a given fact. It is also one of the most interesting philosophical debates: with those who argue that this uncertainty is an evil to eradicate, an evidence of human inadequacy – *God does not play dice* said Einstein; and those who argue that this uncertainty is fruitful. As Gregory Chaitin, another mathematician, explained, “in spite of incompleteness and uncomputability and even algorithmic randomness, (...) mathematicians don’t want to give up absolute certainty. Why? Well, absolute certainty is like God” ([Gleick, 2011](#)). In science, as in other contexts, there are the rules but also the vices.

This idea of incompleteness leads us to Heisenberg and its uncertainty principle. It’s a rather evident tie, although there are no certainties about the link between what Heisenberg proposes and what in mathematics is studied under the designations of entropy, incompleteness or even randomness, especially for being stated in a conceptual framework (quantum physics) very different from classical physics. “Roughly speaking, the uncertainty principle (for position and momentum) states that one cannot assign exact simultaneous values to the position and momentum of a physical system”.<sup>4</sup> Even more roughly, this principle has sometimes been interpreted as stating that it is impossible to make an accurate measurement without affecting it – the observer affects the observed.

A matter of fact is that something changed after Quantum

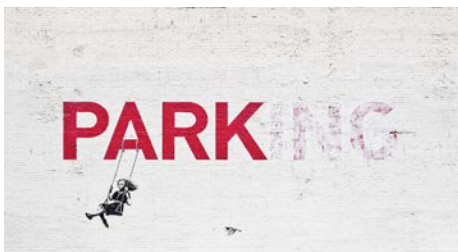
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<sup>4</sup> <http://plato.stanford.edu/entries/qt-uncertainty/>

Theory, as Schrödinger notices: “The great revelation of quantum theory was that features of a discreteness were discovered in the Book of Nature, in context in which anything other than continuity seemed to be absurd according to the views held until then.” ([Schrödinger, 1992 \(original 1944\)](#)). Although this change was laid down in terms of quantum mechanics, and its inference for design can be a long shot, it is possible to notice a convergence of arguments about information design and its meanings, namely on the effects of rhetoric of form over the content it holds.

If to a physicist “entropy is a measure of uncertainty about the state of a physical system”, “to the information theorist, entropy is a measure of uncertainty about a message ([Gleick, 2011](#)). But we are still within the scope of mathematics and this message is only a body of signals, we are not yet talking about meanings. “I complained about the use of the word ‘information’ in situations where there was no information at all, where they were just passing on signals” said Van Foerster, reinforcing his opinion: “The moment one transforms that set of signals into other signals our brain can make an understanding of, then information is born! It’s not in the beeps” ([Conway & Siegelman, 2005, p. 189](#)). We, humans, “propagate structure” states Gleick (2011), adding that “curbing entropy” appears to be our “quixotic purpose in this universe”, a reading that considers unpredictability as a problem but not as an opportunity.

## WORLDMAKING



**figure 1** PARKing, Banksy.  
Graffiti in a parking wall, Los Angeles.  
([Banksy, 2010](#))

It is now consensual to state that information design covers a wide spectrum of practices, objects and objectives, so wide that the very name is evolving in order to take in its body new examples, new practices and even new interpreters that continually question discipline’s limits and properties. Within this mass, hard to portray, it is also relatively consensual that on an information design project – seen through the ‘triangles’ of Vitruvius, Enzo Mari or Francisco Providência ([Costa, 2007](#)) – the main vertex is Program (Function or *Utilitas*): a graph with vital data of a patient can not be dubious nor reading a plan of a building on fire while their occupants try to escape therefrom.

Scientific and technological evolution constantly and frantically updates the second vertex – technology (*Firmitas*): new materials and tools tend to be usual as quickly as their efficiency and, above all, profitability. However, there is not, despite numerous attempts, a unique formula that contains the secret of precise communication, even when the message is. What role does then Expression (*Venustas* or authorship) play in this alchemy of contents and forms? What is its role in the transmission of objective information? What came first: the form or the content, the rhetoric or the idiom?

According to Nietzsche all language is rhetorical because whatever 'origin' it might have, it will only be an analogy or metaphor of what exists already, a translation, as Steiner<sup>5</sup> would say. Nietzsche states (1995): "The full essence of things will never be grasped. Our utterances (*Lautausserung*) by no means wait until our perception and experience have provided us with a many-sided knowledge of things (...) Instead of the thing, the sensation takes in only a sign (*Merkmal*)". The names of things that cross our paths are only representations, and even the initial content has depended upon its utterance, that then gave it an existence.

How can information design participate in world's understanding? By not limiting itself to existing languages, we now argue, creating new designs that anticipate the certainty that there will always be other worlds, thereby design the possible. "New worlds" are only new representations of what we call world. And those new representations depend on new means of representation: new mathematical formulas, new symbols, new words, new designs.

"La creatività è l'attitudine a immaginare possibilità alternative a ciò che si conosce.(...) Il concetto di libertà si contrappone al vincolo delle leggi e delle norme"

Enzo Mari (2003)

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<sup>5</sup> "Uma língua lança a sua própria rede sobre os mares abundantes da totalidade. Com esta rede, recolhe riquezas, múltiplos pontos de vista e formas de vida que, de outra forma, jamais seriam actualizadas" Steiner, G. (2001). *Errata: Revisões de Uma Vida*. Lisboa: Relógio D'Água.

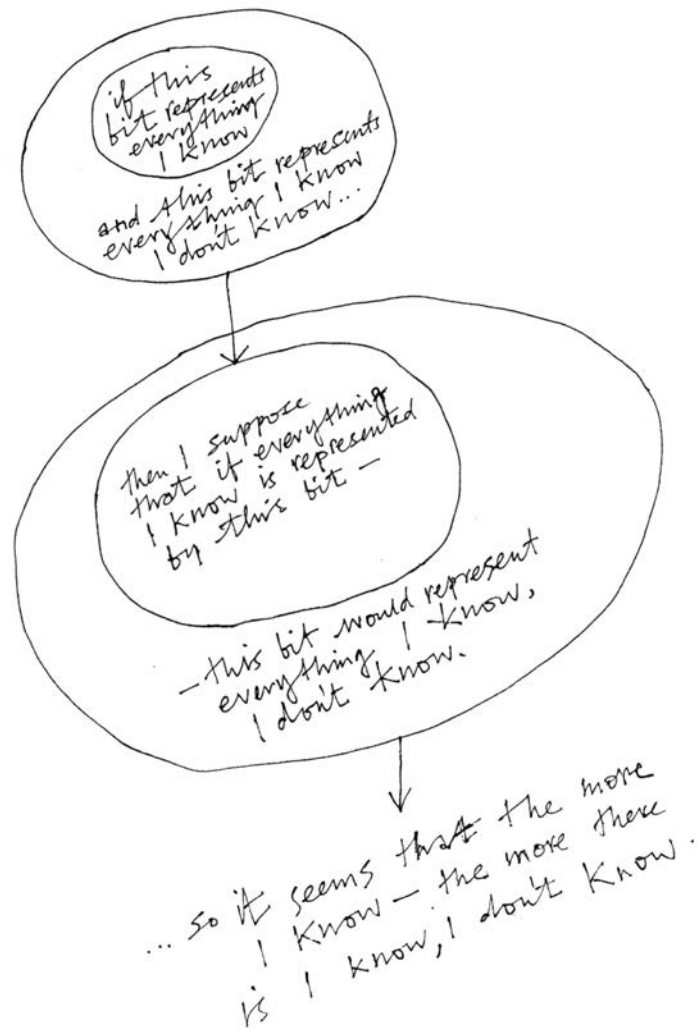
In the portuguese edition of Goodman's *Ways of Worldmaking*, Carmo d'Orey uses the science-art dichotomy to exemplify different models of world construction: "Science favours those systems that allow measurable experimental results and scientific community agreement, basic requirements for science. (...) Art favours *density, repleteness, exemplification* and *multiple and complex reference*. Goodman puts these characteristics as 'symptoms of the aesthetic' and they respectively oppose to articulation, attenuation, denotation and direct simple reference, 'symptoms of the non-aesthetic'". "This results in a pluralism not only methodological (there are many processes of world making) but also ontological (there are many worlds)"<sup>6</sup> ([Orey, 1995](#)). This pluralism has much to do with what designers make, but also with the effort users are being asked in order to make sense of data and information. "Sense is always *someone's* sense" ([Krippendorff, 2006, p. 51](#)).

We saw earlier how even science recognizes uncertainty as part of its theories, namely on quantum physics. If science acknowledges the value of the indeterminable, why then rest in this unlikely objective certainty the role of design in the academy? Shannon, while trying to clarify his point of view, declares: "the larger the set the *more* information". Wiener considers however that the larger the set (data, signals) the more uncertainty. If we take this last opinion we could say that, in fact, the larger the set, the more entropy, but also, the more information hence a better understanding. A direct proportionality between a data set and its information would render impossible the representation of complex systems, if design wouldn't make use of metaphor as prime resource. Complex systems are understandable through simple metaphors, the same principle that we can see in the algorithmic design of computer programming.

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<sup>6</sup> Original text: "A ciência favorece os sistemas que permitem a determinabilidade dos resultados experimentais e o acordo da comunidade científica que são, para ela, requisitos fundamentais. (...) A arte favorece a *densidade, a saturação, a exemplificação* e a *referência múltipla e complexa*. Estas características são postas por Goodman como 'sintomas do estético' e opõem-se, respectivamente, à *articulação, atenuação, denotação* e *referência simples e directa*, que são 'sintomas do não estético'. "Daqui resulta um pluralismo não apenas metodológico (há muitos processos de construir o mundo), mas também ontológico (há muitos mundos)". Orey (1995).





**figure 2** Alan Fletcher The art of looking sideways (learning), 2001

As we make more powerful tools for world observation, telescopes, microscopes, x-rays, beta rays, etc., we expand the world, making it larger in terms of visibility. At the same time, we realize that the part of the world we can't reach also grows, proportionally or exponentially. The curve of our growth remains positive, even though the ration between what we see and what we don't see tends for zero, hence the importance of the concept of entropy. Werner Loewenstein ([1999, p. 94](#)) said that if there were a guidebook for living creatures, the first line would be something like: "*Make thy information larger*".

## CONCLUSION

Added information is a condition of living beings (or at least those that have survived) and information does not exist outside representation. Representation of the new will inevitably have to be new, unknown, thereby taking the risk of being or contributing to non-communication. Therefore, communication of the new depends on the design that represents it, and this design is subject to a certain degree of uncertainty in terms of information. How is it then possible to advance scientific dissemination in this field? Being the communication already an act of design and not a mere consequence of a data set, we argue that this can only be possible by requiring from the receiver a great interpretative effort, so that understanding can be achieved. Alternatively, if proper linguistic means are lacking, he may rely on a language built on previous experience, therefore making use of metaphor. It is the metaphor that will render possible the communication of the new, thus subjecting it to the rigors of poetics. Only poetics will make the new possible.

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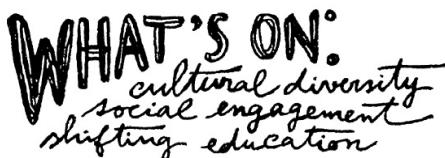
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## MILAN 2033, SEEDS OF THE FUTURE

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### ABSTRACT

In 2013, the Politecnico di Milano celebrates its 150<sup>th</sup> anniversary. The closing event scheduled is a major exhibition at the Triennale di Milano, entitled *Milano 2033. Seeds of the future*.

On this occasion, the University doesn't want just to celebrate its history; rather look to the next near future and reflect on the issues of mobility, housing and production, with a special focus on the impact that energy, new materials and ICT will have on our daily lives in 20 years.

150 micro stories, told during "impossible interviews" to the future citizens of Milan in 2033, illustrate how it could hopefully be life at that time: the public and private mobility, the living with the related services, organized according both top-down and bottom-up criteria, the new horizons of work and production, the return of the clean factory within the city and the growing phenomenon of makers.

Along the path, prototypes, tools and models designed at the Politecnico during these 150 years reveal a special bond between the past and future of the city, the visible and the invisible dimension, the memory and the vision.

The concept of the exhibition and the project layout is by the renowned *Studio Azzurro*, the Milanese group founded in 1982 to experiment the expressive possibilities of the new technologies in video-environments, sensitive and interactive spaces for museums and cultural institutions, theater performances and films.

### KEYWORDS

Multidisciplinary approach. Cultural diversity. Urban future scenarios. Past/Future. Memory/Project. Physical/Digital. Emotional/Objective. Interactive storytelling. Sensitive space.

## **MILAN 2033, SEEDS OF THE FUTURE.**

### **INTRODUCTION**

On Sunday, 29 November 1863, the Istituto Tecnico Superiore di Milano, the original nucleus of the Politecnico di Milano, was founded under the guidance of Francesco Brioschi. 150 years later, in addition to celebrating this anniversary, the university took advantage of this important event to create, over the course of an entire year, a journey to rediscover its origins and identity, creating ties with the territory in which it operates on a daily basis and to reflect on its role in a future perspective.

It is within this framework that Milan 2033. Seeds of the future. 150 years of the Politecnico di Milano took shape: an exhibition, in collaboration with the Triennale di Milano, that looks to our next twenty years and how the research and design experiments currently underway will shape our lives in the city, in Milan and in other realities throughout the world. “How will we travel, how will we live and how we will work (and study) in 2033?” and moreover “Which new communication technologies, materials and energy sources will constitute our everyday world?” These are the questions that were posed to a group of professors and researchers from different disciplines called on to take part in a large scientific committee.

### **METHODS**

It has been possible to address the theoretical and creative effort implied by those challenging questions only through an extensive multidisciplinary approach: for this reason Seeds of the future is a collective exhibition, involving a scientific committee of 50 professors in 12 Departments of the Politecnico di Milano in an unprecedented debate between different areas of knowledge. A true multidisciplinary approach, however, is always easier to mention than to achieve. The main question to address was a feasible way for an institution like the Politecnico di Milano, where so many different disciplines and backgrounds coexist, to design coherent visions for the future. Actually architects have visions often related to the physical dimension of the city (the so called bricks and mortar approach), engineers nurture technological visions, but often hyper-specialized and therefore necessarily partial, designers are more interested in forms of

social innovation.

On three different topics of our everyday lives -living, working, moving around- and three transversal themes that permeate our daily life -energy, new materials and ICT technologies-, various impromptu meetings were held, under the Rector's guidance, during which colleagues from different disciplines offered reflections, shared doubts and questions, reported cases and examples as well as outlined ideas and suggestions for the future.

The produced material, characterized by a "multiple and different point of view of the city", constituted the foundation for the subsequent work: on one hand to organize and sort the collected fragments of the future, and on the other to tell the story of the emerged contents, avoiding cryptic or didactic styles and languages.

To work on this systematization, two variables were borrowed from the European research project *Spread 2050 Sustainable Lifestyles*<sup>1</sup> and used to organize the collected material. One variable is linked to the kinds of technology and the other to the leading values and principles supporting society. Technologies can be mainly pandemic (i.e. globally adopted dominant technologies) or endemic (i.e. emerging in different ways in the various local contexts). With regard to the values that support growth processes, it must be said that these values can, on the one hand, chiefly favor individual subjects (individual persons or companies) whose capacities make them rise above the context and that are able to successfully compete at a global level. On the other hand, they may also prevalently support communities of people (such as institutions or self-organized communities) who share responsibilities and generate the kind of "collective intelligence" that is often behind many cases of innovation. In the first case, the focus is on the best, in the second case on communities.

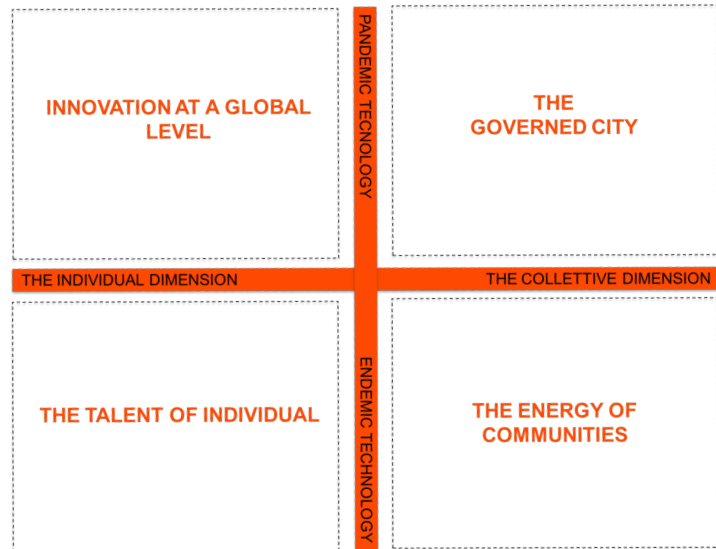
The two axes of technology and social principles create four quadrants, which must be considered distinct but equally

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<sup>1</sup> SPREAD Sustainable Lifestyles is a European research project (2011 -2012) coordinated by the Centre on Sustainable Consumption and Production (CSCP, Germany) which also included the participation of the INDACO Department of the Politecnico di Milano. The project involved different actors (including entrepreneurs, researchers and representatives of civil society) that aimed to develop visions of sustainable lifestyles in view of 2050. ([www.sustainable-lifestyles.eu](http://www.sustainable-lifestyles.eu)).



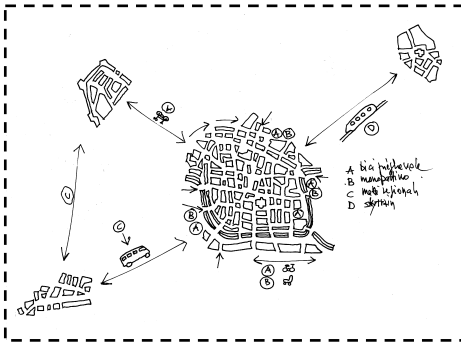
legitimate scenarios that occur in all three sections (move, live and work) of the path of the exhibition.



**figure 1** The systematization matrix

***The governed city:*** technologies offered by the global market support forms of innovative management for the common good. In this scenario the city of the future calls for a strong focus on the decision-making processes, the enhancement of social networks, timely communication, the need to participate in collective decisions: the task of those who govern the city will be (even more) to define the rules of co-operation, adjust standards to encourage innovation, managing negotiation processes between social groups;

***Innovation on a global scale:*** pandemic technologies for individuals who work at an international level. The “universal language” of technology and entertainment, the global brands that unify today the world culture is well represented by the environment of any international airport. We face the challenge to make a more efficient use of resources, optimize energy consumption and provide timely services when needed. Energy production will be therefore without borders. Digital worldwide platforms will be used to connect all public utilities such as electricity, gas, water, waste management, mobility, emergencies



**figure 2** The sketches which illustrate the story

and security;

***The talent of individuals:*** endemic technologies for individuals (makers, new entrepreneurs and new generation artisans) who work locally. In order to meet the new demand for more personalized products and services, a new production system is already being created thanks to the availability of technology, the accessibility of common experiences, to the openness to the community and networks of expertise. Youth entrepreneurship initiatives give life to start-ups that appear as a small business or a high-tech craft, located in the basement of our home and ready to meet demands on the other side of the world. Production may even be performed by consumers themselves, the makers, with 3D printers. In micro-enterprises, the factory is replaced by a simple flat, often the home of the entrepreneur, as was the case for artisans in the past. The entrepreneur does not require large amounts of capital and risk, but rather creativity and a strategic vision;

***The energy of communities:*** local technologies for a group of individuals who share community and solidarity values. In a connected world, small is not small, and local is not local. What is now small and local is also a node of the Internet. Its ability to be relevant, therefore, does not depend on its size, but on the nature and quality of its connections. Hence, the potential feasibility of a new socio-technical distributed system is born, in which the “global” emerges from the connection of a multiplicity of “local systems”. That is, systems whose scale and complexity are such as to be understandable and controllable by community residents, and adaptable to the resources available to them.

The brief model outlined here was used to classify suggestions and the current kinds of innovation, to speak about what everyday life in Milan could be like in 2033 and to tidy *memorabilia* related to the recent history of the Politecnico di Milano.

## RESULTS

The exhibition unfolds smoothly and without interruption through 12 installations, which develop the four scenarios according the three main themes of *mobility*, *housing* and *work*, intersected by the transversal ones of *energy*, *materials* and *ICT*. The installations consist in transparent glass totems, “inhabited” by the transparent images of the future citizens of Milan in 2033, featured by students, colleagues and friends of the Politecnico di Milano. When asked, through the visitors’ simple gesture of tapping the glass, they tell us about their travels and work, their home and what they eat, the children’s education and what it means to grow old... Every narrating voice is synchronized with an animation projected on the floor. A sketch, like that of a pencil on a notepad or chalk on a blackboard, interprets and visualizes each of the 150 stories, which constitute the core of the exhibition. The sketch is surrounded by a dashed bounding box, because in technical drawing you use the dashed line to design something hidden by something else. Similarly the future is not in front of us, but it hides behind the present time/space.

The glance on the sequence of totems stimulates the visitor to compose endless montages, combining the images by proximity, causality, analogy. Everyone can cut them differently and no default viewpoint is privileged. The environment is designed as a “project sheet” on which to walk in order to know, without a unique or fixed path. The sketch, as a manual practice, becomes a privileged language: materializing the line in movement, it explains, predicts and illustrates something that has yet to exist, leaving room for any changes during the work in progress. The resulting environment is dialectical and immersive and endowed with unexpected dynamism.

Along the path real objects reveal other stories within the story. The parade of the so called *memorabilia* expresses the historical and mnemonic substrate of the exhibition. These projects, prototypes and products, which have been designed during 150 years by distinguished professors and students of the Politecnico di Milano, have introduced forms of disruptive innovation in the past and still carry the meaning of “future visions in the past”.

Therefore they function as connectors of visible and invisible dimensions, events and people far away in space and time. Hanging on the wall of the gallery you will find the so-called *Seeds of the future* collection, which presents projects and case studies, sometimes still in the very early stages of development, that may have a significant impact on our future lives. These include examples of important international architectural firms next to photographs of more ordinary - but still rare – products, services or buildings; models being studied and tested in the university's laboratories next to prototypes made by big companies and research centres.

The last part of the exhibition focuses on the university's history, from its establishment to the present day, explaining through dynamic visualizations and videos how the Politecnico di Milano came to be what it is today.

The *Semi di futuro..... e oltre* [Seeds of the future.. and beyond] ending note stays with us as we head towards the exit, the entrance to the near future. All these visions of life as it may be in 2033 lead us to ask ourselves some questions, to think about what we believe the next twenty years will be like and what actions are needed for our wishes to come true.

The result produced, on the whole, has an intangible quality, which goes beyond the installation that was on show at the Triennale di Milano from October 8 to December 22, 2013: the awareness of the role and ability of the Politecnico di Milano's professors, researchers, students and the community as a whole to create and design advanced, multiple and positive visions, capable of impacting the life of the city (in Milan as well as other places in the world) in the coming years.

150 scenarios of daily life narrated by citizens in 2033 to make the future friendly and designable and to stimulate a proactive debate on the possible innovative and environmental directions to be taken.



**figure 3** One of the twelve interactive totems with the interview to a Milanese of 2033 about the mobility.

## CONCLUSION

The exhibition features 150 stories from everyday life, some advanced and others more traditional, some focusing on the talent of the individual, others more on a collective dimension. The scenarios may come true or they may occur in an opposite way. In 2033 some of the seeds of the future presented will still be in the germination process, others fully developed, while others will disappear without a trace; we will recognize ourselves in some, and less in others. This is not what matters. Rather it is important to focus on possible futures that encourage us to reflect on ourselves, how we envision ourselves over the next twenty years and which actions to take in order to outline what we hope will become a reality.

At this point, one might wonder why we have chosen a timeframe of 20 years and not of 10 or 50 years.

20 years is a period of time short enough to avoid science fiction clichés, but extensive enough to catch a glimpse of possible changes - some small, with a limited impact, others more radical - in our days. Innovation occurs at different speeds in various fields, from the accelerated pace of ICT technologies, from energy research and new materials to the slowest fields of infrastructure and construction. We will all be 20 years older: young people will be adults and adults will be elderly, the elderly

will be extremely elderly, newborn babies will be 20 years old. If we close our eyes and think about how we will live, instead of a completely different world, we see a changed world, perhaps even profoundly, which is inevitably rooted in the world of our daily experience

The interesting feature about this near future is that the way change is designed is up to us. We are the ones that, starting from the problems and opportunities of today, have to design the future. In order to design the future we must have a vision of where we want to go and put relevant technical solutions to the test. Like a child that looks to life and approaches the age of 20 with many opportunities and possible futures, each person will have to choose their own. Not starting from scratch, but building on the shoulders of the previous generations that came before them.

Therefore, understanding where we want to go is the first and decisive step: towards a world that is more fair? More sustainable? With more or less freedom? With more or less individual responsibility? But equally crucial is our ability to build technical solutions that are capable of opening new doors. The two dimensions, values and techniques, are closely intertwined and it would be wise to work on their relationship.

The imaginative language of the exhibition is invented by Studio Azzurro, a framework of artistic research, that expresses itself through the languages of the new technologies. The group of video artists established in 1982 by Paolo Rosa, Fabio Cirifino and Leonardo Sangiorgi, for over 30 years explores the poetic and expressive possibilities of these means, so crucial to contemporary relationships, through the realization of sensitive and interactive environments, theatrical performances and films, internationally acclaimed.

In this occasion they wish to arouse curiosity and stimulate confident reflections about our own future, in tune with the design responsibility that the Politecnico di Milano has been spreading from Milan to the rest of the world for 150 years.

Those expecting to see the fiction special effects will be disappointed. The animations are produced through a simple pencil and every 3D hyper-realistic rendering is accurately

avoided. The resulting poetic and deliberately abstract images are intended to trigger emotions and thoughts, rather than to disclose complex scientific content or anticipate what our reality will be 20 years from now.

These scenarios, which are very different from one another, stress a significant underlying decision not to aim at a single all-embracing future, but on the contrary, to aspire to a multitude of possible, multiple, changing, permeable, combined, high tech and low tech, advanced and traditional futures, in which everybody will be able to freely organize their daily life.



**figure 4** The *Memorabilia* parade along the exhibition path.

The future development of the project itself is actually under evaluation in form of a *Seeds of the Future* observatory and a think-tank of the “Made in Polimi” design scenarios.

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## DYNAMICS ON BRAND DESIGN AND COMMUNICATION

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### ABSTRACT

The evolving rhythm of Brands follows the evolution of human history. It follows the development of thoughts, along with culture and economy. Visually, the Brand is dependent on the human know-how, and on the technical and technological developments. This paper is an explanation based on the literature review, trying to understand the challenges of Brand marks Design caused by the emergence of new communication models and also by metamorphic Brands.

As a contribution to knowledge, we consider the points of comparison between the traditional models of Design and Brand communication with newer ones.

### KEYWORDS

Communication Dynamics. Metamorphic Brands. Brand mark

## INTRODUCTION

The globalization, the disappearance of terrestrial, linguists and virtual borders, as well as the development of consumer markets seems to have caused changes in communication processes and Brands Design.

Possibly because there was a dilution of cultures or because the size of firms in virtual markets is not proportional to its physical scale, or also by the ephemeral nature of much of contemporary products, users have become more demanding.

Appears not only to be a growing need for personal affirmation of each user, as well as Brands appear to have difficulty connecting strong and lasting way with new lifestyles increasingly diverse.

In response to the challenges of the contemporary era, Brands have been exploring various ways to provide intense experiences, which want the audience to identify himself with specific archetypes associated with lifestyles.

## DYNAMICS OF BRAND COMMUNICATION

Much of the literature devoted to Design, places the Man as the centre of all the projectual activities of the Designer. From this perspective, Design starts to meet a human need contributing to improve life quality in an eco and sustainable way, while conciliating with commercial or market issues. However, the history of communication Design and other visual arts is marked by stylistic variations to which images and Brands representing corporations cannot be dissociated.

Communication Design is contextualized in the Age of Information and Service Culture, assuming an effective role in improving the quality of life, referring to the communication of functional assets, aesthetic and cultural that guarantees a contribution as a service and useful knowledge to the society.

These principles seem to be consistent with the idea that communication Design works for the eyes and the brain.

However, according to Findeli (2001) the mission of contemporary designer is broader than resolution of problems and relies on a multidisciplinary approach of systems states. In the same direction Fuad-Luke (2009) proposes the concept of design activism, arguing that it implies that the designer acts as a

catalyst agent over systems that integrate with economic, political, symbolic, productive, natural and human capitals to generate useful and sustainable solutions focused in the user. Corporate Visual Identity (CVI)<sup>1</sup> has a global dimension, comprises a system composed by the company, the society and the market, being based on the Strategic, Design and Operational levels, seeking to communicate graphically and effectively specific Brand values.

van den Bosch, Jong and Elving (2004) consider that the strategic level refers to the desired Corporate Image<sup>2</sup> by a determined company; that is to say, the way it is intended to distinguish, be seen and publicly displayed (Brand architecture, reputation, local or international dimension, and positioning), referring to the selection of visual elements capable of creating meanings / connotations materializing properly normalized corporate values, and the operational level regarding the effort to manage, coordinate and maintain consistency of CVI integrated in a business logic over time depending on market changes. In order to make themselves known, even to compete with others and establish an emotional connection with audiences, Brands seek notoriety through the combination of signs of Visual Identity conveyed by various graphic means, sonorous, digital or video (Perez, 2005).

According to Kreutz (2001), there are two distinct approaches in contemporary Design of Visual Identity of Brand's: conventional communication models (those that are stereotyped, splited in Traditional and Modern) and unconventional (Post-modern, which considers arbitrary, corresponding to metamorphic, more flexible and dynamic).

Metamorphic Brands<sup>3</sup> seem to have emerged in response to this new communication dynamics, able to create fascination and constant surprise, assuming the customization of the visual

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<sup>1</sup> Visual signs selected and used consistently to identify and publicly communicate the personality of a company, product or service.

<sup>2</sup> Perception that an audience has about a certain company, product or service. Incorporates corporate reputation and intersubjective mental images formulated by internal and external audiences.

<sup>3</sup> There are emergent names such as dynamic marks, mutants marks, moving brands or metamorphic. Whereas the definition of concepts would justify a specific paper, we adopt the term metamorphic brand as the most suitable and synonym of the others. Metamorphic brand is not concerned in changing the brands DNA (identity and brand personality) but it is only a change in graphical shape. The mutation involves changes in the genetic code and the dynamic term also comprises conventional approaches.

message.

Several Brands seem committed to adopt a casual tone of voice and less institutional than usual, almost to the level of a person. The Brand personality has become more visible and audible as a public event explored in social medias that transcend the company's mission. In turn, the tone of voice of the Brand are more diversified and undergo graphical transformations to accentuate the discourse towards customization and personalization or even one-to-one communication. Finally, the democratization of technology and social networks contributed an increased public scrutiny on Brand communication, as demonstrated by mutant advertising<sup>4</sup>.

### **DYNAMICS OF BRAND DESIGN**

According to Gasch (1991) the Design of a Brand mark implies some perceptual requirements such as legibility (the possibility to read at a considerable speed and distance), memorability (enable recognition, being expressive and impactful for easy memorization) and flexibility (the possibility to reproduce in various sizes, shapes and graphics production processes), as well as semantic, such as the graphic expression (suitable according to company values), bimedia meanings (relationship between graphic style, image and text) and formal validity (adequacy to the codes of time and culture).

To Chaves and Bellucia (2003) the role of graphic Brands is to identify, differentiate and contribute to the reputation of the represented entity, although reality shows evidence that graphic expression does not always follow these assumptions, given that it changes according to the style of the author. For this reason, it's not difficult to collect graphic Brands whose symbols are formally complex, overly detailed, somewhat contrasting or ambiguous.

As stated by Fascioni and Vieira (2001), in order to quickly grasp their audience, companies adopt colours, sounds and visual effects, often poorly selected and unhelpful. This pursuit of media coverage may result in sensationalism and kitsch.

Looking at the Design of Brand marks according to common

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<sup>4</sup> Advertisements made by consumers without Brands control.

procedures, Gernsheimer (2008) says that the characteristics of a good logo is to be symbolically relevant, versatile, integrated into the identity system; attractive, memorable, and enduring. Montesinos and Hurtuna (2004) believe that graphic signs involve the articulation of its symbolic and graphic aspects in order to meet ergonomic and perceptive questions. According to the authors, in each job, the Designer needs to establish a hierarchy among the symbolic and graphic dimensions, which are not incompatible.

Apparently, the metamorphic Brand marks comply with all the requisites, though with greater challenges in the case of the last two (memorable and enduring). However, according to the position of van Nes (2012) Brands are no longer just to differentiate, but they are value systems, experiences and emotional archetypes with which people connect.

For van Nes (2012), new technologies of screen and printing offer the possibility of Design customization and enable new interactive ways and closeness between Brands and their audiences.

As described by Costa (2011, p.131) "drawing a Brand mark is to give visible form to an idea, which is that way conveyed." To that author's definition it might be added that perceiving one graphic sign is seeing it, identifying it and correctly understanding their meaning, so that "Designing for the eyes is Designing for the brain" (Costa, p.12).

For Arnheim (1965), the perception of shapes begins with the recognition of the most evident structures, both the limits and outlines of their skeletons. Also, Gestalt psychologists describe how the human eye prefers to establish their structural connections as simple as possible (Gomes Filho, 2003).

The sequence of cognition presented by Wheeler (2003, p.7) begins in the recognition of shape, the semantic evocation created by colour and finally by denotative content. The brain takes more time to process language than identifying shapes. Gomes Filho (2005, p.161) states that visual perception depends essentially on the "capacity, facility and quickness" of the decode, which depend on the graphic shape and cultural knowledge of the receiver. However, this dependence on the recipient's culture is reduced when it is about natural and symbolic signs. Thus, the functioning of the graphic sign

depends on whether its Design is systemic, the relationship between the sign, the context and the user, and the appropriate relationship between the various graphical resources (tone, texture, shape, position, orientation, size, proportion and movement).

The eye does not work like a photography that captures everything. Aicher (2004, p.140) argues that human behaviour is especially prone to saving efforts, leading him to simplify and economize and interesting only by what contrasts and stands out - "We only see what it has meaning for us, we make a selection (...), filter and simplify the redundant material." The author wishes to emphasize that the interest requires a definition of levels of importance to ensure concentration.

The filter is symbolic and cognitive. Neumeier (2006, p.34) considers that "differentiation occurs through the human cognitive system, where the brain acts as a filter that protects the vast amount of irrelevant information that surrounds people every day." For the author, visual cognition involves the Gestalt laws but also aesthetics to the level of differentiation.

The eye's tendency in retaining a summary of the envisioned shape explains why the generalization of a Brand mark should be as simple as possible so that it can be quickly perceived and memorized.

Gomes Filho (2010) believes that one of the primary objectives of graphic signs is to ensure the function, contributing to people's comfort and safety. In this sense, the sign must have in mind stereotypes (contradicting or reinforcing), the location and scale display in accordance to the best conditions for its viewing so that the person does not have to undertake a major effort.

The perception of the meaning in graphic forms is dependent on the experiences, culture and filters of each individual (Arnheim, 1965), but comes largely from the evolution of the human species. In this regard, Frutiger (2005, p.18) declares that, contrary to what occurs with other animals, the human eye is conditioned at a cognitive and symbolic level because the Man moves in a horizontal plan and because, usually, danger zones came from the sides rather than top. "This millenary effort, Man's genetic legacy, led to the fact that our visual field is much wider in the horizontal dimension than vertical."

For Frutiger (2005), Man tends to be located as an active vertical

element towards a passive horizontal plan (real or mentally established by the observer). Based on this principle, individuals tend to judge all graphic shapes by comparison to the horizontal plan. Considering how the most dynamic and active shapes contrast with the horizontal plan, on which are based those seen as more inert, stable and discrete.

Seeing the graphical shape, the observer draws parallels with the real world, assessing the signs towards an horizontal and vertical plan. For this reason, Dondis (1976) establishes symbolic relations with geometric shapes in which the square means boredom, honesty, righteousness, the triangle is action, conflict and tension, while the circle corresponds to the cosmos, is continuity, protection and warmth. According to Perez (2005), angular shapes are associated with masculinity, toughness, stability and conflict, while the circular are soft, dynamic and feminine.

Everything is learned and created according to our reality. And in this perspective nothing is new, it just changes according to the way you look at that reality. Artificial graphic shapes are created having as a model the human proportions, experience and culture, which assume in the two-dimensional plan some of the principles of reality, such as gravity (Bruni and Krebs, 1999). By nature, graphic shapes are bound to the two-dimensional plan. However, over time, both large and small shapes, light and dark, overlapping or in perspective, are examples of the different graphic techniques used to suggest three-dimensionality, movement, depth and hierarchy.

If in its essence the graphic sign only suggests volume, it might result tempting to give it three-dimensionality, which can lead to ambiguous solutions. Three-dimensionality implies attention to a greater number of issues that are not only symbolic, but especially perceptive such as the viewing angle, depth, light and shadow or optical illusions (Frutiger, 2005, p.63).

While the two-dimensional graphic sign is admittedly artificial, the efficiency of the three-dimensional representation requires a greater similarity to the fact that surrounds the Man (Jacobson, 1999).

The very notion of symmetry is no stranger to the contemplation of the human body and objects in the world in which we live. For Frutiger (2005, p.22), "certainly we feel very safe or quiet when



we see a geometric construction figure, while not ignoring that its interior may contain asymmetrically arranged elements for functional reasons.” A permanent tension between the internal and external elements could be accepted.

Graphic signs and human behaviour have relationships with these principles, as it is proved by the symmetry of the Latin alphabet vowels, but also in the Phoenician writing, which is part of the history of our alphabet (Costa and Raposo, 2008).

Being acquired in the Western society to observe the signs from left to right, is the result of established conventions throughout history.

However, asymmetry can be used as a means to obtain contrast, since graphical shapes eventually end up being more dynamic and unbalanced.

The challenges to perception, differentiation, recognition and memorization, brought by metamorphic Brands are proportional to its ephemeral nature.

Unlike traditional models, the metamorphic Brands require memorizing graphic structures which ensure the recognition even changing the shape, color, texture or elements position.

Spivey (2005) relies on art history to show how cultural factors influence the representation of graphic shapes, which although related to real ones may be more geometric or organic. For this author, Greek civilization was the first to master drawing, painting and sculpture techniques, allowing them to accurately represent real, which eventually resulted too human and hardly fascinating. The reality does not satisfy and the search for graphic shapes with greater power of fascination led to the choice of formal exaggeration, to the superhuman, the choice of the Greek, as well as previous and subsequent civilizations.

The investigations of the neuroscientist V.S. Ramachandran indicate that the graphic and symbolic accentuation of shapes and the unreal largely contribute to the power of fascination in the brains of individuals (Spivey, 2005). Costa and Moles (Moles and Janiszewski, 1990) explain that in this context, fascination refers to expressiveness, to the power of the graphic shapes to attract and retain the attention of the eye. A shape that not only attracts, but also retains the human eye.

## FINDINGS

Globalization, technological developments and changes in social and economic behaviors have been evidencing the Brand as a social phenomenon.

Organizations are aware that Brands belong to people and that it's in their minds where they may grow.

Audiences are more informed and demanding, and they hold the power to boost or to detonate the reputation of Brands, acting as promoters or critics, particularly in the context of social networks.

The reaction of the organizations was to transform the audiences into advertisers of their corporate messages. Through intense experiences, Brands seek to meet archetypes shared with specific audiences, transforming them into purveyors of their advertising.

The customization of Brands means an adjustment in a message delivered to all but targeted to specific groups. An artificial discourse constructed by Brands to make them appear more human.

In their rush to contrast and to clearly seem genuine, metamorphic Brands test the capabilities of memorization and recognition of graphic shapes.

Metamorphic Brands contain a larger number of signs than the conventional Brand marks, so that they fight for differentiation from competitors, but also between its own variations.

The communication Design plays a truly responsible role and is focused on the user only when it's possible to meet the audience expectations and human factors. To improve people's quality of life it is necessary to contribute to resting the eye, drawing signs of identity that are not dubious, properly sized for the environment, viewing context, culture and support in question.

Thus, in most cases, it is essential to consider the principles of simplicity, visibility, identification, and semantics, technical and cultural constraints. Draw for the eyes, as the brain perceives, without complicating graphic shapes, without limitation regarding fashions, trends or personal preferences.

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## 3D MODELLING FOR MUSEUM ENVIRONMENT

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### ABSTRACT

Present paper explores connections between future of cultural heritage and three-dimensional graphics as a way to preserve historically significant objects and enrich expositions with multimedia components.

Experience of St. Petersburg State Polytechnical University is discussed, focusing on examples of collaboration projects with museums of St. Petersburg where 3D graphics is used as a way to enhance the experience of museum visitors.

Two types of workflows are introduced: semi-automatic model generation and manual modeling. Examples of both approaches are given and a comparison is made, providing a reasoning for choosing a right working method.

### KEYWORDS

Museum, experience. 3D modeling. automatic generation.

## BACKGROUND

Traditional museum spaces are no longer meant for only preserving cultural heritage. For visitors, they become a source of experiences where which cultural or historical significance is only one of the driving forces [3]. Some of the ways of enhancing this experience are visualization, tactility and active engagement through interaction. As 3D production became a well-developed and accessible domain, its potential can be applied to transform museum environment and achieve deeper, more meaningful engagement with museum collections.

Art Institute of Chicago divides 3D production ecosystem into five functional categories — scanning, designing, manipulating, printing and sharing, which form a generic workflow for application of 3D technologies in museums [1]. This workflow was successfully implemented by the Smithsonian Institution which recently introduced a new web portal "Smithsonian X3D" to share 3D models of their vast collections using Web GL technology in a regular browser. Main benefits listed by the authors of this project are accessibility for the public who can't physically come to the museum, avoidance of full excavation or potentially damaging removal of artifacts and educational outcomes [2].

The Smithsonian X3D project relies on multiple 3D scanning technologies to facilitate digitalization of artifacts and uses automatic model generation techniques. However, there are cases when the object itself is no longer available or when the final 3D model should differ from the original. In these cases, manual modeling should be used to create a proper result. The experience of St. Petersburg State Polytechnical University includes both approaches and provides a ground for their comparison.

## SEMI-AUTOMATED MODEL GENERATION

This workflow implies that an object is physically accessible and can be used in studio settings for digitalization. Creating a 3D model of an object would then require a 3D scanner — an expensive equipment, which does not provide a necessary level of mobility and accessibility of the method. Instead, we

developed a combined technique of creating a 3D representation of an object using Image-Based modeling followed by detail enhancement via Normal mapping technology.

First, a 3D model of an object is created using Image-Based modeling: a set of photographs taken from different angle of view (fig. 1). To assemble the model, Autodesk 123D Catch software was used. Photographs of the object were made with a help of a compact camera, keeping in mind that a professional reflex camera could optimize and enhance quality of the model on this stage.



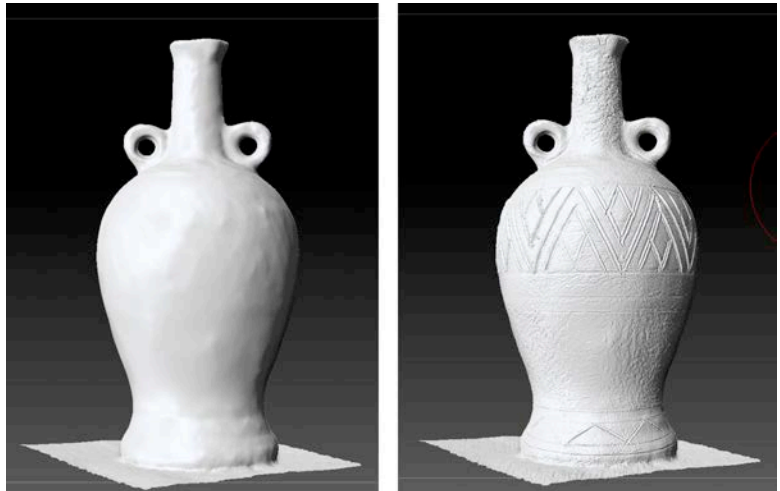
**Figure 1** Image-based modeling

On the next step a Normal map is generated using another set of photographs of the object made with different lighting. Images are then combined and transformed to a Displacement map (fig. 2).



**Figure 2** Normal map generation

After that density of polygonal grid of the model has to be increased and the Displacement map is projected on the 3D model.



**Figure 3** Comparison of original 3D model and a 3D model with detail enhancement via Normal map

This workflow presents an accessible way to create three-dimensional representation of an object and is suitable for cases when there's no specific requirements for the output result. However, it is not applicable in case of specific circumstances described in the following section.

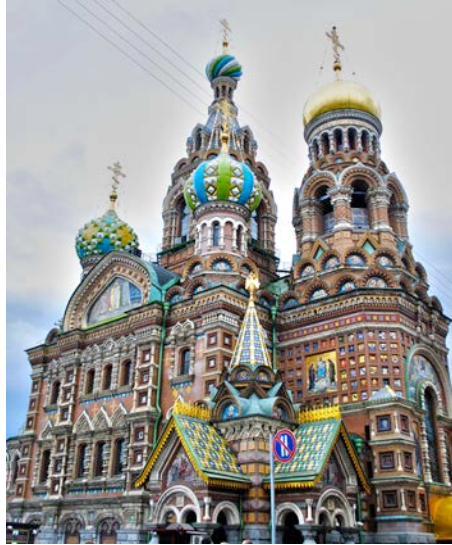


### MANUAL MODELING CASE 1: ARCHAEOLOGY ALIVE

This case was developed in 2012 for the opening of Menshikovsky palace in Oranienbaum — a historical suburb of St. Petersburg which served as a royal residence. Opening exhibition included 10 objects that relate to the time of royal family. These objects didn't remain till present day and were represented as fragmented pieces accompanied by illustrations or text annotations. Although the objects had interesting historical background, exhibition settings didn't provide enough stimuli to go through the annotations or imagery. Therefore our task was to develop a 3D reconstruction of original pieces to be shown as a video sequence on a screen next to each object. As there was nothing to scan or photograph, another approach was implemented: we were using 18th century drawings and illustrations from the Palace's archives to recreate all the objects in a 3D modeling environment manually with careful attention to details and proportions. Resulting models were then checked by the curators of the exhibition and updated in accordance with their comments. Manual modeling of the objects allowed to visualize not only appearance but also their inner structure (fig. 4) and illustrate a transition from the original piece to the preserved artifact, establishing a meaningful connection between them. Resulting 3D animation was shown on the screens at the exhibition and was synchronized with the lighting of the objects.



**Figure 4.** 18th century clock: appearance of the object and its inner structure.



**Figure 5** Complex and detailed decorations of the Church on Blood. Image source: commons.wikimedia.org

## **CASE 2: TACTILE MAP**

The second case illustrates another kind of requirement: the object of cultural importance is available for scanning, but the result should be different from the original — adapted for perception by visually impaired people.

This project is developed together with the State Library for Visually Impaired people in St. Petersburg and consists of scaled volumetric model of the central part of St. Petersburg. The aim of the project was to create a tactile map of the territory and develop volumetric representations of historical buildings that would allow to explore and understand the space without the help of vision. One of the buildings is a famous Church on Blood — a complex architectural masterpiece build in the eclectic style with numerous decorative elements and textures (fig. 5). As the building is still present in the city, a standard workflow would imply semi-automatic generation of 3D models from photographs of the building. However, the resulted model would have complex and uneven geometry, and getting a direct 3D print would cause important details to shrink, making it more difficult for visually impaired people to understand main features of the building.

To tackle this problem, a decision was made to recreate a building manually: it enabled to trace the scale of details, emphasizing some of the features to create a tacitly readable model and diminishing others, retaining the structure and

composition of the original. The supervision of art historians and constant consultations with experts from the State Library for Visually Impaired people allowed to achieve a balance between historical and architectural truthfulness and tactile understanding (fig. 6).



**Figure 6.** Resulting model of Church on Blood suitable for tactile perception

## CONCLUSIONS

Presented cases show that 3D reconstruction of culturally significant objects can be done following different workflows. Semi-automatic generation methods, although the fastest and one of the cheapest, are not universal and can't be applied to all spectrum of tasks. Manual modeling methods, though time-consuming and less objective, can be more relevant to tackle difficult situations: when exhibited objects undergo significant damage or when the auditory of the project includes visually impaired people.

The experience of presented cases suggests that in the area cultural heritage it is important to consider alternative

approaches instead of trying to develop a single universal method for three-dimensional representation of objects. In 2013 after an extensive work with museums and cultural organizations, St. Petersburg State Polytechnical University received an award from Government of Russian Federation in the area of culture.

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## CASE STUDY IN VISUALIZING “THE SPIRIT OF A PLACE”

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### ABSTRACT

This research deals with manifestations of the *spirit of a place* and visual narration thereof. The study evokes a discourse on the narrative possibilities of a still picture. The research is in the domain of visual communication design, and it focuses on pictures used as an essential communicative tool of a graphic designer. It sheds light on the creation of a picture and on its language as a producer of meanings. Simultaneously, the process of creating a picture is viewed as visual narration.

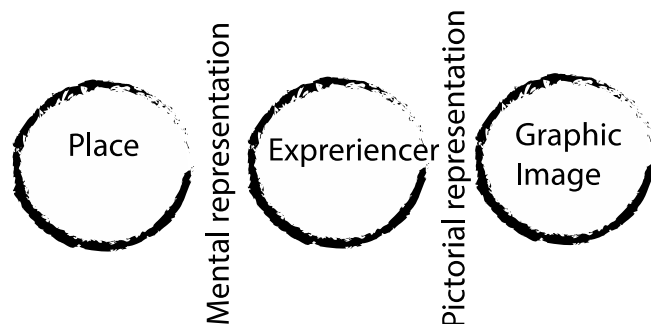
### KEYWORDS

Place. Picture. Image. Visual narration.

## ARTISTIC PART BASED ON THEORETICAL CONCEPT

I started from my own experiences of the spirit of places as a tourist. The spirit of a place as a salient concept of humanistic geography draws on the personal experience of an experiencer (Relph 1976). I was also the creator of the pictures in this *practice-based* research. The artistic part consisted of three exhibitions arranged by the author between 2009 and 2011. The artworks of the first exhibition were based on a trip to Prague, while the second exhibition drew on a trip to the Lofoten Islands. The third exhibition was based on experiences from several places, and it enriched the material on the part of visual narration.

The frame of reference entailed a discourse between image creation and theory. I brought out the contents of mental images formed on the basis of my experiences. As an illustration method I used wood-block printing, and the final graphic images were created after my travels. The structure of the research comes from mental and pictorial representations as shown in *figure 1*.



**Figure 1** Representation as a structure of the research (Nikula 2012)

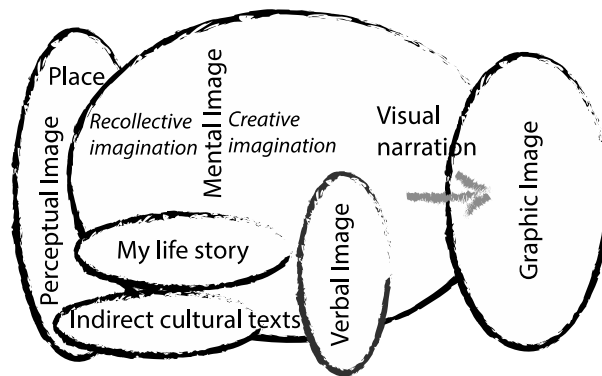
## METHOD

### EXPERIENCE PROCESS MODEL

I first constructed an *experience process model* to illustrate the multidimensional contents of experiencing the ambience of a locality. In this model I combined different kind of images in

physical and mental world as W.J.T. Mitchell (1987) defines them. According to Mitchell I use term “graphic image” when meaning concrete material images that can be seen – even touched – in our physical world. This model also shows what kind of ingredients are involved in the visual narration. Influences can come from indirect culture texts as books and travel brochures; also my own previous life story is involved.

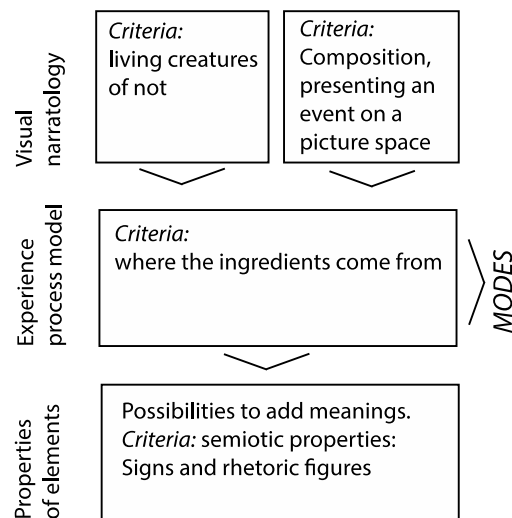
Physical world	Mental world	Physical world
<i>Immediate</i>	<i>Reflected</i>	<i>Aesthetic</i>
<i>experiences</i>	<i>experiences</i>	<i>experiences</i>



**Figure 2** Experience process model (Nikula 2012)

### ANALYSIS MODEL FOR NARRATIVE LAYERS

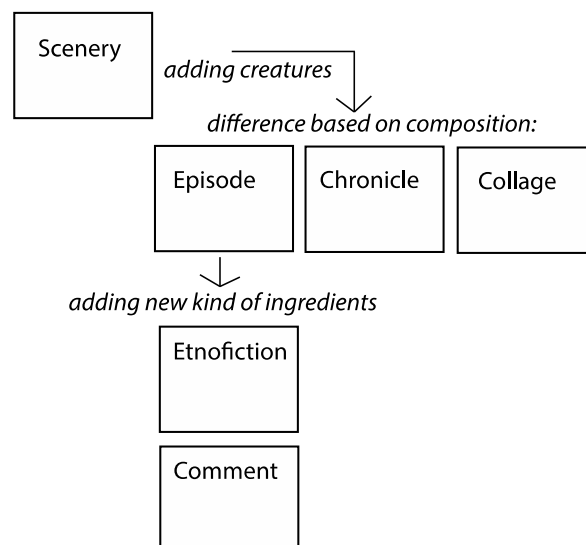
On the basis of my own artworks I thereafter produced a model of analysis to depict the structure of the pictures and the meanings they contain. In my model I combine *visual narratology* and *semiotic concepts*. I also pay attention to the *experience process model* that I constructed earlier. Within each picture I paid attention to the composition and the properties of elements (see Engelhardt 2007). Using the analysis model I divided the created pictures into six modes. Each of these presentation methods emphasized different sides of experiencing the ambience of a locality, and their methods of visual narration also differed from one another.



**Figure 3** Analysis model for narrative layers (Nikula 2012)

## RESULTS

I present six different modes as visual presentation methods, including one example picture of each. Meanwhile, I discuss the limits of visual language, and also its potential to direct a viewer's attention to a narrative, to get meanings interpreted. The concept of image is broad and entails various forms already within a graphic image.



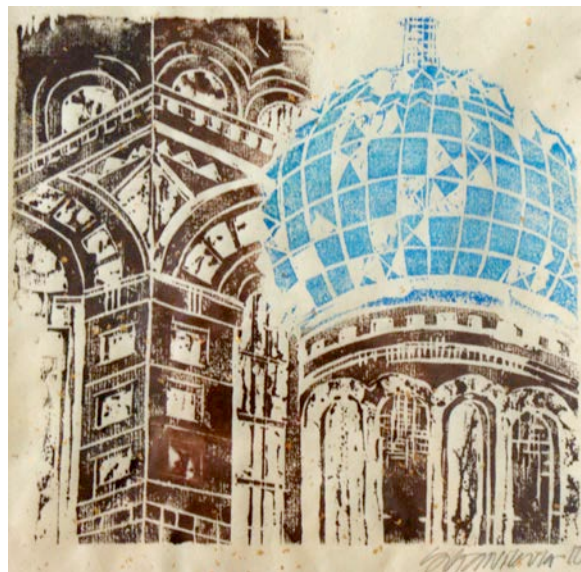
**Figure 4** Six modes presented as a metaphor of narrative layers (Nikula 2012)



## THE MODES. METHODS OF VISUAL NARRATION

### 1. SCENERY. NO LIVING CREATURES

This is a category of pictures with no living creatures. According to Seymour Chatman (1978), a narrative without an agent performing action is impossible. Pictures in the first mode are depictions of scenes or spaces where happenings could take place. In my sceneries, I refer to the place in an iconic way, showing the way things really are (Mitchell 1987). *Iconicity* is one positive property of images, based on a correlation with its object — at least some qualities are similar. Based on iconicity, real-world optical experiences can be imitated (Messaris 1997, 3). For me, these images work as documents that are witnesses of my visit. Compared to detailed photographs, these images are simplified. They don't repeat all. But all the visual elements are meaningful as the illustrator selects them (see Barthes 1986).



**Figure 5** Example of the mode Scenery. Based on my travel to St. Petersburg. Woodcut. Silja Nikula 2011.

*Metonymy* is a way of creating realistic impressions based on associations. When seeing one small part, the bigger whole can be traced (Fiske 1994; Mitchell 1987). One scene can represent the whole town or certain kind of city life. Still images have the

ability to expand their stories outside of their frames, and metonymy as a rhetoric means enables tight expression. I framed one scene that was interesting to me. Later I noticed that advertisers of tourist attractions have actually selected and presented many of the same scenes that were my favourites. I couldn't rid these images from my mind through media presentations.

Compared with realistic photographs, the illustration technique has left its mark: woodcarving can add its own connotations to the work. As an illustrator, I can take advantage of the style of lines, forms, and colours to show a variety of emotional feelings. In suggesting meanings, the role of the illustrator is salient. Still images can call forth a variety of emotional responses. In my example picture, depicting a part of the town St. Petersburg, I haven't still used the whole potential in expressing my feeling through carving style.

What comes to living creatures in still images context, I argue that events can be seen even if there are no people or other creatures visible. The illustrator can put hints as clothes drying or tools left, and the picture can be interpreted as one moment in a chain of events.

## **2. EPISODE. A MOMENT OF HAPPENING**

I define figure 6 as an *Episode*, because the moment presented in it really happened. I stepped up to the Town Hall Tower in Prague, and saw the scenery with its red roofs. According to narrative theory of literature (Chatman 1978), the picture carries more meanings than the previous one, because there are people included.



**Figure 6** Example of the mode Episode. Based on my travel to Prague.  
Wood-cut. Silja Nikula 2008.

Some moments stayed in my episodic memory even after travel (see Glass & Holyoak 1986). They concern strong emotional feelings or are otherwise meaningful. In my Prague picture characters added to the streets reveal a chain of events that could otherwise not be seen (Chatman 1978). The picture captures one moment of an event and insists viewers to interpret it. So the story before and after can also be seen. When compared to narratives in literature or audiovisual presentations, presenting time-flow through still images has its limitations. The composition is in two-dimensional space, so the actions are emblematic and eternal (Goodman 1981). But there are still ways for illustrators to suggest meanings as time passing by and events going on, such as creating back and front areas in the picture surface. Also a viewer's eyes can, to a certain degree, be led by arranging lines and forms of elements.

The grammar of visual design consists of conventions for representing and interpreting pictures. While expressing my ideas and working with my images, I noticed that the conventions presented by Kress and van Leeuwen (2006) should also be

considered as meaningful potential. These researchers already have adapted narratology in still images in their *grammar of visual design*. Meanings can be suggested by using high or low angles in composition. Also framing, seeing objects from far distance or near-by are important tools for illustrators to create meanings. Kress and van Leeuwen separate narrative images from conceptual ones: narrative images have vectors, lines leading away from things, body parts and gazes. They show directions in interactions of people presented. Especially diagonal lines carry the idea of movement. In my pictures I did not use these conventions by purpose, but realized them afterwards. It shows how automatic these conventions of presenting are.

I agree with Slomith Rimmon-Kenan (1999) that the concept of narrative has to be modified on the basis of presenting medium, also taking into consideration the conventions in composition and how they suggest meanings.

### 3. CHRONICLE. TIME PASSING BY

This mode of *Chronicle* is also presenting an event, but using a series of pictures, somehow combined together. There has to be at least two different pictures, referring to the times of happening and telling. When these pictures are put after each other, a new meaning can be interpreted. In my *figure 7*, I pay attention to the direction movement: in most western countries walking from left to right means going forward. More generally this convention is defined as left side carrying something old or already known, right side having new or somehow problematic issue (Kress and van Leeuwen 2006).



**Figure 7** Example of the mode Chronicle. Based on my travel to Croatia. Woodcut. Silja Nikula 2011.

There are means for illustrators to emphasize the idea of moving by "speedlines", or in my wood block printing by carving direction. Dynamic impression is added by using diagonal composition; also placing elements fore and back can create the idea of time-flow. One idea is to use same characters in different places, causing that different times are interpreted. In my picture the stages of movement are very clear, but the idea could be presented also by morphing the phases more smoothly, like creating metamorphosis. If we move towards cartoons, here comes finally the question, if the presentation actually is one entire still picture any more, or is it many still images put together. As one perspective to the *spirit of place*, this mode shows how tourists are often active and curious to see as much as possible. This mode emphasizes happenings, and the idea of the visual presentation is based on movement. The scenery at the back is in most cases still seen, to present the place for those actions.

#### **4. COLLAGE. FRAGMENTS OF MY TRAVEL**

Different events, situations and ideas are combined into a coherent whole within the mode of *Collage*. There is a certain theme under which the entire situations are gathered. The theme can also be thought as a message, plot or simply an idea. In my compositions I used ideas from previous modes as material: the parts of the whole often consisted of sceneries, people and all kind of things I had seen during my travel, and details of them. But they were arranged as a composition by using different scales and perspectives. Visual coherency was created, to put the parts of the collage together. This presenting could also be thought as viewer being in different places at the same time.



**Figure 8** Example of the mode Collage. Based on my travel to an island on Heinävesi, Finland. Woodcut. Silja Nikula 2011.

For my example *figure 8*, I gathered moments of experiences on a small island during one week in the summer 2009. I was swimming, fishing, having sun and enjoying the dark evenings with my family. The coherent whole is created visually by using only one colour, to collect the items together. Also I found similar forms from nature and my body: as stars and my hair. Using rather dry colour makes the direction of colouring visible, and perhaps emphasizes the idea of time passing by: days and hours after each other. This mode shows how memories of travel often consist of fragmented moments.

## 5. ETNOFICTION. NEW STORY IS BORN

Whereas *Episodes* call back moments experienced, *Etnofictions* create new reality. They have roots in real-world happenings, but in my imagination the experiments are combined with new kind of material. Fictional elements come from history, mythic stories, literature, etc. All kinds of intertextual or intervisual material can be used (Nikolajeva & Scott 2006). When these are combined as a visual composition, a new story is born. Non-existing fantasy creatures can well be presented in a realistic way by using a linear perspective. The presentation can be seen as one moment in a chain of happenings, as in the mode *Episode*, but now unnatural elements are included. The idea of the *Etnofictions* is to part from real life and approach towards imaginative world. Visual means, as unnatural colours and plasmatic forms, can be used to violate the reality. The expression can resemble surrealist Dali's paintings.





**Figure 9** Example of the mode Etnofiction. Based on my travel to Lofoten Island. Woodcut. Silja Nikula 2010.

In *figure 9*, I also deal with Kress and van Leeuwen's (2006) conventions, now concerning upper and lower parts of a composition. Whereas the lower part is "real", the upper is ideational, presenting something new. According to this statement, my composition strengthens the idea of an imaginative story: while the scenery is quite realistic – still simplified – the floating animal in the upper part is not natural. Also these information values carry narrative potential. While I was travelling on Lofoten Islands, I saw this kind of scenery, but the dragon came from the mythic stories of the Vikings. The idea for the animal came from "Saga of Sigurd", telling how Sigurd, after drinking blood of a dragon, got the ability to hear birds singing. I still added typographic hints, rune writing, to refer even more to the mythologies and history of the place. In spite of the letters meaning nothing, some intertextual connections can be seen, if this historical writing is known.

## **6. COMMENT. WE ARE LIVING OUR STORIES**

I started to create *figure 10* after visiting Fishing Museum in Å, the most southern fishing village on Lofoten Islands. Finally, multiple ideas and elements were combined, and the presentation became a metaphor.



**Figure 10** Example of the mode Comment. Based on my travel to Lofoten Islands. Woodcut. Silja Nikula 2010.

First, I saw in the museum how cod liver oil was traditionally produced, and how the old bottles looked like. Then suddenly came to my mind, that I had seen same kind of bottle in my childhood, and tasted the oil. My mother gave it to me, and I didn't like the taste. Then I looked at the tag of the bottle and saw my own picture on it. I saw a small girl as a part of the graphic composition, and her hair was cut at the same way that I had in my childhood. In the final composition also other elements were included: within my travel I had seen a lot of codfishes hanging and drying, many of them mouths open. So I constructed a picture where I am pouring the codlever oil back to where it came from.

Nelson Goodman (1976, 8) names this kind of constructing as "putting a layer of comment". In this mode, the illustrator's attitude and opinion are strongly seen. Tourists often use their own inside stories as a part of their telling about experiences. We are actually "living our stories", and new meanings get interfered in the previous ones (Bruner 1986). I found *metaphors* as useful



rhetorical means in representing personal meanings in my pictures. In the metaphorical expression, qualities are transferred from one to another by combining the usual with the unusual. Often, images of concrete physical things or situations evoke an analogous abstract concept (Messaris 1997, 9). Metaphorical dimension is one class of iconic signs, based on similitude.

To put more meanings, also *symbols* can be useful within this kind of pictures. Symbols have narrative power, in giving rise to connotations. They are useful in packaging meanings – in case they are understood right. A symbol is a sign when it is used and understood as such, based on convention or habit (Fiske 1994, 70,72). Understanding of symbols also depends on the context; for example, colours can have symbolic meaning but often appear in the form of elements.

For this project, while the *episodes* came suddenly in my mind, the *comments* took more time to transform in my imagination and to find their visual form. The pictures in this mode were born last. As a graphic designer I find visual metaphors challenging, because within communication use they have to be somehow understood, but still fresh and surprising.

## DISCUSSION

In this study I did not define the communicative aspects, audience, and presentation medium of a picture. Instead, I focused on the beginning of the design process where an idea develops and begins to assume a visible form. Narrativity was seen broadly as a viewer's possibility to discern meanings in a picture. Meanings arise both from the properties of elements and their composition. Woodcutting as an illustration method adds its connotations to a presentation; it enables one to simplify and thus compress the expression. The multiphase method of woodblock printing matured my experiencing and brought about new personal meanings. The ultimate ideas were often changed.

The study evokes a discourse on the narrative possibilities of a still picture. It pays special attention to the ways in which symbols and metaphoric expression can give rise to

connotations and thus increase the variety of meanings construed from a picture. In fact, the whole concept of narrativity should be redefined in the context of still pictures.

I also see my method as an important part of this research, combining artistic work with theoretical discussion. Also adapting narratology within the context of still images is quite new, especially in the context of drawings. For an illustrator working within visual communication I see my metaphoric model of narrative layers as a practical “tool-box”, to be adapted and varied in different situations, showing narrative possibilities. Sometimes the strength of images comes from their iconicity and indexicality; in other situations we need symbolic elements and metaphoric expression to get the message through.

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## THE ART OF GROMYKO SEMPER: A Study of Digital Selves and Deterritorialized Displays

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### ABSTRACT

Philippine Art History, as both a discipline and a literary category, has thus far been limited to the results of traditional gatekeeping. By (re)presenting art history as a mode of local connoisseurship, the validation of creativity and the professionalization of the artist are filtered at the local level, prior to the achievement of international success. In the Philippines, this translates to the migration of artists and their work from the provinces to the urban centers, making Metropolitan recognition a necessary career path, thus creating problems in the evaluation of career arcs that deviate from this norm. The model provided by this period of participation in the Information Age – with its variety of platforms for practice, production, and curatorship – could potentially displace existing art institutions as arbiters of taste and producers of culture.

This article looks at the career of Gromyko Semper, whose online presence has led to exhibitions and commissions overseas. Through a placeless practice, in which he constantly races against time, Semper's career provides an example for discussing a deterritorialized art world and the accelerationist aesthetics with which to evaluate it.

### KEYWORDS

Biocybernetic reproduction. Affective networks. Accelerationism

## INTRODUCTION

Thousands upon thousands of websites, pages, and platforms have risen among the millions sharing the web. This is further affirmed by the rise of digital natives – a generation of internet users, fluent in the language of Web 2.0 and familiar with the opportunities it creates, wherein web users turn to “centralized services rather than independent websites to share and access content online” (Connor 2013, para. 2). When applied to the art world, Web 2.0 has not only changed the consumption of culture, it has also democratized the public’s capacities for creation and commissions as well as collection, curatorship, and even criticism.

Loney Abrams, in *The New Inquiry*, begins her essay “Flatland” by stating that “Far more people see art on screens than in museums. The gallery is no longer the primary exhibition space; the Internet is... The digital image is supplanting the art object...the digital photographic image can be understood as the homogenizing, ubiquitous medium of our era.” (2013, para.1) This statement finds itself realized by the online collective, JOGGING, in *An Immaterial Survey of Our Peers*: an ongoing exhibition which conflates the image with the exhibition space. The dozens of digitally composited photographs of otherwise empty walls at the Art Institute of Chicago, linked to a Tumblr blog of the same title, *An Immaterial Survey* was “meant to question the ongoing tendency to believe material interaction with art is mandatory despite living in an age of utter dependency on the digital image as an informational source” (JOGGING n.d., para. 1).

While Filipinos have been named among the most active users of social media (“Social networking in the Philippines”, n.d.), there is little critical facility on how Filipino artists have used the internet in general, and digital imaging in particular. Publications and proceedings in Philippine Art History remain limited to the results of traditional gatekeeping, recognizing artists mainly for their work shown in established galleries and museums. These institutions remain dismissive towards work shown online and treat the contributions of the web as incidental. These are

typically considered as avenues for commentary, but not criticism, despite the availability of new applications and platforms that have reconfigured the context for distributing and displaying Philippine art. And yet, platforms devoted specifically to the exhibition and marketing of artwork, such as Behance, Deviant Art, and Society 6, have a sizeable number of Filipino users who have used its international scope to reach markets and influence audiences abroad.

This growing presence of “crowd” generated schemes and systems ubiquitous to Web 2.0 require a framework for looking at Filipino art in this economy of attention, where an artist can post an entire series of work, which—as Abrams points out—becomes archival content the moment it goes online. The combined efforts of creation, selection, and archiving online have already signalled a convergence of content curation with content creation, and this is seen in the career of Gromyko Semper, a visual artist based in Cabanatuan, Nueva Ecija – a town ten hours outside of the Metropolis.

Semper is just one of a handful of artists who have prospered without the linearity of moving from the studio to the exhibition hall, and without the commercial representation and critical feedback that many artists in the metropolis benefit from. This paper looks at Semper’s career as a means of applying the following concepts: biocybernetic reproduction, transnational affective networks, and the resulting deterritorialized and accelerationist aesthetics that are beginning to signal shifts in the teaching of art theory, history and historiography.

## WHO IS GROMYKO SEMPER?

“[W]e recognize in Gromyko Semper an artist who does not play games with his time,” wrote John Paul Thornton in his introduction to Semper’s self-published portfolio, *Sacrae Particulae ex Nihilo*, which can be ordered online through his account on Blurb.com. In the same essay, Thornton—the Art Education Coordinator for the Los Angeles Department of Cultural Affairs—also called Semper, who is now 28, “a young artist who stands at the crossroads of two realities: One is

grounded in a tradition of high cultural metaphor, while the other is a sensual dream world of feverish risk (Thornton 2009, para.1).”

Semper did not graduate from any Fine Arts program and does not lean towards any of the contemporary genres, preferring, as Thornton wrote, “the great religious and historical visual languages of the world”. Indeed, much of Semper’s work veers away from the conceptual, borrowing instead from what he calls the “pure” aesthetics of past centuries. Writing for *GMA News Online* in 2011, Sylvia Mayuga speaks of the same feverish efforts Semper has devoted to building a career in art, claiming that “He was in a hurry about it, [too]... Pictures in books, TV and comic book cartoon characters flowed from his little fingers (para. 3).”

A graduate of the BS Science program at La Fortuna College in Nueva Ecija, anatomical and botanical influences lent themselves to his finely rendered details. “Metaphysics became my friend in college,” quotes Mayuga, who characterizes Semper as the stereotypical bullied introvert who retreated to school libraries where he “‘devour[ed]’ a range of subjects way ahead of his peers,” becoming what Mayuga calls an “autodidact”. Despite these reported exceptional qualities, Semper did not finish college; instead, he began building a career after enrolling in art classes at the only gallery in Cabanatuan, where he began teaching at the age of 16 and was soon promoted to “senior artist” (Mayuga 2012, para. 4).



**figure 1.** "A Beggar and A Cup" (2007)

While conventions require an artist statement and curriculum vitae, the particulars of Semper’s career and vision are framed on Deviant Art, a platform and online community of which Semper has been a member and avid user for the past seven years. His works on this platform are posted as “deviations”, wherein the deviation with the most views is *A beggar and a cup* (2007). The statistics on his Deviant Art page, as of March 2014, showed that: “gromyko has 115,363 pageviews total and their 1,333 deviations were viewed 727,772 times. gromyko watches 907 people, while 1,603 people watch[es] gromyko.” (“Gallery Stats for Gromyko”, n.d.). It was also through Deviant



Art that Semper met James Koehnline, a Chicago-based artist who headed the group, “The Surreal Arts”. Beginning in 2007, Koehnline would serve as Semper’s “mentor,” discussing surrealist philosophy and teaching him technique online. In 2009, he would leave the online group, making Semper its new leader (Semper, personal communication, November 16, 2013).

It is evident that Semper has made better use of Deviant Art for promoting his work and forming a peer group, than he has done with his facebook fan page, *The Art of Gromyko Semper*, where he only has 707 “likes” (the equivalent of fans) as of March 2014. When it comes to Semper’s use of the popular social network for making both personal and professional connections, Semper has 4,744 friends, only 256 people shy of the 5,000 friend limit. It is also on facebook that we find that Semper’s work, “has been exhibited in Germany, the United States, Portugal, France, Russia, Austria, Australia, Japan, Singapore and the United Kingdom”—all of which are logged in the “Places” feature of every facebook account.

In 2009, Semper co-edited *Imagine the Imagination – new visions of Surrealism* with Hector Pineda, a Mexican artist. After that, he illustrated a work of fiction for the American writer, M.A. Fink, and continued to accept commissions from artists and writers abroad, with one collector as far as California having amassed over 200 pieces, including 3 collage books at 300 pages each (Semper, personal communication, November 16, 2013). Illustration skills, pen and ink in Semper’s case, have been instrumental in building art careers online, due to the flat and easily flattened nature of the media involved, from the tools used to create the art, to the media used to deliver it to the viewer.

By catering to foreign tastes and the demands of a market that is not present in the Philippines, Semper has been prolific in the display and distribution of the flat media he is known to work with. Bypassing local gatekeepers, he has successfully avoided being co-opted into any national agenda of myth and meaning making that artists working within public and private institutions are typically subjected to. Semper exemplifies a strand in the adoption of neoliberal strategies in the art market: by posting his

work on facebook and Deviant Art, he not only makes his own myth, he sells it – effectively stepping over institutional regulators and going directly to outside sources of validation through publishing and exhibition. These establish him as a rare case of provincial isolation thriving in a cosmopolitan milieu, made possible by his connections on the web. Semper is one of the many examples of Abrams' observation that the internet provides a venue, in which, "Artists have the ability to create vast social networks online, promote themselves and their artworks, and use social media platforms like Facebook, Instagram, and Tumblr to share images themselves." Foregoing physical space, art is capitalized upon through mechanisms of self-promotion, as artists develop their skills not only in the production of the work, but by diligently documenting and sharing, thus "encouraging artists to be productive and prolific" (Abrams 2013, para. 4).

#### **BIOCYBERNETICS IN AN AGE OF DETERRITORIALIZATION: A PLACELESS PRACTICE**

That Semper is able to receive commissions and sell work without his pieces having been seen up front signals a new turn in how objects are interpreted and consumed in the Information Age. It has been emphasized earlier that those who belong to regions where artistic practice is not cultivated are thereby excluded from the spaces of art production. This limits their access to physical exhibition space, commercial representation, and their acceptance among peers in the so-called "creative class". It is through these circumstances that artists such as Gromyko have learned to be more resourceful in their use of digital media.

"Digital media reduces everything to numbers," wrote Lev Manovich in 1995, long before the rise of Web 2.0. "This basic property of digital media has a profound effect on the nature of visual realism. In a digital representation, all dimensions that affect the reality effect--detail, tone, color, shape, movement--are quantified (Manovich 1995, para. 17)."

But Semper, having built both a portfolio and persona through these channels cannot simply be reduced to the dystopian realm of digitization and measurability. Taking Manovich's predictions

into the age of Web 2.0 shows how Semper becomes a case study in biocybernetic reproduction: theorized by W.J.T. Mitchell to have “replaced Walter Benjamin’s mechanical reproduction as the fundamental technical determinant of our age...biocybernetic reproduction (high-speed computing, video, digital imaging, virtual reality, the internet, and the industrialization of genetic engineering) dominates the age that we have called ‘postmodern’.” (2003, p. 483)

In Semper’s case, production, display, and distribution become difficult to distinguish, exploiting the “creative possibilities of a networked world in which the biological and material conditions of existence are forever transformed,” (Ahn 2014, para. 5). Using attention as a resource in a transnational affective network, it is through the Web’s modes of validation (such as likes, views, and hearts) that his work is successfully exhibited and his presence is confirmed. The nature of his craft – illustration—lends itself to this mode of biocybernetic reproduction, where artist, social media account, and online portfolio fold neatly into each other. Social media acknowledgements, aside from being a means to distribute his work, extend Semper’s process. His use of the internet illustrates Mitchell’s discussions concerning artists who cannot communicate or facilitate the distribution and production of his work without an electronic appendage.

#### **ACCELERATIONISM AND TRANSNATIONAL AFFECTIVE NETWORKS: RUNNING OUT OF TIME**

Semper’s career has bypassed the more public systems of criticism and art education, turning to art practice and production that depends on forces in the private sector that are speculative, financialized, and derivative. Without traditional gatekeepers, artists must shift their practice to maintain their presence in an environment that thrives on constant change and novelty. When reconfigured for the screen, the production process becomes subjected to the aesthetics of accelerationism.

The shift to accommodate accelerationist aesthetics only adopts the contemporary need for speed, however it also creates a different set of prospects for artists practicing on the periphery, through what Gean Moreno calls “the potential to provoke

innovative *cartographic exercises* [emphasis mine] that probe unprecedented social complexity and look for new liberatory programs that live up to it” (2013, para. 6). Given the circumstances in which an artist lacks the advantage of practicing in a particular place, time (or in this case, the timelines of social media) create another space in for artists to race against. The permeation of accelerationism into the art world affects artists in that they must sell, as well as create, not only the work but a self that is both digitized and deterritorialized.

The phenomena surrounding “accelerationist aesthetics” was first tackled by Steven Shaviro in *Post-Cinematic Affect*. Rather than characterize accelerationism as a literal drive towards inevitable meltdown, Shaviro treats it as “a cunning practice through which to capture and redeploy existing energies and platforms in the service of a re-universalized left politics” (Moreno 2013, para. 4).

Thus, accelerationism depends just as much on the existence of Dean’s affective network (2010, p. 91), subverting the institutions, and filtering updates through the community one forms online with the online nature allowing for the transnationalization of these affective networks. Related to Dean’s concept is Siegfried Zielenski’s “coercive context”, wherein “Media are an integral part of the everyday coercive context...As cultural techniques, which need to be learned for social fitness, they are at the greatest possible remove from what whips us into a state of excitement, induces aesthetic exultation, or triggers irritated thoughts” (2013, p. 5-6).

## CONCLUSIONS

Working within existing frameworks for theorizing and historicizing art, the transnational affective network fostered by social media is clearly not enough to sustain artistic practice. Subjecting artistic production to the forces of the attention economy only oscillates and accelerates these phenomena, in which “[e]verything must be marketed and made subject to competition. Everything must be identified as a ‘brand’” (Shaviro 2013, para. 10). Semper’s online presence demonstrates these

practices of competitive branding, wherein frequent updates are rewarded with precious attention, and it is in the content of the updates that we identify a 'brand'. How both the 'brand' and the act of branding fit in with the art world demand further inquiry; what is certain though is that while 'branding' belongs in the vocabulary of the market, it still occupies a questionable place in the language of the art world.

Speaking of value, when it comes to investments (commercial or otherwise), Abrams points out that "[w]hile online social networking provides the potential for artists to garner attention from collectors and other sources of income, collectors need to be convinced that their purchases will be secure investments. Gallery representation and their contracts offer the artist the credentials necessary to be viewed as a worthwhile investment," (2013, para. 5).

Besides questions of investment and commercial representation, biocybernetic reproduction and dependence on transnational affective networks exploits the absence of an artistic community – one which is integral to the evolution of an aesthetic, a canon, and a coherent identity for contemporary artists to work with. For this, Dean argues that "Affective attachments to media are not in themselves sufficient to produce actual communities – bloggers are blogging but the blogosphere doesn't exist...Affective networks produce feelings of community, or what we might call 'community without community'" (2010, p. 104). Moreover, an absence of community could have profound effects on criticality, subjecting artwork instead to the financial mechanisms of postmodern capitalist production. The creation of communities of Philippine contemporary artists has evidently subsumed these mechanisms in the past, creating collective identities that outweigh the effects of Western or Westernized (read: neo-colonial) intervention. To the advantage of artists like Semper, the absence of communities contains potential for creating new avenues of criticism and validation. Semper himself laments the inherent cliqueishness or "*barkadahan*" of the Metropolitan art world, which only displaces his practice even further, and sometimes escalates towards questions of "Filipinization" or affirmation of national identity (Semper, personal communication,

November 16, 2013). Semper struggles with this added dimension of placelessness which stems from not identifying with any collective. This same struggle could grant an avenue of opportunity (or affect) that is transnational in scope: in his own words, “i love a more syncretic approach in [sic] art” (Semper, personal communication, November 16, 2013).

What is certain is that in Semper's development of a placeless practice, one which constantly races against time (aside from refusing to play games with it), he paints a picture of an art world that is flattened and dependent on a different kind of texture and interaction; yet is idealistically democratized while thriving primarily on attention, and secondarily through sales.

While the exchange of objects is an undeniable fact in the economy of Philippine art, there remain difficulties surmounting problems of audience development which cannot be addressed by sales. These are further complicated by the roots of Philippine art education remaining planted in Western traditions, which construct the chronology of art-making as a move from material to cognitive technologies, wherein aesthetics developed from a Modernist ethos guide the teaching of Art History, criticism, and curatorship. These pedagogies extend their influence across the board: from the academe, to the museum, to the galleries.

A booming blogosphere and widespread use of social media may provide a counterpoint to this existing approach, however it also creates a fragile foundation without the proper platforms—both online and off—to frame it. The Philippines is an especially vulnerable case for these phenomena by feeding the neoliberal impulse to support its most prolific practitioners, ultimately blurring the boundaries between development and production, as seen in the work of Gromyko Semper.

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## CELEBRATION OF THE IMPERFECT: A study of the imagistic gesture as for experiencing images in the contemporary world

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### ABSTRACT

This article aims to undertake an analysis of the value of the imagistic gesture as a catalyst for renovation of experiencing images. In order to understand this issue, we set up a creation laboratory on the “Celebration of the imperfect” theme, in which one searches to grasp the experience of image construction as road of access to the imaginal, narrowing the possibility of an encounter with what is new.

In this study, we analyze the meanings of experiencing images, what makes them become meaningful and what is their potential to influence actions as they interact with the world. In addition, we also investigate the imaginative processes of the contemporary artist focusing on the capacity of creation of new images, which are able to cause surprise due to their magnetism and by the establishment of an intersubjective relation with the audience.

### KEYWORDS

Imagination. Art. Experience

## **CELEBRATION OF THE IMPERFECT: A study of the imagistic gesture as determinant for experiencing images in the contemporary world**

Imagination is a form of capture and recreate reality that stimulates thoughts in order to enhance the capacity of creation from where a “new” image emerges, the unexpected, in accordance with Vilém Flusser’s study. Presently, studying the mystery of creation is extremely important in view of the high superficiality of the society. The omnipresence of repetitive technical images is a threat to the construction of a visually reinvigorated world, a vital scenario for human dignity itself. Thus, the study of imagination opens a door to a necessary unknown, in which reactivating the potential of the psychic productivity inherent to all creators is vital to the renewal of images on the contemporary scene. Faced with all this profusion, we must ask how the production of contemporary visuality stands in relation to the construction of meaningful experiences.

### **IMAGE AND EXPERIENCE**

The research by Nathan Shedroff<sup>1</sup> on what characterizes an experience as memorable, and in what manner those who work with images may try to reproduce this impact suggests that what is most important is the repercussion of the images in the minds of those who experience them. According to this author, it is essential that the audience to which the experiences are addressed is able to remember and to highlight them among the enormous series already stored during their existence. When magnetism indeed occurs between experience and audience, some psychic events perpetuate the experience. For example, following new directions, repeating or retelling the experience or passing it along in a transforming attitude are expected movements that rise from such encounters with a real magnetism.

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<sup>1</sup> Shedroff, 2009

This issue may also be understood through the work of Ron Burnett (2004), who acknowledges that society remains dependent on images and worlds made possible by them<sup>2</sup>. In his point of view, the act of glancing to those images is not a passive attitude. The complete experience reflects a state of real interaction between audience and image. Burnett believes that humans establish a symbiotic relationship with images, a real dependence. The symbiosis of men in relation to images can be better understood through a list presented by Burnett, in which contains several possible analogies for the image. He analyzes the performances that might be assumed by them, such as for instance windows, mirrors, entertainment, information, truths, lies and dreams, among others.

Shedroff sheds light on the power of the complete set represented by experiences. For instance, a page on the internet does not compete for public preference against another page similar to itself only. Actually, when one searches the value of the experience above all, virtuality competes against any other visual experience. In conclusion, the most important thing is not the media itself. It would be risky to rely on the power of brightness of a screen in order to be able to establish a profound communication with a certain audience. Internet pages with no capacity of creating an intersubjective relationship with the audience can lose ground to a rich interactive exhibition, for example. People choose experiences that inform, regardless of the class they belong to.

Here we can compose with the concept of “seduction”, presented by Shedroff, not as a harmful enterprise<sup>3</sup>, but as a stimulating element of the construction of significant experiences for the human being. The word “seduction” may be misunderstood, if confused with the sense of masking something in order to deceive and persuade. However, for Shedroff, when drawing seduction to format this quality of experience, the creator of images would contribute for an enrichment of the greatest experience of all: life itself. Shedroff suggests that, when

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<sup>2</sup> Burnett, 2004:41

<sup>3</sup> Shedroff, 2009:8

identifying what makes experiences meaningful, we may, as image producers, try to reproduce them.

To do so, Shedroff suggests some guidelines. First, the commitment to elaborate experiences that are surprising, reaching beyond those already stored in the society. The challenge established is characterized by the dismantling of pre-established principles, by testing them, and bringing them closer to what is new. Then, the value of the novelty over reality would be the first positive point in order to establish a powerful connection with the one who sees them. However, it is necessary to expand the concept of seeing, to avoid a superficial analysis of the whole process. Flusser brings the concept of *scanning*<sup>4</sup> – a way of observing that, at the same time in which the image structure is followed, it is also oriented by the intimate impulses of the observer. Thus, images would offer an interpretative space to their observers. The concept of scanning leads to non-linearity, or the possibility of eternal return. In other words, the action of seeing does not follow a defined movement, it returns to the selected moments in a continuous transformation. Hence, we have the time of magic, as proposed by Bergson: the time lived is a time that, despite being multiple, may be perceived as being cohesive, raw material for imagination. It is different from linear time. According to the author:

“... There is no perception that is not impregnated with memories. To the immediate data present in our senses we mix thousands of details of our past experience.”<sup>5</sup>

The studies of Bergson can be interpreted based on some ideas of Freud and Benjamin, in order to better understand the concept of living memory. By understanding that the memory can also be constructed as a being of sensation, as proposed by Deleuze, it could exist independently of being accessed by the person who experienced them in a first place. In addition, Rivera<sup>6</sup> proposes the interpretation of memory as a gesture, through which the

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<sup>4</sup> Flusser, 1985:7

<sup>5</sup> Bergson, *op.cit.*: 30 – For the author, in “Matter and Memory”, memories perform a displacement of the objective perception of objects.

<sup>6</sup> Rivera, 2013:197

person merely shows up, in a place where time is blurred. Beyond the mere conception of memory as a simple file, it is perceived here as a living, lightning force, on which low control can be done. Imagination and desire are together, reconstructing the perception of the world.

If memory were a mere archive, it would be easy for the individuals to control their remembrances. However, as pointed by Benjamin, it is necessary to accept this human limitation, which insists on the denominating dimension of language, not incorporating its dimension of magic. A similar view is shared by Freud, who stated that memory is not just image, perception and word. Rather, it is composed of traits that often are not registered by the person. These interpretations basically focus on the act of reflection, a gesture that goes far beyond recovering the contents of the actual event. The result is the lived experience, a much wider and fertile place, especially when we use these ideas in the field of art.

Back to Shedroff, more important than the means by which experiences are developed, is their capacity to transform. For example, after an audience experiences a certain process, if it is possible to notice an engagement towards, the formation of a new opinion or the development of an attitude, then this can be considered a superior experience. Shedroff cites values such as intensity, duration and the completion as key elements in establishing such quality of experiences.

Since the whole process is important, Shedroff draws attention to the conclusion of the events. For him, it is important that the experience presents duration and completion. At the end of what has been experienced, the audience needs to consolidate a group of emotions. According to Deleuze:

"A monument does not commemorate, does not celebrate something that has already happened, but it transmits to the future the persistent sensations that embody the event."<sup>7</sup>

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<sup>7</sup> Deleuze & Guattari, 1997:229

Thus, after a significant experience of encounter with an image, the desire to experience something similar again would remain alive. Hence, if something is not materialized in the internal space of the observer by the time the experience is finished, the vacuum sensation leads one to feel that the entire process can be quickly forgotten. The conclusion of what has been experienced is the key to a positive archiving of the experience. To Bachelard, imagination never ceases to imagine. Therefore, the soul dreams, and then, imagines<sup>8</sup>. The seduction carried out by the image would occur to the extent that we identify ourselves with the artist's being, and dreams, thoughts and memories form one single tissue:

Indeed, this is a matter of determining, through the impact of a single poetic image, a true awakening of the poetic creation in the reader's soul (...). But the image has reached the depths before stirring emotions on the surface<sup>9</sup>

Here we can draw a bridge with Bergson's thinking which, in his work *Matter and Memory*, points out that images do not necessarily have a difference of nature, but are covered by an external perception that can be both superficial and conscious.

For Rivera, it is not possible to communicate the essence of an individual, although it could be passed along, as some kind of mission, as achieved by some works of art. This conception of memory as a gesture, somehow interposed the construction of our work, as we do not recognize ourselves as owners of a rigid memory, seeking its magic dimension and accepting the occurrence of a constant metamorphosis.

For Burnett, living in a world surrounded by images does not mean being suffocated by them<sup>10</sup>. The author believes that there is a process that involves casting an eye over the image, decoding it through the mind and transforming this set into action, a cycle that tends to repeat itself with the same steps in reverse order. Therefore, our experience with images somehow did not seek an specific goal. Rather, we worked through a

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<sup>8</sup> Bachelard, 2008:181

<sup>9</sup> Bachelard, 2008:7

<sup>10</sup> Burnett, 2004:42

randomic way, in wich some flashes of light sporadically appear. The result of this struggle with chaos is written next, our “Celebration of the Imperfect”. In “What is Philosophy”, Deleuze cites Lawrence and his description of poetical messages: tearing up the umbrella of conventions and opinions invented by men to protect themselves from chaos. What is this image that the artist who becomes capable of opening the slit searches to frame? To us, this is the true brave voyage, which saves us from imitation and opens the possibility of novelty. The new image is that which rises from the risk of remaining under an apparatus of protection that does not protect anymore, but still exists, not completely throwing us into chaos. Deleuze speaks of the eternal struggle of art with chaos, and of how only one instant is necessary to at last erect the block of sensations that exists by itself. This monument does not depend on the creator, and much less on the one who experiences it. By the self-position of the created, this being of sensation stands by itself, for as long as the materials of which it is composed last. Never celebrating a nostalgic past that no longer exists, but rather wishing to project to the future the whole set of sensations that inhabit the poetic happening.

### **CELEBRATION OF THE IMPERFECT: THE PRODUCTION OF IMAGES**

In this study, we worked with images without a purpose, abandoning the metaphor in order to dive into the impulse of poetic imagination (Figures 1 and 2). This approach was based on the idea of Bachelard that one should not study the phenomenon of imagination as merely metaphorical, for if it were so, it would lose its main feature, the impulse of freedom. The metaphor “is at best, a fabricated image, with no profound, true or real roots.” It is an ephemeral expression or that should be ephemeral, employed in transition. One must be careful not to think of it too much. We must fear that those who read it really think about it. On the other hand:

.(...) Unlike the metaphor, we can give our very selves as readers to an image; it is a donator of beings. The image, pure work of absolute imagination, is a phenomenon of the being.<sup>11</sup>

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<sup>11</sup> Bachelard 2008:88

For Bachelard, a metaphoric image is almost lazy, in the sense that it only captures the surface of the being: “it is dangerous to transform it into thought” for “the metaphor is a false image.”<sup>12</sup> Considering this analysis, our visual experiences seek to follow this non-metaphorical approach.

The project of images presented here was developed aiming at clarifying the place of the imaginal that was researched. Our main question as artist-researchers was this human pursuit for a possible completeness. We somehow inhabit in this anguish of an eternal search for the golden castle where we shall lack nothing. From this place we imagine ourselves several times. Through effort or magic, one would finally reach an organized and potent dimension of existence. It does not concern us to assert this feeling here, not as a personal feeling nor as inherent to the human condition. It delights us just to imagine it. And, even more, to try to dress it up with images.

We share Flusser's view presented in the chapter *Imagining* of his work “The Universe of Technical Images”, “to always imagine more densely, in order to escape the abyss of nothingness.”<sup>13</sup> For Flusser, the key is to make the technical images denser, avoiding the fascination and idolatry that may rise from the simple enchantment that it emanates. In this effort to admit the existence of the veil of superficiality, not in the sense of tearing it up, but weaving it, one may draw a parallel with the attempt to recreate reality taken from our photographic gesture.

We also acknowledge, following the reasoning of Deleuze, that creation, despite always being a struggle against chaos, turns into a composition made up of fragments of its own chaotic origin. However, in order to build the Being of Sensation, the work must be capable of restoring the infinite<sup>14</sup> The need to preserve, contemplate and extract, as studied by the philosopher, is what we seek from the beginning of our experience with composing images. Aware of that demand, we

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<sup>12</sup> Bachelard 2008:89

<sup>13</sup> Bachelard 2008:44

<sup>14</sup> Deleuze & Guattari, 1997:260



understand the risk of falling back on clichés that have nothing to add visually, with no power to actually create new sensations.

Through a series of photographs that initially sought to replace the Children's Toy in adverse situations, we were driven to pretexts of images far from the initial ones. Why return to the universe of children, and why insist on desecrating it? The interest in this symbolic location can be supported by Bachelard, in his text about "Reveries Toward Childhood."<sup>15</sup> In an excerpt of the poem by Jean Rousselot's, we read: "And I lived without knowing that I was living my fable."<sup>16</sup> For him, it is within the fable of own creation that resides the dreamy child, not in the hardened fables that are told to him/her. In addition, this has no relation whatsoever with memories, which also is not our research interest. More precisely, we seek the vivid imagination, that which operates to beautify and then restore the ability to rebuild<sup>17</sup>. One does not reach this beauty through the rescue of simple memory. Only reverie retains the power to evoke scenes from the past, overlaying it with the élan of sensation. For Bachelard, it is within the reverie that resides the possibility of aesthetic composition, to the extent that with such access, as reality is surrounded by a distinguished light. Likewise, Deleuze perceives the ability of art to capture a piece of chaos in a frame<sup>18</sup>, thus activating the artistic place: to preserve and contemplate, then extracting the monument of sensations.

But why embark on the Celebration of the Imperfect? Why not build an apology to any other imaginal place? It seems exciting to examine the Limits of Life in a moment when offerings to the Unlimited Belonging appear to overflow. Unlimited range? Of people, things, feelings. As if, somehow, we were all in a move that would lead us to the perfect. One could magnify, extend, enlarge up to the limit this search for an essence of life, until they tear what is solid. It is the opposite movement to construction: in the anxiously frantic search, the tissue that would fabricate the

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<sup>15</sup> Bachelard, 2009:93

<sup>16</sup> Bachelard, 2009:113

<sup>17</sup> Bachelard, 2009:110

<sup>18</sup> Deleuze & Guattari, 1997:264

perfect mantle simply crumbles. It tears itself to show the body, which was always naked.

But, diving into this group of feelings, some kind of struggle gets loosed, a fight, actually. After all, there will be never such encounter with what we are calling here as “The Perfect”. Although, somehow, remains alive the desire to establish at least a dialogue, with this sovereign entity. The real power would belong to it, not to us. Our being sees itself destituted of inhabits “The place that lacks nothing”. It is merely a dream. There is no such a kingdom. Our try here, with the production of images, is only to establish a dialogue, rather than a solution to the conflict.

But what about the explosion of life itself, that insists on remaining? Now a new poetic unfolding emerges, this time sweeter. It is related to the Power to Act as a regulator of Happiness. The possible happiness, one that restricts and embraces the limits. This could be a reason for the word “celebration”. After travelling through the bridge of stones that crosses the torrential river of the Imperfect, one notices the Possible. It is our place of imagery, even though possibly transitory: The Celebration of the Imperfect.



**figure 1** Group of photographs arranged together, some with drawings and digital manipulation. This image is a smaller version of the original pannel: 3.7 x 4m.



**figure 2** This image also integrates our project, although it is to be placed separated from the pannel. In our view, it brings a consolidated speech over our theme. Original size: 1,5 x 1 m.

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# DESIGN AS A CULTURAL VENUE FOR INTERDISCIPLINARY COLLABORATION

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## ABSTRACT

Sense Making has become the strategic fuel for meaningful Change Making in organizations today.<sup>1</sup> When designers enter into and facilitate large interdisciplinary teams it changes the role of the designer from being characterised by aesthetic professionalism to thinking strategically and facilitating processes in a methodical and systematic manner. The user centred framing of designers, their imaginative capabilities and their expressive skills enable them to span complex boundaries within and across multidisciplinary teams.

The aim of the present paper is to outline that designer's methods and visual skills can be the link between mental models and languages that occur in interdisciplinary teams. The designer's methods such as visualization and prototyping as well as their Sensemaking methods<sup>2</sup> can strengthen a team's chance to imagine future scenarios and their implications. It provides a common ground for discussing and reflecting on choices made. The article describes two different cases in which the visual methods of designers made Sensemaking possible in the organisation.

The methods used are elements within the design process: visual sensemaking, user observations, interviews, sketching, idea generation, conceptualizing, prototyping, visual representation and evaluation.

## KEYWORDS

Visual Sense making. Design. Interdisciplinary teams. Design methods. Intuitive strategies

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<sup>1</sup> Van Patter, GK, (2009) Design 1.0, 2.0, 3.0, 4.0, The Rise of Visual SenseMaking. NextD Journal, ReReThinking Design

<sup>2</sup> Weick, K. E. (1995). Sensemaking in organizations., Thousand Oaks, CA: Sage. Karl Weick, suggests that the term means simply "the making of sense" (Weick, 1995, p. 4).

## "HE WHO HOLDS THE PENCIL HOLDS THE POWER"

This is a quote by a renowned Danish architect made during a lecture, which he gave in 2005 at a Danish school of architecture, pertaining to a situation in which an outline proposal had to be negotiated between the architect and the developer<sup>3</sup>. The meaning of the architect's claim was that he who is in a position to visualize non-existing solutions - in this case the architect – has an advantage compared with someone who has no tools for doing so.

Perhaps he is right. In any case it seems quite clear that today design processes in teams are not carried out according to recipes by means of linear processes, but as in other social situations, as *negotiations* between different parties<sup>4</sup>, and across professional boundaries. Design processes are carried out as power struggles involving hierarchies, rules and intuitive strategies<sup>5</sup>.

The way the team is made up consequently influences the interaction that occurs; the social hierarchies which are created, broken down and re-created; the premises on which work is based; the ideas that are chosen; and, in the end, it also influences the final product<sup>6</sup>.

The complexity of tasks in a post-modern society would seem to include an ever-increasing number of professional groups and competences that have to work together on solving problems. Today it is also no longer exclusively disciplines, which are traditionally understood as being creative<sup>7</sup> that work with creative processes. Industry and commerce, including pharmaceutical companies, banking and law firms, has focused their attention on creative thinking and to a greater extent attempt to implement, in different ways, creative thinking in product development, problem solving and in developing, changing and managing their enterprises.

In such situations, where people who are not used to generate ideas are forced to cooperate through creative processes - often in multidisciplinary contexts - the design discipline appears to be one discipline, which can offer methods, tools and facilitation for implementing large and complex tasks<sup>8</sup>.

Designers possess professional competencies in the facilitation of creative processes in the form of methods and tools; but they also have experience in navigating the unknown and seem to be socialized into a particular type of behavior that seems appropriate for being creative in a power struggle involving hierarchies, rules and intuitive strategies.

It would seem that designers are socialized into an understanding of the fragility of creativity - albeit more or less unconsciously. Into an understanding of how little it takes to destroy a good, creative environment. Designers seem to have learned to navigate situations where phenomena continually change and in which what previously had one meaning, suddenly has a different meaning; and also to a certain extent to feel confident in such a world. This seems to be part of the internalized, methodical properties of designers. To think divergently and draw inspiration from anything that might contribute to thinking divergently and to creating ideas, and thus be open to the ideas of others, seems to be a part of design culture<sup>9</sup>.

Almost any problem with a certain complexity requires involvement from more than one professional discipline to be solved. But when professionals from different fields of expertise meet in a problem solving process, there is always a tendency for the process to become a struggle for “power” or social capital<sup>3</sup> instead of problem solving. Design, defined as an approach to problem solving<sup>4</sup>, has no subject matter<sup>5</sup> and is therefore beyond the struggle for power of the disciplines. The designer is therefore free to investigate any complex problem, open mindedly and without prejudice, and look for the real problem instead of jumping to conclusions. As the design process has evolved into Design 3.0 and Design 4.0<sup>6</sup>, Sensemaking<sup>7</sup> has become a very central part of the design process. The process of creating shared awareness and understanding across different

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<sup>3</sup> Pierre Bourdieu (1986): *The Forms of Capital in Handbook of Theory and Research for the Sociology of Education*, London, Greenwood Press

<sup>4</sup> Simon, Herbert (1969). *The Sciences of the Artificial*. Cambridge: MIT Press.)

<sup>5</sup> Buchanan, Richard: *Wicked problems in Design Thinking; Design Issues: Vol. VIII, Number 2 Spring 1992.*

<sup>6</sup> G van Patter, Humantific

<sup>7</sup> In organization studies, the concept of sensemaking was first used to focus attention on the largely cognitive activity of framing experienced situations as meaningful. (Weick K. 1988, -93,-98, -05)



individuals' perspectives has become an important point in the design process.

Problem-solving design skills<sup>8</sup> can be taught, not just in design education. But in design education, design skills are taught over an extensive period of time of 3 to 5 years. This gives the designer not only knowledge of problem-solving, but also of the “designerly” way of thinking that defines the culture of design. If non-design-educated people are introduced to design tools and methods, it doesn't make them designers. They will still be professionally grounded in the field of experience from where they originate. It may however give them an understanding of the importance of openness and curiosity. But most of all, design tools can provide a common ground for collaboration across professional cultures. By providing a neutral (not biased by a special interest in any particular professional field) and visually oriented platform for collaboration, design becomes a mediator that keeps the process focused on the task at hand, thus preventing the process from being consumed by political and ideological power struggles.

Most organizations are divided into different departments with different tasks and functions. Each department develops a certain degree of specialization. When a group of professionals from the same field are working together, they naturally form a culture or a language that has a tendency to exclude other professionals from different professions. This creates vertical departments, which become a barrier for horizontal, cross-disciplinary collaboration and problem solving.

## **CASE 1: TULIP FOOD COMPANY**

Tulip Food Company started two case studies in the spring of 2010. Their aim was to sharpen the organisation's focus on the need for easier opening packaging. Tulip Food Company, wanted to improve the user-friendliness of their products. The motivation for initiating the development process was the massive demand from consumers and various interest groups for easy packaging - especially from the elderly and people with

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<sup>8</sup> Simon, Herbert (1969). *The Sciences of the Artificial*. Cambridge: MIT Press

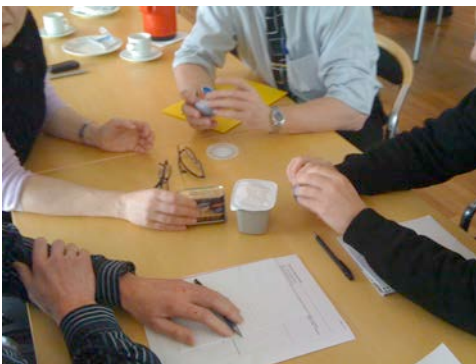




arthritis. Design researchers from the research project “User-friendly Packaging”<sup>9</sup> were a part of the development process in the company. The first step towards better packaging was to establish a consensus in the organization regarding the need for easier opening packaging. This process was started with a workshop with participation from all departments of the company in knowledge-sharing and practical activities.

## RESEARCH

Before the workshop took place, design researchers conducted video ethnographic studies with people where Tulip’s packaging was investigated and compared with similar package types. Bannon (1991)<sup>10</sup> points out that there is a need to see people as actors in situations, to seek new ways of understanding the relationship between people and products. In this research project we looked at the human factors such as strength and power needed to open the packaging. Additionally, we looked at users as actors, studied how and why they open the packaging as they do, in order to understand the context of the meaning that the users ascribe to the product or service and to focus on possible gaps between what is said and what is done. The design researchers used participant observations, semi-structured interviews and context observations (site tours) to study how various user groups perceive various types of packaging.<sup>11</sup> The ethnographic field research was presented to the interdisciplinary group to enable them to understand the everyday activities and values of the people who use and buy Tulip Food Company’s products



## SENSEMAKING

By way of starting the workshop the design researchers presented the participants with a practical assignment. The aim

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<sup>9</sup> The research project “User-friendly Packaging” is based on how understanding consumer behaviour, perception and physical forces can be used to improve packaging. [www.userfriendlypackaging.com](http://www.userfriendlypackaging.com)

<sup>10</sup> Bannon, L (1991) “From Human Factors to Human Actors” in Greenbaum, J. & Kyng, Design at work. Co-operative Design of Computer Systems. Hillsdale: Lawrence Erlbaum Associates, pp. 25-44.

<sup>11</sup> Guest, G et al (2013), Collecting Qualitative Data, A Field Manual for Applied Research, SAGE Publications, Inc

was to understand user groups by simulating reduced visual capability, manual dexterity and use of force.<sup>12</sup> The exercise helps to improve empathy with those who have reduced dexterity, and to understand how dexterity loss can affect the ability to interact with a product.

## IDEATION AND DESIGN

Normally the Tulip development team communicate verbally, but for this stage we used visual and physical representations. These methods were combined with design competences, such as sketching, visualization, scenarios and prototyping, in order to share knowledge and understand the user's needs. Low-fidelity prototyping served as a concept proposed for constructive review and feedback for iterative changes. Since the design process is strongly influenced by feedback and dialogue, the communicative function of sketches is also of great importance in daily design practice.<sup>13</sup>

## CONCLUSION

One activity in particular, video observation, was very effective in establishing an understanding of the situation of disabled users. It is possible to transform ethnographic observations into insights for design that can be directly applied. Although team members were not evenly skilled at generating visual representations and at communicating through visual representations, visualisation and prototyping techniques had a significant impact in the process of understanding vast amounts of information, and in

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<sup>12</sup>

1. Glasses with the wrong strength (decreased vision). The exercise demonstrates that vision is not always perfect.
2. Tape on the hand and fingers (decreased movement) the exercise simulates how users with arthritis, Parkinson's disease or multiple sclerosis not only find it hard to freely move their hands but that the use of force can be painful to them.
3. Skin cream applied to fingers (decreased strength). This attempts to simulate how users with reduced strength in their fingers have difficulty gripping various packages.

<sup>13</sup> Schütze, M., Sachse, P., Römer, (2003) A. Support Value of Sketching in the Design Process. *Research in Engineering Design*, 14, 89-97.

making decisions on which factors it would be relevant to focus further on. Visual representations and specific proposals in concept form can make data more comprehensible, and may thereby inform further discussions in the organization about the possibilities for change.

Being truly interdisciplinary is rarely easy, as it is all about fuzzy boundaries and being in between established categories<sup>14</sup>. Being able to create multidisciplinary groups that are able to work together results in different points of view, which help you obtain different solutions. We found that when everybody in the team is active and open during the process and use designer skills such as prototyping and visualization, it enhances innovation and a common understanding of a problem in the organization

## CASE 2: TAP TRAINING



The TAP training project was aimed at giving the Technical and Administrative Personnel at the Aarhus School of Architecture a shared understanding of the organization as such, and a common ground for collaboration. The TAP group is a very versatile group. The different skills and jobs of the 25 employees were distributed between a variety of functions: accountants, IT personnel, secretaries, librarians, student counselors and workshop personnel.

To establish a common ground for the project, a “project-group” was formed, with representatives from almost all of the different fields of work. This group was given the first challenge, to find a common ground for the project, which could motivate every individual in this versatile group. It had to be something on a more general and maybe abstract level, not too specific. The uniting purpose which was chosen was: “To help educate the best possible new architects and designers”, despite the fact that many from the TAP group had nothing to do directly with the students. All agreed that the purpose of the school was to educate architects and designers.

The overall goals for the project were manifold. It should be a

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<sup>14</sup> Nissani, M (1997) “Ten Cheers for Interdisciplinary: The case for Interdisciplinary Knowledge and Research”. *Social Science Journal*, 34, 201-216



learning process and it should provide the group with:

- Common goals
- Better knowledge of the organization
- New tools for collaborating on problem solving processes
- A forum for communicating
- Motivation for development

A strong and versatile platform was needed to facilitate the change needed in the group, and to fulfill the defined goals.

### **SERVICE DESIGN AS A PLATFORM**

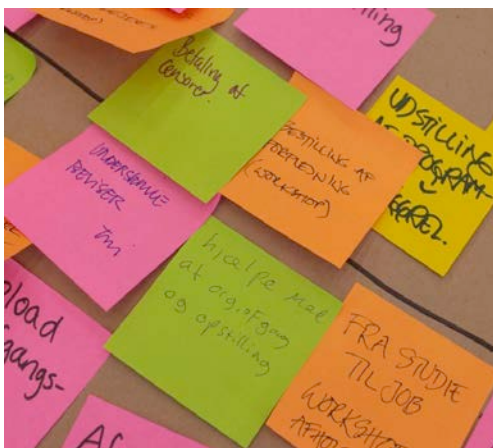
In many ways an educational institution like the Aarhus School of Architecture can be compared to a service organization.

Therefore it was decided that Service Design would be the most appropriate theoretical and operational platform for this process.

This was also in line with the TAP group's own understanding of their common purpose: to service the students of the school.

*"Service design is about arranging things so that people who need things to be done, are connected to other people and equipment that get things done on an as- and when- needed basis."*<sup>15</sup>

John Thackara, 2006



To encompass all the intentions and goals, the process was planned as a simplified, but realistic problem solving design process. The design process has been defined in numerous ways, but a widely accepted description is, that the problem-solving design process can be divided into the following phases: *define, research, ideate, prototype, choose, implement and learn.*<sup>16</sup> On this platform, a very basic process with very basic tools was planned. The subject of the problem-solving process was. "How can the TAP group help improve the experience of students in two essential situations on the school: 1) when they arrive at the school for the very first time and 2) when they are in the process of doing their final Master's Project, right before they

<sup>15</sup> Thackara, J (2006), *In the Bubble: Designing in a Complex World*, The MIT Press

<sup>16</sup> Simon, Herbert (1969). *The Sciences of the Artificial*. Cambridge: MIT Press.)

leave the school.” These two situations contained a very realistic set of problem and most of the group had activities that related to exactly these two specific situations.

## RESEARCH

At the heart of service design is the understanding of the needs and aspirations of the people you service. Therefore interview techniques were introduced at the very start. In the first exercise they interviewed each other. This had two purposes, to practice their techniques and to learn more about each other. This proved to be a very powerful tool for uniting the group. It also broke down some of the barriers that everyday work tends to create that prevent people from talking together. But most of all it prepared the TAP group for doing user interviews with students later in the process.



## SENSEMAKING

To further understand the context in which they operated, they made a “job-mapping”, a mapping of the task everyone performed in the above-described process. This was done to make them go through a sensemaking process on the complexity of the system and make them understand how they, as individuals, interacted with the system. Another tool for Sensemaking used for understanding the complex situation was the Experience Map<sup>17</sup>. An Experience Map can be described as an advanced Customer Journey with a focus on *thinking*, *feeling* and *experiencing* the journey, not only *doing* the actual Touch Points.

## IDEATION AND DESIGN

After having made the visual maps in the previous process and after the interviews with users, the group's were ready to identify relevant problems to work with. Brainstorming techniques were introduced and used later in the early stages of the design process when good solutions were to be found. The groups were also introduced to visual tools like storyboard and sketching techniques for illustrating ideas and concepts.

<sup>17</sup> <http://www.adaptivepath.com/ideas/the-anatomy-of-an-experience-map/>





## CONCLUSION

It was easy to see how communication and understanding between the different members of the groups improved during the process. There was a general openness from everyone to use their own skills and competences in the process and a fundamental respect for other fields of expertise.

This came from the fact that the different professionals were not deprived their professional culture or status, but the design process became a uniting language, through which they could combine the different skills and functions for finding a common solution to the given problem. Also the fact that the design-driven Sensemaking process resulted in a common understanding of the organization was a uniting factor that gave energy and openness to the project.

## OVERALL CONCLUSION

The methods of designers, such as visualization and prototyping, as well as their Sensemaking methods can improve a team's chances of imagining future scenarios and their implications. It provides a common ground for discussing and reflecting on choices made.

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## AN ALTERNATIVE DESIGN STRATEGY TO REDUCE THE ENVIRONMENTAL IMPACT OF PRODUCTS: The durability of Design Classics as a stimulus for creation

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### ABSTRACT

In this paper we describe the on-going research work that aims the construction of an alternative design strategy to increase product life and reduce environmental impacts of planned obsolescence causes. Based on knowledge and environmental consequences from excessive consumption and disposal of products, including waste production and use of resources, our research is focused on mechanisms that enable the reduction of consumption and waste prevention. The durability of some products designated as Design Classics was the trigger and motivation for the research. Based on literature definitions of Design Classics, we defined the universe of products that fall within this category. Through the analysis of samples of these products we obtained a standard model which will allow to define a strategy to design products with greater durability than other competing products. The results of the practical applicability of the strategy should end in the production of artifacts by the national industry.

### KEYWORDS

Product design. Environmental impacts. Design strategies.  
Product durability; Design classics

## INTRODUCTION

This paper presents a synthesis of the research work developed within the Doctoral Program in Design at the University of Aveiro and contains the description of the investigative path that began with the delimitation of the field research, the setting of goals and questions of the research, the theoretical framework, the inclusion criteria that characterize the universe of products on which we need to produce knowledge, the design model based on the sample of products to assess, and the previous design matrix.

## MOTIVATIONS AND RESEARCH

Environmental impacts, aggravated in the last decades by wild consumption and industrial production have caused damage, some irreversible, for the planet and its population. Solutions are needed and design can play an important role in defining more sustainable products that allow us to live consciously better, consuming less and regenerating our physical and social environment based on ethical principles.

We investigated issues and reasons that lead to obsolescence of products and developed comprehension about exceptional products (timeless design) in the industrial design field based on the durability of Classics, Icons and Cult objects. The search for a definition for each of these types of products was satisfied through literature review and it was possible to identify the inclusion criteria that characterizes and defines the boundaries of the universe of these elements that are needed for the present investigation: the Design Classics. These products that still remain in production for several generations represent the universe of products that we need to generate knowledge, in particular, the attributes that contribute for their life extension. Due to large number of products that belong to that universe and its dispersion, it was necessary to select a relatively small set of representative product units (sample) that were deeply studied and results obtained that were then generalized to the entire target population with a certain margin of error. Through document analysis it was possible to study this sample and characterize the objects and authors.

Concerning practical results, the model was conceived and constructed for Product Design with low environmental impact and based on the consideration that long-lasting products will be better for the environment<sup>1</sup>. Increased durability and consequent extension of useful life could contribute for the diminishing of all types of impacts caused by premature elimination (waste production) and new designs (consumption of raw material and energy).

## LITERATURE REVIEW

From the point the environmental sustainability point of view, high volume of waste caused by the elimination of products is increasingly undesirable. The reasons for product elimination are several: properties degradation or structural fatigue caused by intensive use; chemical or natural degradation; damage caused by accidents and improper use; technological obsolescence of products that incorporate mechanical or electronic devices that are frequently updated, and cultural and aesthetic obsolescence for fashion products (Kazazian, 2005; Lewis & Gertsakis, 2001). Programmed or planned obsolescence implies the design of products or components for shorter useful life span through the manipulation of durability characteristics (Fiell & Fiell, 2000). “Relative obsolescence”, including disposal of products that still work adequately by alienation time and “absolute obsolescence”, concerning the disposal of products due to damage are designations also used to characterize the processes through which products are transformed into waste (Cooper, 2004). Waste has three major destinations: recycling, landfill or incineration.

The knowledge of environmental consequences arising from excessive consumption has given attention and solutions are set out in the “European Waste Hierarchy” expressed in the Directive 2008/98/EC on waste (European Parliament and Council. 2008) which defines actions related to this subject by 5 steps:

### *1. Waste prevention*

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<sup>1</sup>Premature replacement of products is desirable if new more energy efficient alternative, less resource consuming arise.

*2. Reuse and preparation for reuse*

*3. Recycling*

*4. Recovery (including energetic valorization)/ incineration*

*5. Disposal (safe storage/landfill)*

Having present the consequent systemic action that the implementation of each of these principles can induce on the subsequent ones, where the plurality of project solutions are implicit, the present research intends to focus on results of the first level of "Waste Prevention", defined as a set of measures to avoid substance, material or product becoming waste (European Parliament and Council. 2008). These measures can be translated to durability of products. In this sense, and in the scope of this research, extending products' useful life as a factor for encouraging reduced consumption defines more precisely the subject to be studied.

According to literature review, different design strategies have been proposed to reduce products' environmental impacts. These strategies emerge with effects in different phases of the whole product life-cycle, from extraction and processing of raw materials until its elimination. Among the designations of the so-called Ecodesign strategies described in the bibliography (Fuad-Luke, 2004; Hemel, 1998; Lewis & Gertsakis, 2001; Lindbeck & Wygant, 1995; Manzini & Vezzoli, 2002; Tischner, 2001; Yeang & Woo, 2010), "extending products' useful life" or equivalent "design for longevity" is one of those approaching objectively the subject of durability and which is developed at the stage of product use. The aim of this strategy is to extend the product's useful life, its technical and aesthetic qualities, i.e. the time product functions correctly and the time the user finds the product attractive. This makes that objects will be used for a longer period of time, postponing the need for replacement. We are aware, however, that a shorter life is preferable if new, more energy-efficient and less resource-consuming alternatives appear.

To optimize products' useful life, two paths are generally adopted: increasing product durability or intensification of use. The design concepts associated with these types of paths are

various and range from multi-functionality and modularity to personalization, adaptability, easy repair and maintenance or the possibility of re-use. However, it is in understanding the alternative strategy of “aiming to reach classic design” (Hemel, 1998), “considering classic design” (Lewis & Gertsakis, 2001) or seeking greater product longevity through “timeless design” (Tischner, 2001) that our research is focused.

## **HYPOTHESIS OF THE RESEARCH**

Since strategy of “considering a classic design” in product development is less developed, research has focused on the goal of considering a strategy to increase the durability of the products and reduce the need to replace them prematurely. To understand what the origin of the design classic was and their possession by consumers, the following hypotheses were elaborated:

*The status of Design Classic reached by some products depends more on a combination of aesthetic, functional and material factors than on technological factors*

*The detailed study of Design Classics can be synthesized in a set of product attributes usable in the design process of new products*

*A design strategy based on characteristics of Design Classics can produce products with the potential for longer useful life than competing products*

## **UNIVERSE OF PRODUCTS AND SAMPLE**

A large variety of consumer products with a relatively long useful life, reputation or importance in the field of industrial design are portrayed in exhibition catalogues, monographs and a variety of work joining a wide range of objects. The responsibility for selecting this set of objects for collections, publications or exhibitions is due to the acclaim of academics, critics, historians, curators, journalists, designers and architects, who consider them exceptional (Julier, 1993; Phaidon Press, 2006; Pile, 1994).

In the literature review, we find various designations incorporating in their concept a range of products considered exceptions: icons of Design (Albus, Kras & Woodham, 2004; Parra, 2009), Cult Objects (Sudjic, 1985), Marvels of Design (Antonelli, 2005), The Genius of Design (Sparke, 2009), Objects of Desire (Forty, 1986), Design of the Times (Bhaskaran, 2005) or Design Archetypes in the exhibition "This is Design" of Design Museum (2011). These titles include not only products that stand out through having a long useful life and still in production, but others which for different reasons belong to the history of product design: objects of devotion or veneration reflecting the style preferences of a certain group or sector of society; objects that go beyond their usefulness and reach greater recognition; objects that cause social changes; objects that brought their users more quality of life; or small objects we use every day without realizing how important they are in our daily life. The Design Classics (Clay, 2009; Gay, Camden Arts Centre & Arkwright Arts Trust, 1977; Julier, 1993, 2008; McDermott, 2002, 2007; Phaidon Press, 2006; Pile, 1994) can be defined as a mass-produced product of aesthetic value and lasting quality which stands out due to its timeless influence and lasting significance, and which is innovative in integrating new materials while remaining unchanged since its creation (Phaidon Press, 2006). Another approach goes further, stating that classics are objects which due to the qualities of their design remain practically unaltered and in production for more than 25 years (Parra, 2009). Other authors (Clay, 2009; Pile, 1994) also refer to timeless quality. Transcending the changes in taste and fashion gives these products a lasting quality (Julier, 1993; McDermott, 2007). Fascination with the long and useful life of some objects was also in the origin of the collection of monographs devoted to Design Classics edited by Volker Fischer and published by Forum Verlag in 1999. Various authors (Botsch, 1999; Höger, 1997; Irrek, 1998; Klemp, 1997; Mende, 1999) describe products which, according to the editor, established standards of form, function and brand communication. Older references to the classics appear in two exhibitions in London, United Kingdom, "Classics of Modern Design" (1977) and "Classics" (Heal & Ltd, 1981), events that reflected the desire for a standard of models formally approved and historically irreproachable (Jervis, 1984).

Collections in design museums such as MOMA in New York or the Museum of Design in London, for example, display various classic products. The Museum of Modern Art in New York has been most influential in establishing what is a Classic (Jervis, 1984; Julier, 1997).

The knowledge based on literature review about the exception products in the field of industrial design allowed us to define the inclusion criteria that characterize the universe of products (Design Classics) that we wanted to have knowledge, considering the main objective of the research. The first criteria falls in the year that we should consider for these products. Considering that "... industrial design is born from technological development, i.e., without the possibility to offer machines for mass produce, we could not speak of industrial products and design." (Torrent & Marín, 2009), we considered the beginning of the Industrial Revolution as the point from which we consider products of industrial design<sup>2</sup>.

A second criterion is the minimum lifetime for it to be considered as a durable product. At this point we consider the previous reference where the same product is used throughout generations. The Oxford Advanced Learner's dictionary defines the term generation as "the average time in which children grow up, become adults and have their own children (generally considered about 30 years). Thus, for a product manufactured in 2012 and to belong to the universe of products to be studied it should be in production currently (like Design Classic) and have been produced in the corresponding period of three consecutive generations or 90 years, 1923-1952; 1953-1982 and 1983-2012 like the example of Figure 1. The resumption of their production/editing solely from recent decades may be due to issues of fashion, which seems to be the case of reissue of some objects designed by the Swedish designer Greta Magnusson Grossman (1906-1999) by the Danish company Gubi (Suqi, 2011).

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<sup>2</sup> The year 1760 is generally accepted as the eve of the Industrial Revolution



**figure 1** paper binding clip, 1911 (patented by Louis E Baltzley, 1915)

The typology of products that most fits the purpose of this work is defined as being a consumer good, not disposable, mass-produced, non-technical/professional (due to their specificity we exclude capital goods, packaging, food, fashion items, jewellery and transport) and currently in production, with reference to present manufacturer(s), which is produced/marketed over a period of time corresponding to three consecutive generations, necessarily including the current (1982-2012), which retains its original design; published in reference literature, with creation date and author known and information about the course of production.

### **INSTRUMENT OF DATA COLLECTION**

Considering the proposed criteria we selected the sample of Design Classics (100 products) referenced in Phaidon Design Classics (Phaidon Press, 2006) and also described by several authors (McDermott, 1999; Antonelli, 2005; Polster, 2008; Morteo, 2009; Albus, Kras & Woodham, 2004). For this work we used the technique of Document Analysis where the written sources were the basis of the research work based on documents, contemporary or retrospective, and considered by the authors as scientifically authentic. The line of research followed, characterized by being located in a research documentation and historical accounts, using primary sources of broad spectrum, linked to objects located in the plane of the history of industrial design and more specifically the Design



Classics as defined above.

To facilitate data analysis, a tool was constructed to collect data that provided information about the set of objects under study. The instrument / table was divided into several columns (title, year of creation, country of origin, author's name, date of birth of the author, author's nationality, author's profession, components, materials, dimensions, function, colours, shapes, manufacturers, weight, price and the words that describe the product) for the characterization of the products selected for the sample of Design Classics. The set of criteria gathered was based on the Portuguese Standard NP 405 (1998) that specifies the elements of the references regarding objects: Three-dimensional artefact.

## ANALYSIS OF RESULTS

The first results revealed that Design Classics includes a vast number of home products and reinforces the idea that the classification frequently is associated with furniture (Julier, 1993). The appearance of the pioneers in the history of design is evident. The sample contains examples by Michael Thonet (1796-1871), Eileen Gray (1879-1976) Gerrit Rietveld (1888-1964), Marcel Breuer (1902-1981) Mies van der Rohe (1886-1969), Le Corbusier (1887-1965), Wilhelm Wagenfeld (1900-1990), Brandt (1893-1983), Alvar Aalto (1898-1976), Arne Jacobsen (1902-1971) and Charles Eames (1907-1978) and Ray Eames (1912-1988). Other types of products included, are mainly in the categories of cutlery, household iron products, kitchen utensils, ceramics and utility glassware, and lighting articles. At the time of their appearance, many of the products listed included innovative materials and manufacturing technologies. The form, function and relationship with users are characterized by the almost complete absence of decoration, simplicity, functionality, elegance, lightness, sophistication, hardness, balance, purity, ergonomics, comfortable, cheap, prize-winner, popular, flexible and minimalist. No product contains electronic components, only mechanical and few electric. Classics are made mostly of metal, wood, natural fibres, and glass. The colour range is summarized to natural metal colours (grey), black, natural wood colours (light and dark

brown), colourless (glass) and red. Most products have been created in the USA. In Europe, the products comes mainly from five countries: Germany, France, Denmark, England and Italy. Most authors are architects followed by designers, inventors, and artists from seven main nationalities, Germany (the majority), England, USA, Italy, Denmark, France and Finland. The average age of the authors by the time of creation is 37,8 years old.

More important for the research are the results of the identification of terms that qualify the sample of products. As a result of this qualitative data processing we elaborated an organized collection of 10 adjectives most frequently mentioned, having produced a hierarchy from the accounting of the number of times the adjective (or form which refers to that adjective) is quoted in the documents analysed about the products. The wide range of adjectives used in the literature to characterize the selected products (sample), those who emerge with greater force, i.e, with more number of entries is a set of adjectives that refer to themselves to characterize the classic product in the design field. Below we presente in descending order, the list of 10 adjectives most frequently mentioned.

*1st. Simple*

*2nd. Innovative (in its time of creation)*

*3rd. Elegant*

*4th. Ergonomic*

*5th. Functional*

*6th. Inexpensive (fair price)*

*7th. Stripped*

*8th. Cleared*

*9th. Robust*

*10th Resistant*

## CONCLUSIONS

The first results of the research presented in this paper are an effort to open the path for a more abundant comprehension about the concept of “durable product” stimulated by the prolongation of useful life of products referred as Design Classics, instead of trying to produce a definitive explanation.

The linear set of arguments intends to demonstrate that the field is fertilized not only by the consensus that exists between several authors on the recognition of the quality of these exceptional products, but also through the abundance of examples that even “old” they are still purchased by some consumers. In this scenario the focus is on building a strategy that can end up in the design of products that include durable characteristics of Design Classics and whose results we will have briefly. The evaluation of results and the verification and efficiency of the applied strategy will be made through the comparison with previously identified case studies, since only time can confirm if new products developed will have longer life span. The research will find fundamentals for the development of new products in combination of historical and contemporary examples spread in the field of industrial design as a means to find solutions that contribute for the building of a more sustainable future.

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SPRING CUMULUS CONFERENCE  
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## **“IN\_FORMAÇÕES”: An interdisciplinary visual experience**

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### **ABSTRACT**

This paper discusses the development of the installation *in\_formações* (in\_formation). This art work is part of the collective exhibition involving art and technology *Vampyroteuthis Poetik* (2013), a poetic reflection from the book *Vampyroteuthis Infernalis* by Vilém Flusser and Louis Bec. The text provides an analysis between the man and the vampire, a fictional being, in relation to art, culture and memory in the search of immortality. Flusser considers similarities and differences in the way they store information. As a result of these particular views on the matter, an experiment was designed to create a sensory experience: eggs made of plastic and resin were placed hanging from the ceiling in front of a mirror. Then images were projected on their surfaces to create a multisensory environment. Those images resulted from a research about recoding piano scores into new music visualizations, motivated by analyses about text, image and music mainly from Flusser, Wisnik, Gomide and Gumbrecht. According to Manovich, the investigation also combines conceptions of mapping, visualization and data art. Blending together those ideas, it was created a hybrid space between *Homo sapiens* and *Vampyroteuthis infernalis*, from which is possible to discuss contemporary issues involving art and design fields.

### **KEYWORDS**

Installation. Music scores. Data Art.

## INTRODUCTION

This paper aims to analyze the creation process and the general results of the installation *in\_formações*. Its theoretical framework was based on Vilém Flusser thoughts regarding the human desire of immortality, which makes the information storage a cultural strategy against death.

The methodology to develop the installation consisted of finding the philosophical conception and choosing materials to produce its environment. After that, it was designed a visual composition that could be used as a virtual projection on the whole art space. This visual composition was made of images resulted from the artist's master's degree research, which investigates text, image and music perception. Conforming to Vilém Flusser, Jose Wisnik, Hans Gumbrecht and Walter Gomide, the research proposes a new visualization for piano music scores.

Besides, the mapping used in the research can be explained and analyzed in comparison to “data art” according to Lev Manovich, in order to question the use of technology, often arbitrary.

After that, we also intends to discuss the installation results: the visual effects and the audience feedback.

Trough this experience, the paper searches to mix art and design fields from conceptions such as human issues, image epistemology, multiple dimensions, data visualization and the technology role in art works. Thus, we hope that *in\_formações* can contribute in terms of theory and practice for both fields.

## THE VAMPIROTEUTHIS POETIK EXHIBITION

The installation *in\_formações* is part of the *Vampyroteuthis Poetik* collective exhibition (GUIMARÃES, 2013), approved to participate of the *Scientiarum Historia* VI Congress, from 23rd to 25th of October of 2013, at the Federal University of Rio de Janeiro - UFRJ.

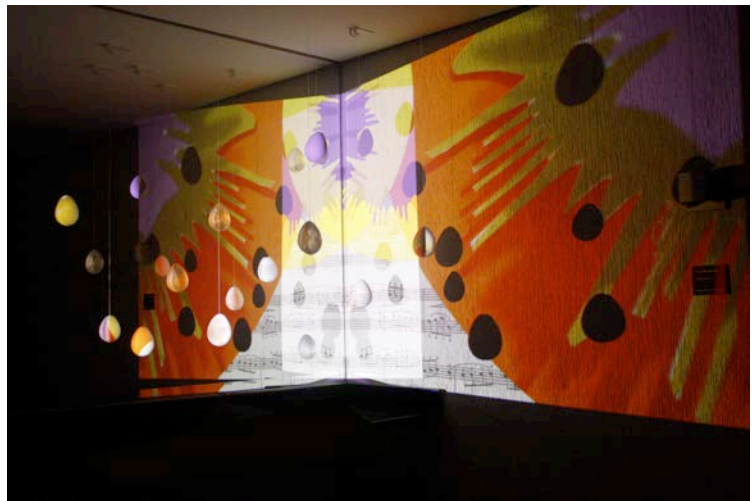
The exhibition was inspired by the book *Vampyroteuthis Infernalis*, written by Vilém Flusser in partnership with the biologist Louis Bec. It is a philosophical fable about a giant octopus that inhabits the depths of the Pacific and Indian oceans (FLUSSER & BEC, 2011).



Flusser analyses humans and *Vampyroteuthis*' standpoint on themes such as the production of art, culture and memory in the search for immortality. The author reflects and compares us to this abysmal being in order to respond to these intrinsic human issues.

The expo artists have chosen Flusser philosophical digressions to produce their own visual poetics. That way, the "Vampyroteuthis Poetik" arises, bringing together works of visual arts developed on the basis on Flusser's perspective on the species *Homo sapiens* and *Vampyroteuthis infernalis*.

The exhibition featured six works, mixing art and technology, including paintings, installations and a performance. However, we are going to discuss the work *in\_formações* (figure 1) designed and produced by the artist, Dandara Dantas, co-authored with the researcher, visual artist, designer, Celso Guimarães.



**figure 1** Record of the installation

## **“IN\_FORMAÇÕES”: AN INTERDISCIPLINARY INSTALLATION OF VISUAL ARTS**

The installation emerged from the discussion over the storage of information by mankind and *Vampyroteuthis*. According to Flusser (2011), both species are engaged in a fight to be never forgotten. However, to ensure their permanence in this world, these species make use of different mechanisms in relation to

the information they produce and store.

In this sense, there is the storage of genetic information and the storage of acquired information. Genetic information exists naturally, while acquired information is produced by culture itself. *Vampyroteuthis* argues that stored genetic information deserves to be the most reliable, because it is permanent and more resilient. On the other hand, mankind relies on self-produced information. Consequently, despite also possessing genetic information, man tends to devalue it and overrate the acquired one.

Thus, to perpetuate this more significant information, man prints it onto objects to pass it on to future generations. Therefore, man gets the feeling of eternalizing himself in the world.

However, the *vampyroteuthis* believes the most reliable data warehouse is the one that contains genetic information: the egg.

From this point of view, the only warehouse worthy of trust is the egg. The genetic information is *aere perennius*, it will not only survive in books, houses and pictures, as it will also survive to the specie itself (FLUSSER & BEC, 2011, p. 109).<sup>1</sup>

Therefore, in regard to production and storage of information, as an everlasting black box of knowledge, the object is to man as the egg is to *Vampyroteuthis*. Given this contrast, the installation presents itself as a visual analogy to the storages of information discussed by Flusser.

After testing different materials, the artist and researcher, by herself, produced small eggs from plaster and resin. The egg, while representing the natural warehouse of genetic information, by receiving projected images, also has the function of an “informed” and self-supplied object. It represents the production of memory onto objects, which gives man the sense of immortality.

Besides the resin and plaster eggs, there were the hybrids ones, made of equal parts of each material, in perfect halves. The eggs hung from the ceiling by an invisible nylon thread. When lit by the projected light beam, it looked like they were floating on air.

In the case of the resin egg, the projected light passed through the material surface and gathered within. It creates the optical illusion that light is emanated from the translucent object itself,

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<sup>1</sup> Translated by the authors.

which represents genetic information. The plaster egg, made from an opaque material, absorbed the light beam, so that the projection seemed to coat its surface, as a layer of digital painting on the object. So, the plastic eggs allowed images to be seen clearly, therefore illustrating the acquired information (figure 2).

Finally, as for the hybrid eggs, they produced both effects: on the resin part, the projection passed through the egg and the light seemed to come off from the object, while in the plaster part, the images seemed to be wrapped by the image. That is a symbolic union between the two data warehouses.

In the end, there were the eggs, their projected shadows on the wall and the whole composition reflecting on the mirror. So, the real objects could not be distinguished from the virtual images.



**figure 2** Eggs made from different materials

## **THE RESEARCH BEHIND THE PROJECTED IMAGES**

### **FROM LINES TO SURFACES: A THEORETICAL DISCUSSION**

Once assembled the installation, the images projected on the eggs alternated every fifteen seconds. Those visual compositions resulted from the artist's investigation of recoding music data into images. So, considering the research proposes a new mode of storing cultural (music) information, it can be related to the discussions raised in the installation. For this reason, the research was used as a visual and conceptual complement to this art work.

By transferring the linearly arranged information in piano scores to a two-dimensional representation, the research experiments a new way of visualizing music (DANTAS & GUIMARÃES, 2013). This research motivation was the fact that the score is typically considered a musical representation in the quality of an image. However, given that this notation provides accurate information for executing a given piece in an explanatory narrative format, the musical score can be treated as a text.

In this context, Vilém Flusser's (2007) thought about the differences between text and image greatly contributed to the deepening of this notion.

The author argues that the man, above all, reduced four spatiotemporal dimensions into just two. It could be considered the beginning of the images. Later, he reduced two-dimensionality into only one dimension, creating the text that converts images into linear explanations.

Consequently, in terms of the apprehension, text and image show some differences. Before a text, the reader needs to follow pre-determined directions and meanings through its lines to understand the whole message. On the other hand, in front of a painting, the viewer can perform a quick overview to understand it or gaze it in subjective directions.

That is, an image allows the eye view a synthetic apprehension and posterior analysis in a free and circular way, with reversible meaning relations. However, the apprehension of text occurs in a linear, focused, and objective manner (FLUSSER, 2007).

This contraposition reinforces that the scores have an objective and restrictive character. In fact, musical notation requires a previous knowledge of the code to be deciphered, it cannot be grasped in a synthetic visualization and it has a strictly informative character. So, as text is a "metacode for images" (FLUSSER, 1985), the score is intended to explain the music. Therefore, in the same way that texts do not contain the magical character of images, the score cannot contain the subjectivity of the musical experience.

That being said, the research idea was to break up the information contained in the musical text and recode it to substitute the semantic character of the text by the presence of imagery based on the thoughts of Hans Gumbrecht.

To the philosopher, the “meaning aspects” deal with the

semantics and the “presence aspects” refer to the materiality. Gumbrecht believes those are layers in permanent tension, but in some cases, which one is ascendant: Reading a text, the meaning is dominant, different from listening to music, when the presence is the most predominant aspect (GUMBRECHT, 2010). From the opposition between aspects of meaning of the text and presence of the music we can conclude that the score, a music text, is not a sensible music representation.

Furthermore, considering the experience of time that those abstractions can provide, it can be said that music is closer to image than to text.

Writing builds linear and objective cause-effect relations, and, because of that, an average reading time can be measured. As to images, the composition allows the “eternal return” of the gaze that creates a circular understanding. The time experience is, therefore, subjective and immeasurable, it depends on the viewer.

In the same vein, Wisnik says that music provokes a subjective experience of time, chronologically immeasurable. The musician states that the rhythm is not linear, but an oscillation of different times. It arises and absents like it was out of time, in a “virtual time, another kind of time” (WISNIK, 1989, p. 68).

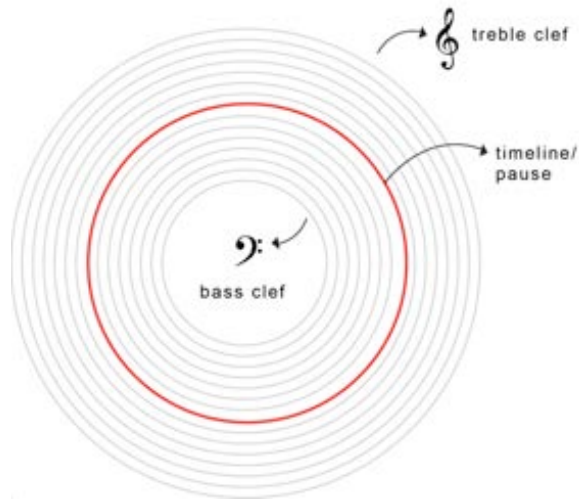
According to Walter Gomide (2013), music stimulates a particular experience of time. From Hegel and Santo Agostinho, Gomide thinks that music can provoke a peculiar sensation able to suspend the linear perception, and project the soul out of the present.

Thus, considering the difference between the (image) subjective time and the (text) chronologic time in relation to the music, image and music have a trait in common: both cause a circular, subjective and immeasurable experience of time. So, it was the fundamental idea the research used to graphically translate musical texts into images.

## **THE EXPERIMENT**

The research practical part was all built up in a metaphorical symbolism between music and image. The first central idea for building the experiment structure was the circular and subjective feeling of time, caused by the music and by the image.

The lines of the piano scores were then remodeled into a circle.



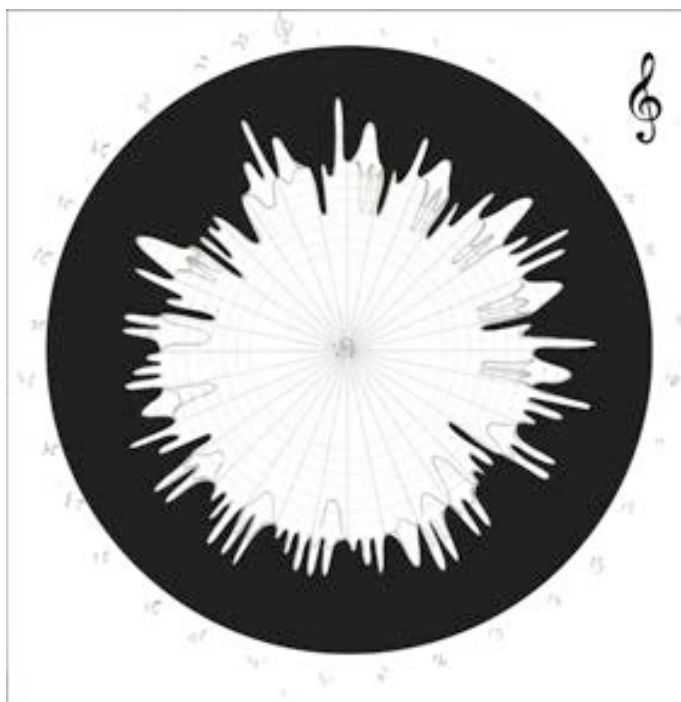
**figure 3** The circular structure

Thus, the treble clef, representing high notes, and the bass clef, for bass notes, were curled so that the representation had no sense of beginning or ending anymore (figure 3). Time loses its successive and measurable character, becoming subjective and especially nonlinear.

The second feature considered was that the pause is sometimes present and absent in the conventional score, although the contrast between sounds and pauses is what makes music indeed. So, the pause is put permanently in the new visualization, in correspondence with the time circle.

There are also some others concentric circles. Those ones that are external to the pause circle represent the expansive songs from the treble clef. On the other hand, the internal circles represent dense notes from the bass clef.

After putting the score notes on those circles by pencil, one handmade line connects them from clefs circles to the pause circle, always in alternate pattern: “note, pause, note, pause...” successively until the line touches its other end. Then, music data, originally organized in scores lines, become surfaces (figure 4).

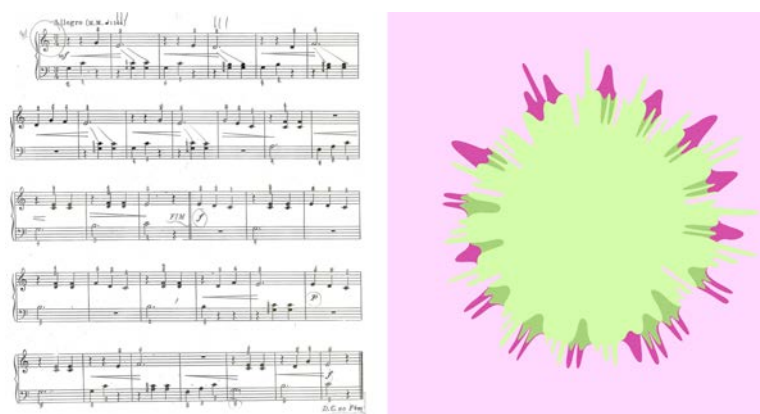


**figure 4** Treble clef surface

The last step was to choose color effects. The basis for corresponding colors and music was the main piano character: It can play many notes/voices at the same time, that's why the piano is called a harmonic instrument.

Considering the purpose of designing visualization by analogy with music perception, the effect expected was that, like in music, the visual harmony had quite a contrast with the rest of the image.

That was the methodology of painting to visualize harmony, but the exactly color that must be used is still being experimented. For testing colors, those images were taken to the virtual environment through the digitization process (figure 5).



**figure 5** "Flores do campo" from Mário Mascarenhas in a conventional linear score and in an abstract surface



**figure 6** “Minuet n.2” by Bach: The first sculpture prototype made from paper

Thus, it was also possible to obtain vectors and produce objects capable of causing a sense of three-dimensionality (figure 6).

In the end, musical data can be experienced in different dimensions, analogous to the abstractions and multiple dimensions discussed by Flusser (2008): three-dimensionality (the world), two-dimensionality (the image), one-dimensionality (the text) and zerodimensionality (the virtual image). However, as the spatial dimensions have not been fully explored, the installation was seen as an opportunity to experiment the data within the space and watch the audience's reaction.

To this end, visual compositions were devised, comprised of the records from all of the stages and dimensions worked on, including scores, vectors and photography of the sculptures (figure 7).

When projected onto the eggs and the mirror, the images created an immersive environment, an invitation for a multisensory experience.



**figure 7**



## **A DIALOGUE WITH DATA ART**

Considering that the research aims to translate piano scores into image, it seems to overlap the data visualization matter. At first, to analyze it, we must point some conceptions such as “mapping” and “visualization” in the context of art and design.

According to Lev Manovich (2002), “mapping” is the transformation of one representation into another. It consists in a wide process of recoding data. So, “visualization” is only one kind of mapping, in cases in which the data originally is not visible and the mapping turns it into images.

Based on this explanation, “visualization” can be described as a mapping in order to recode data into a simple and understandable visual organization.

However, in a contemporary art context, data visualization has a different purpose, that can be understood from Flusser ideas about the social function of an artist. In line with the philosopher, the contemporary artist is not exactly a creator, but a player who plays with pieces of available information to promote dialogues with the public and with himself. In this sense, the artist plays against what is predictable. He intends to break hermetic schedules to produce new information (FLUSSER, 2008).

So, if data visualization tends to simplify information to attend semantic goals, the data art, in other hand, has a different artistic intention. In general, it plays with those huge data quantity to produce images, situations and experiences in a subjective goal, for questioning or expressing feelings about issues that the pragmatic technologic life cannot answer.

Furthermore, we must observe that computers use the same numerical code to represent data, what makes easy to recode one representation into other: 2D files into 3D files, songs into images etc. Apparently, this ability seems to support the artist subjective, but actually it conducts the mapping choices. In the end, those choices are not motivated by the data content, but by computer tools possibilities. Mapping choices thus seem arbitrary (MANOVICH, 2002) and predictable by the software (FLUSSER, 2008).

Another important question worth posing is about arbitrary versus motivated choices in mapping. Since computers allow us to easily map any data set into another set, I often wonder why did the artist choose this or that mapping when endless other choices were also possible. By allowing us to map

anything into anything else, to construct infinite number of different interfaces to a media object, to follow infinite trajectories through the object, and so on, computer media simultaneously makes all these choices appear arbitrary – unless the artist uses special strategies to motivate her or his choices (MONOVICH, 2002).

So, as reported by Manovich, in a good work of data art, the content and the context of data must orient the mapping. From this point of view, the research for translating music “lines” into “surfaces” can be considered as a data art work by the fact its visualization was originally created based on music subjective perceptions from piano scores. That is, the music data motivated the mapping visual plasticity. Besides, there were no computer tools in the beginning. The mapping shape was totally by pencil, with no digital or electronic interference. The computer was basically used to explore the visualization potential in other dimensions, in a posterior stage.

Consequently, this mapping was not arbitrary but deliberately developed. Hence, it can be discussed as a strategy to use technology without losing autonomy, but preserving the artist subjective intentions.

## THE INSTALLATION RESULTS

In practical terms, it was possible to perceive that the installation, more than just a visual stimulus, also functioned as a tactile stimulus. Participants approached the objects as much as possible and even stepped in amid the hanging eggs in an attempt to understand the visual effects (figure 8).

Curious visitors interacted with the projections, touched the eggs, investigated the different materials and were very interested in knowing about the projected images. Indeed, the work turned into a multisensory environment.

After this experiment, it was also noticed that the installation was perceived in another way if observed in the direction of the mirror. Unlike the wall, the mirror did not reflect the images that were projected onto it. The mirrored surface only reflected the objects in front of it: the eggs and the wall. Also, as the eggs received the projections, if seen through the mirror, they appeared to have undergone “mapping projection” (a projection only into the object surface).

The “mapping projection” is typically done by specialized

software for this purpose. Yet, another way to produce it was also experienced with the installation, without any high technology, just by playing with the mirror. Thus, besides the resin and plaster materials with which the eggs were produced, the mirror also contributed to create optical illusions and mix different effects: it was possible to see the complete projection in the wall and also see only a specific projection into the objects like in “mapping projection” (figure 7).

In theoretical terms, one of the research goals was to work with score data through the dimensions discussed by Flusser: in the line (text), in the surface (image), in the zero dimension (virtual image) and in the space (installation). However, from projecting the images every fifteen minutes, we have created a frequency and it activated a time dimension that was not expected at first. As the same images were intermittently projected over and over, time worked in a circular mode, just like the image time suggested by Wisnik, circular and subjective, and different from the objective and linear writing time.

So, the installation explores the fourth space-time dimension, which reinforced the research reflection about the sense of time as a correspondence between music and image.



**figure 8** The viewer inside the installation

## FINAL CONSIDERATIONS

For the master's degree research, it was a great opportunity to explore the images produced, the fourth dimension and the viewer interaction with them.

By using simple or even handmade objects (in the art space and in the music score mapping), it was possible to rethink the technology role in art works: to assist and not to control it. Lastly, by blending together themes such as "mapping" and "data visualization" to transform text music into image, along with the creation of a poetic and multi-sensory environment, this installation is expected to contribute to the interdisciplinary crossover between art/technology and design.

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## EXPLORING THE EDGE: An approach from design and technology to wicker craft

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### ABSTRACT

Craft, as a manifestation of immaterial cultural heritage, is constantly vulnerable to permanent transformation or even disappearance due to the decay of the industry and the decreasing number of craftsmen directly affecting the transference of knowledge which is done orally. In this scenario, it becomes necessary to revitalize this sector from different fronts.

From the Design discipline, we proposed an approach related to the new technologies within the craft sector - digital design and laser cut - aiming to use those tools as a contribution to the revitalization of this industry. Even when at first sight, it can be perceived as a threat for the preservation of cultural heritage, this path is presented as an option to diversify the market and improve the productive processes yet keeping the craft technique developed by the artisans as the core.

The approach is presented in two tracks based on the wicker craft case. The first, a teaching experience with industrial design students and, secondly, an ongoing University of Chile funded research – diffusion project in collaboration with the artisans' community.

### KEYWORDS

Craft and Design. New Technologies. Collaborative Work. Design Teaching.

## 1. INTRODUCTION: CRAFT + DESIGN

When discussing about the concept of immaterial cultural heritage, it should address those manifestations which are unique and vulnerable with regard to a specific territory.

Immaterial culture is characterized by a series of specific traits. It can be traditional or contemporary but it is always alive. It has an integrative character being representative of a human cultural group and thus belongs to a determined territory. Additionally, we can also say that our most tangible manifestation of immaterial culture is handcraft.

Craft as cultural manifestation, posses many definitions. In 1997, Unesco defined a Handcraft Product in the following manner:

*"The Crafted Products are those manufactured by a craftsmen, by hand, with tools or mechanical media, as long as the manual contribution prevails as the most substantial component of the final product"*. In this definition we can identify two core areas: "crafted product" and "craftsmen". For this reason, it is necessary to recognize that the cultural heritage is not only in the final crafted object, but in the expertise and techniques developed by a craftsman during his lifetime. It is there where heritage actually resides.

According to Zoran (2012), *"The results of a craft process are unique artifacts, each subject to the judgment, dexterity and care of the craftsperson. A craftsperson makes a series of personal and subjective decisions that define the object."*

Within the crafts context, the knowledge is traditionally transferred orally. Therefore it becomes important to protect and preserve the practice and practitioners, instead of only focus in handcrafted objects. The effort should mainly be oriented toward encouraging the craftsmen to keep manufacturing their product, transferring the knowledge into their communities. (Nélida Marta Rey, 2011)

Nowadays, even when handcraft sector plays an important role in develop small local economies, there is an imminent challenge for the practitioners regarding how to transform this activity into a



**Figure 1.** *Contemporary Antagonist.* New Technology / Crafts, Techniques. The image from GS project which is exposed in this paper, shows a product developed with both elements creating a new language. Image by author.



path of development for their communities, instead of just generate new market products for ethnical tourism. They wonder how to improve their productive processes whilst keeping the heritage as pure as possible.

Within this scenario, an ongoing discussion on the relationship between Design and Craft becomes relevant. It is argued that Design intervention within the Crafts sector should ensure results that will not turn into something completely different from the traditional cultural manifestations. Collaboration and Participation are the key to approach a joint project with this characteristics as is mentioned by Brown (2009) “...we can use our empathy and understanding of people to design experiences that create opportunities for active engagement and participation”. The choice to get involved with the communities will assure better outcomes from all the actors.

Authors as Hovanessian (2008) and Brazier (2004) refers to cases of Design Support for the SMMEs, wherein they agree on Design as a unique power in helping small enterprises toward differentiation and innovation which is fundamental for their survival in the market. They consider Design as a medium to improve communication, product development, and innovation, and designers as professionals with intuitive and organizational competence, able to construct ideas that have emotional meaning yet are functional at the same time.

The Handcraft sector, has a behaviour that differs from the traditional business probably because the context in which their activity is developed; the preservation of the cultural heritage from an specific community and territory, presenting a complex scenario for any approach. In this context, more than a Design Intervention there should be collaboration in equity and knowledge of the crafts particular nature. Néida Rey (2011) mentioned in her work that “*there is an coincidence in that the collaboration between artisans and designers, based in mutual respect and shared work, can help to revitalize the craft, ease the improvement in quality of the productive processes and boost the creation of products adapted to the current markets.*” In sum, Crafts and Craftsmen’s practices are immaterial cultural heritage

to be preserved.

Usually, Design intervention in Crafts is considered as an interface, a bridge between tradition and modernity, a delicate area of work where it is essential not to completely alter the heritage. An interesting type of intervention aims to preserve cultural resources through the documentation, analysis and classification; materializing the knowledge transfer, usually done orally.

What should be the next step? How can designers be part of this? How to approach the theme positively? From which front it is possible to participate? How should this relationship be developed?

In the following content, the experience of an academic team from the Design Department of University of Chile, will be presented as an approach for working with handcraft – specifically Wicker craft- from a technological front in order to combine the richness of the traditional techniques with the efficiency and flexibility of new technology tools, whilst having revitalization and reevaluating of the sector as a core goal to.

## **2. EXPERIMENTING CRAFTS + TECHNOLOGY + DESIGN.**

Since the Arts and Crafts movement where William Morris, in a reaction against industrialization, goes back to the pre-industrial era putting value in the quality of the handwork, it is possible to identify the collaborative triplet: Crafts-Design-Technology. With that referent, the relationship between craft and technology -high and low - is evolving at different speeds – with technological evolution currently much faster than its application in Handcrafts. Richard Sennett (2009) explains it with the story of the pottery lathe “*We are mistaken if we think that in traditional crafts communities, techniques were rigidly fixed. It was actually not. Pottery, for example, changed dramatically when a rotating stone on which the mass of clay was placed began to be used, because there appear new ways to stretch the clay. However, this important change was the result of a slow evolution,*

*requiring several hundred years.”*

The morphology of objects is highly subject to the available and mastered technology at the moment of manufacture, in the case of crafts; the craftsmen usually maintain their traditional ways of doing things or update their tools and process very slowly, sometimes aiming to keep purity in their work which grants a strong visual identity related to the community and territory or, in most cases, due to a lack of resources, knowledge and skill regarding digital tools and new technology.

Nowadays, access to technology is easier and lately digital manufacture is becoming highly popular. The craft sector, still lagging behind, is being used as a research subject to explore new possibilities presented by those technologies. One example of this is the project *Hybrid Assemblage* lead by the MIT' researcher Amit Zoran. Zoran is exploring “how craft practice can be combined with digital fabrication”, reflecting on the issues of destruction, uniqueness and assemblage, twisting the main characteristics of digital fabrication - which is the chance of identical repetition, and productive process memory- proposing the production of unique objects that craftsmen create - using digital technology.

Another example is our research line based on Wicker Craft, which started after the result of a *graduate* study project called *Mimbre* (Wicker) *CAD CAM*.

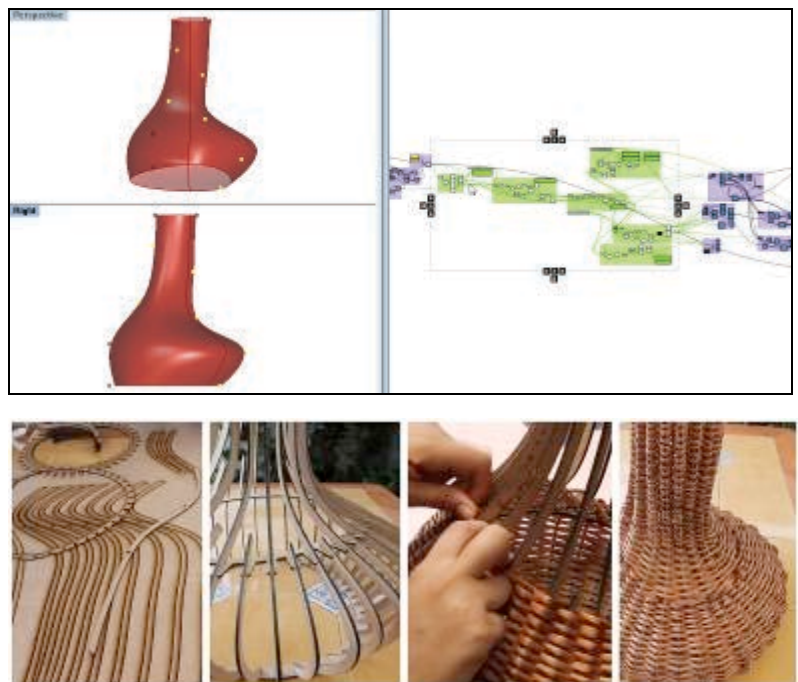
## **2.1. WICKER CAD CAM**

Woven wicker is a traditional craft manifestation from the central south of Chile, where mainly basketry and furniture is created by Craftsmen who are around 50 years old. They are concentrated in the small town of Chimbarongo where the wicker grows naturally. During 2012, Gonzalo Silva, an industrial design student from Universidad de Chile, developed his final graduate project, exploring the formal boundaries of traditional woven wicker, transferring knowledge from the digital scope - applying parametric/cad-cam design tools- to handcraft production, aiming to amplify the diversity of artisanal objects.

In his project, planned as an experimental project, the traditional

woven techniques were untouched due to their heritage character. Therefore, only the objects - structures /frames - were intervened or re-created, generating new shapes which were able to be transformed by controlling certain shape parameters with a software called grass hopper. This obtained clearly different results from the rigid wooden and metal skeleton that are traditionally used which present limited formal possibilities, and therefore little differentiation between products in the wicker craft industry. Indeed, the project goal was focused on raising the personalization level in wicker craft products; diversifying the formal language regarding the creativity of each artisan, and diminishing the current homogeneity in the industry.

The process developed by Gonzalo Silva (figure 2), was mainly focused on the digital tools that are described briefly in the following sequence: 1. Design a simple object in 3d modeling software Rhinoceros. 2. Transform the shape into a series of ribs whose measurements can be controlled by the parametric design software Grass Hopper. 3. Study the structural behavior of the skeleton and digitally simulate the wicker weave 4. Send the skeleton to the 3d printer 4. Build the shape. 5. Wicker weaving made by craftsmen.



**Figure 2.** Gonzalo Silva constructive process based in digital and cad cam tools.  
Image by Gonzalo Silva.

Silva's reaches his goal generating a different morphological proposal, closer to the formal contemporary languages, but keeping the weaving technique as the main element of the object, which can be considered a balanced result of a collaborative process. Although the main focus of Silva's project was to explore parametric design, obtaining a series of experimental–nonfunctional objects was identified as a potential research line in the topic. We recognize two tracks to be deepened from our discipline: 1. Formal experimentation with local resources through digital tools, and, 2. Development of a collaboration model among designers and artisans focused on knowledge transference.

These tracks were developed during 2013, and concreted by the creation of the research line "Design and Innovation in Traditional Knowledge", comprising a group of professors from the Design Department at Universidad de Chile lead by the authors of this paper. Its goal is to rescue the material and immaterial, technical and cultural patrimony of Chile together with the study of and projectable experimentation with local resources. In the following section, the development of these tracks will be exposed.

## **2.2. THE WICKER-DESIGN COURSE: KNOWLEDGE TRANSFERENCE METHODOLOGY.**

The formal experimentation track mentioned beforehand, was addressed through the teaching in the main design course at FAU Universidad de Chile, called "Taller". The exercise aimed to transfer the knowledge from Gonzalo Silva's project to the 3th and 4th year design students.

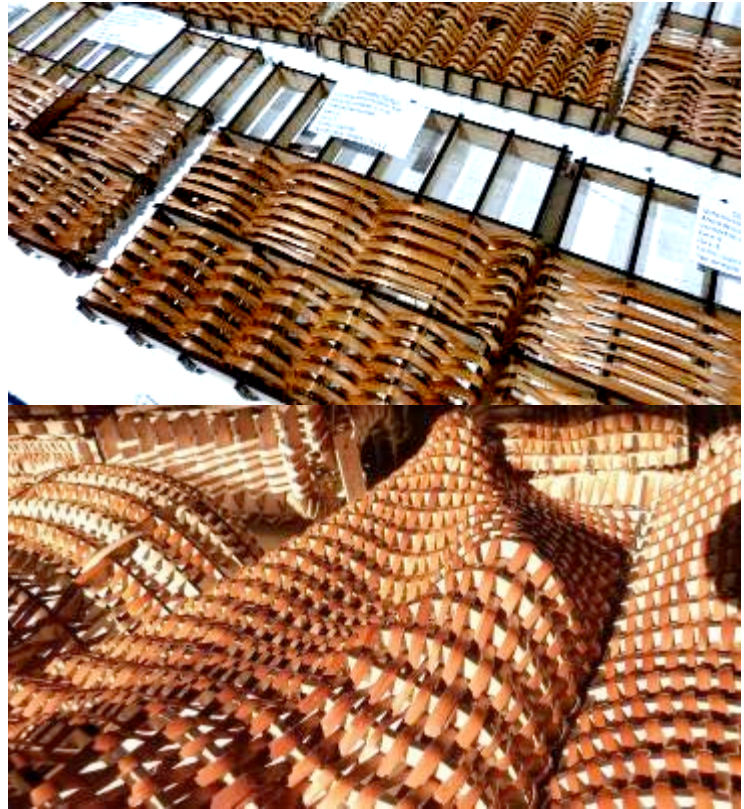
The course is aligned with problem-based learning methodology, adapted to the field of design. Four stages are established: Diagnoses – Proposals – Evaluation – Production. Finally, the course is expected to transfer the knowledge gathered into the community. The method starts by looking for a preliminary diagnosis based on identification of problem symptoms through key questions and observation of the elements to be transformed or improved, framed in the context of the project scenario, which could be in present or future time. Next, variables are determined

aiming to develop proposals starting from the basic and adding complexity throughout the process. The following step involves an evaluation within the real context with real users, before finalizing with the production process. The model implies recursion as the student might identify a new problem in the 3<sup>rd</sup> stage that leads him/her to the beginning of the process. Another relevant issue for the teaching model is based on transference, aiming to gather knowledge/reflective information that could be used as the basis to start a new proposal or replicate the current one. The transference takes place by compiling technical information sheets or project memories with information about: the diagnoses – the problems and opportunities identified proposals and, for the main part, a detailed description of productive processes, time-scales, materials and technology used in each sample or product. In the case of the wicker exercise, the main focus was on the diagnoses, proposal and transference stages. The students were asked to explore the edge limits of the material (wicker) and the weaving techniques through morphologic exploration applying parametric design tools and cad-cam technologies. This exercise was divided in two stages:

1. Learning about Technology, Materials and Software.
2. Designing a product.

In the first part, the students were asked to work in pairs and develop a series of 2D woven wicker samples, managing parameters in relation with the weaving techniques (type of stitch e.g. 1.1, 1.2) and the construction of the skeleton-loom controlling measurements between weft and warp (figure 3). Later, they were asked to add curves and double curves to the samples, aiming to learn how the material behaves with the transformations of the skeleton and identify its limits (figure 4). We expected the students to think “out of the box” pushing the wicker to its limits, generating unusual and esthetically attractive shapes.

In the second part, the students gathered in teams of 4 and were asked to develop a product based on the samples from the first stage (figure 5).



**Figure 3 & 4:** 2D and double bend samples made by the students. Image by Magdalena Cattán



**Figure 5:** Experimental object developed by a student with digital tools and woven wicker. Image by Magdalena Cattán.

The outcome was a large quantity of unique samples exposing the versatility of the material for morphological experimentation. Among the results, luminous objects were the most audacious



and widely proposed including the use of other materials, such as acrylic and treated natural fibers (figure 6). In sum, a new language of wicker craft was developed in the student's products, proposing shapes that were not possible -or very difficult- to reach with the traditional methods giving a contemporary halo to the results.



**Figure 6.** Luminescent object developed by a student using wicker + acrylic +led.  
Image by Andrea Lizana.

### **2.3.EXCHANGING KNOWLEDGE WITH THE WICKER CRAFTSMEN COMMUNITY.**

Since Silva's project, we visualized a great opportunity to revitalize the wicker industry by transferring this new knowledge to the Craftsmen in Chile, taking into consideration the precariousness situation of their industry. These artisans are mainly located in the small town of Chimbarongo, distance 160 km to the south of the capital, Santiago. In this area, the wicker (*salix viminalis*) grows naturally generating a small basketry and furniture industry around it.

Currently these artisans are diminishing in quantity. The average age is 45 to 48 years old, and only 15% are younger than 40. This is because new generations see in it a poor labor potential in comparison with others trades (CNCA Craft Area, 2012). Many moved away from the rural areas to the cities searching for better options. Also, basketry has very low projection in the craft sector being monetarily undervalued. The result is a decayed industry which is critical from the patrimonial point of view, especially



because it is passed on via oral tradition.

Based on this diagnosis, our research team started a project called "Wicker: Design and Innovation in Traditional Knowledge" with funds from the University of Chile.

The goal of the project is: The revaluation of wicker's cultural capital and its revitalization as an economic activity. By identifying the "preservable" and synergic opportunities with new technologies, transferring this knowledge to the younger generations in order to preserve the practice in the long term, and stimulate the activity in the present..

Through work with artisans, it is possible to identify existing capabilities and potentials around wicker, linking them with development opportunities delivered by new technologies. Thus, the existing cultural capital is cautiously opening opportunities to boost their economic activity extending the capabilities of the craftsmen in the process of realization of their ideas - on a morphological, constructive and functional level.

The methodology of work considers: 1. To revive the history, practices and proper technologies in wicker-work in order to rescue the "features" and bases of traditional craftsmanship, in turn identifying the state-of-art activity. 2. To develop, in conjunction with the artisans' community, production-technological, educational and commercial strategies to revitalize the sector identifying opportunities for synergy between traditional and current processes along with new technologies – parametric design modeling and laser cut basic training. 3.

Transfer the results developing potential merger between new technologies and traditional knowledge, focusing on new generations. For this action, a workshop for primary-school students will be created by craftsmen and designers, teaching the traditional wicker techniques combined with the use of new technological tools. 4. The results of the research will be published in a book together with an exhibition of the objects obtained from the school workshop.

Currently the project is developing the first stage, which implies filed research in the locality of Chimbarongo. We have begun

using the Unesco Heritage standard applied to ethnography tools, structured interviews and audiovisual register with a group of wicker agro-producers and craftsmen aiming to deepen our knowledge on their particular productive process.

At the end of this project, we expect to trigger an interest through the installation of new technologies in those who today do not see a future in Wicker Craft. It is our hypothesis that new generations in the community might be interested in this new path. Thus, we do not expect to transform any step in the current process but to present an alternative of differentiation and revitalization.

### **3. FUTURE PERSPECTIVES**

In the near future, we expect to systematize the Wicker Craft experience developing a collaboration model of knowledge transference between designers and artisans, opening a technological door as an option for revitalization of the sector, putting value in traditional practice and cultural heritage. With this model it will be possible to replicate the experience with other craft manifestations in Chile. In this way, the research track “Design and Innovation of traditional knowledge” can be thought of as a productive bridge between the university and the community, and as retribution from the academic sector to the citizens.

For future teaching experiences, we expect to work directly with the artisans' community as the academic research project will strengthen the relationship with the guild. Also, it is necessary to move forward from the morphological experimentation to the development of new products aiming to generate a tangible contribution in the sector, generating objects susceptible to commercialization.

In conclusion, traditional craft techniques have been slowly modified and improved by the existing technology throughout time. Today, the installation of digital fabrication and new technological tools into the sector, far from being a threat, is an opportunity of revitalization and differentiation, as long as equity

and heritage respect are the motto. The collaboration between designers and craftsmen from this front can generate new languages which could become part of a contemporary manifestation of our traditional culture and a representation of these times. The collective work, we believe, is the right path to the preservation and prevalence of the Craft Heritage.

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## ORDERED DENSITY: Urban space and aggregation solutions

### ABSTRACT

Over the past decades we have witnessed an increasingly urban planning crisis.

Our century, as Rem Koolhaas writes, “has been a losing battle against the problem of quantity” . Fast-swelling numbers and the consequent infrastructure support logistics are not just difficult problems, they are insurmountable: an inevitable and ever-evolving force that may either continue to grow, adapt and survive, or wear out and eventually fall apart.

The density – extension dichotomy, a principal characteristic of the modern urban landscape, has been examined through the analysis of a series of international case studies, guided by publications and research in the fields of architecture, planning and design.

### KEYWORDS

Density. Extension. Urban cities



**figure 1** Images of urban settlements in China

## DENSITY AND EXTENSION

Over the past decades we have witnessed an intensification of the urban planning crisis.

Our century, as Rem Koolhaas writes, “has been a losing battle against the problem of quantity”<sup>1</sup>. Fast-swelling numbers and the consequent infrastructure support logistics are not just difficult problems, they are insurmountable: an inevitable and ever-evolving force that may either continue to grow, adapt and survive, or wear out and eventually fall apart. “We used to build castles of sand, now we are swimming in the sea that has swept them away” this statement effectively describes the obsolescence of classic urban planning. The contemporary metropolis has nothing to do with the traditional city, therefore the traditional professional practice can do little to restrain something that is inevitably unrestrainable by nature.

According to forecasts, the global population will grow by 30% in the next twenty-five years, and urban populations will double, from three to five billion and about 70% of this growth will take place in the urban areas of the poorest countries on the Planet<sup>2</sup>. Planet densification in mega-cities and “megalopolitan” areas are forcing us to radically re-consider contemporary urbanization development: megacities are simply unmanageable and unsustainable.

*“Cities, modern industrial cities in particular, are just like colonizers, huge systems that suck their own vital lymph from the surrounding world, far exceeding the capacity of their own territory or their region. It was calculated that a city of one million inhabitants consumes daily 9,500 tons of fossil fuels, 2,000 tons of food, 650,000 litres of water and 31,500 of oxygen, while producing 500,000 tons of sewage and 28,500 carbon dioxide. Ecologically the contemporary city is, in short, a parasite and a pathogen that derives its energy from outside pouring waste in exchange.”*<sup>3</sup>.

<sup>1</sup> Koolhaas, R. (2000). *Delirious New York*. Electa Italia.

<sup>2</sup> Data derived from Corner J.(2003). *Espansioni urbane orizzontali. Lotus Densità, infill, assemblage n. 117*, Editoriale Lotus, pagg.116-120

<sup>3</sup> Sorkin, M.(2003). *Pensieri sulla densità. Lotus Densità, infill, assemblage n. 117*. Editoriale Lotus. pp.4-10

We can illustrate the two main declensions of the Postmodern metropolis with the notion of extension and density.

Urban fabric has dealt with population growth down two different paths: one in the US especially, characterized by a settlement scattering, the other by a densification of the urban space. The main reasons that lead us down one path rather than the other are probably not just linked to social, cultural or architectural circumstances, but they are to be found most of all in economic dynamics. The *Sprawl* phenomenon was originated by the tendency of American metropolis towards a continuous extra-urban scattering, with a city centre designed for financial and leisure activities and a share of the historical centre made up of slums.

The culture of mobility, the price of petrol and land, having privileged private means of transport and suburban lifestyle all in all have determined a very low density of urban areas that, along with free market and unregulated building development, have produced highly extended urban settlements. With regard to density, as a solution to the ever-growing urban areas, one can observe a double approach. On the one hand, in fact, density is perceived as a negative phenomenon linked to the collective imagination of Asian megalopolis.

*"We often blame density for traffic, crime, parking issues and ugly architecture so that it produces a widespread opposition. Such opposition is not completely unfounded. Ill-designed density fuels public frustration. Office centres that are inaccessible by public transport or have no pavements and force people to drive more, height-developed districts with no shops at street level, high density settlements with no parks and few leisure facilities, ill-designed housing with no privacy. The usual answer to this situation is firm opposition to any kind of density"*<sup>4</sup>.

The most elementary definition of density is what grants proximity, the gathering of units in space. Such gathering density is the substratum of socialization and the material basis of democracy. Like any other aspect of density, frequency, nature and manageability of random encounters define the quality of urban living and are the foundations of any good city.

*"People should be exposed to matters that they didn't choose in*

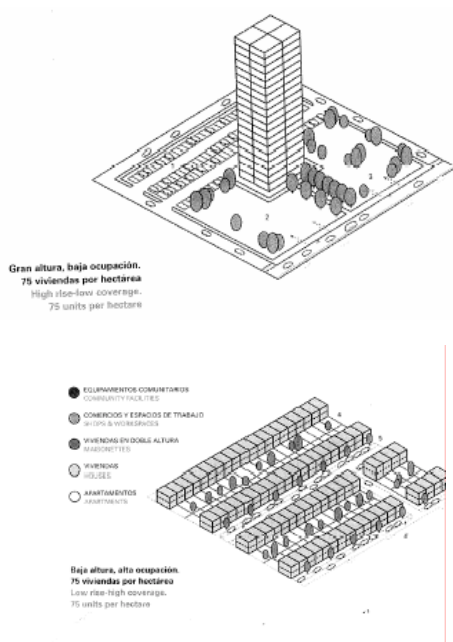


figure 2 Different urban forms of the same density

<sup>4</sup> Local Government Commission (2003). *Creating great neighborhoods: density in your community*. AED ed.



**figure 3** MVRDV, Waterwijk, Ypenburg, an example of low-rise high-density housing

*advance: random and unexpected encounters are fundamental for democracy. Such random encounters often imply topics and points of view that people weren't looking for and may find rather annoying, but they are very important as partial security against fragmentation and extremism, which represent the predictable consequences of every situation where people who share the same mind-set only speak among themselves.”*<sup>5</sup>

Density, if appropriately designed, could convey positive values, humanizing the city through easier transportation, narrowing the gaps, improving infrastructure efficiency, promoting business, exchanges and social interaction, as Le Corbusier wished for in his 1925 essay *Urbanism*<sup>6</sup>, and as Jane Jacobs claimed in the 60's, when she stood up for functional heterogeneity and high density of meeting places against mono-functional projects aimed at building great infrastructures, saving her NY neighbourhood, the Greenwich Village.

## LOW-RISE HIGH-DENSITY HOUSING

*You take delight not in a city's seven or seventy wonders, but in the answer it gives to a question of yours.*

(from “Invisible cities”, Italo Calvino)



**figure 4** Neutelings and Riedijk, Hollainhof, Gent. This project combines the qualities of urbanity and density with those of seclusion and tranquillity by updating the typology of the beguinage. The result is a complex that oscillates between public and private, open and closed, and large and small scale.

One plausible interpretation of the “ethically correct” definition of settlement density is represented by interventions of low-rise high-density housing.

The ostensible oxymoron of such a definition includes a series of examples, more closely related to the field of action than to a codification of contemporary disciplinary culture, as noted in Francesca Di Gennaro's thesis as part of her doctoral program in Architecture, Urban Design, Conservation of Housing and Landscape.

The low-rise high-density housing has been considered an instrument for the construction of new urban landscapes. It's a possible solution in the attempt to oppose, on one hand, the Sprawl phenomenon, where the single family house represents the prevalent Architectural Object and, on the other, the multi-

<sup>5</sup> Cass Sunstein (2002). *Republic.com*, Princeton University Press

<sup>6</sup> The essay is contained in the book *The city of Tomorrow and its planning*, New York, 1927



storey housing model.

The low-rise high density housing is positioned halfway between the urban project and the architectural project, questioning a possible alternative for new urban territories with the idea that density (and its positive values) could be obtained through the implementation of low-rise housing, conferring identity to new settlements.

“Low-rise high density housing is based upon four principles:

1- to reach a land density of 350/500 inhabitants/hectare, appropriate for the urban setting, with buildings no higher than four floors.

2- to provide each residence with a higher sense of individuality by clearly identifying singular access points, as much as possible, direct from street level.

3- to eliminate spaces where defined territoriality cannot be provided, and moreover, to privatise the majority of external areas belonging to the residences.

4- to replace the separation between houses, streets and spaces with the continuity of construction by applying a fabric-like building system, governed by a grid system and realised through a superimposed-housing distributive system.”

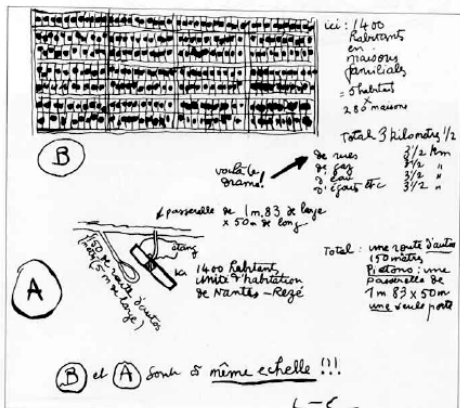
The proposals originate from a reflection upon the concept of the single housing cell and its possibilities of aggregation: the idea is that of the superimposition and multiplication of a specific functional element.

The low-rise high density housing interacts on a double scale, permitting, therefore, two separate readings of the same idea. From within the cell, it defines the shape of the house itself and from the outside, a type of housing able to establish a principle of settlement, as well as a basic element in the construction of the city.

## THE VERTICAL CITY

*With cities, it is as with dreams: everything imaginable can be dreamed, but even the most unexpected dream is a rebus that conceals a desire or, its reverse, a fear. Cities, like dreams, are made of desires and fears, even if the thread of their discourse is secret, their rules are absurd, their perspectives deceitful, and everything conceals something else.*

(from "Invisible cities", Italo Calvino)



**figure 5** Graphic representation of Le Corbusier's reasoning, which justifies his interest in the housing unit.



**figure 6** An image of the “Ville Radieuse”

The concept of the Vertical City was proposed by Le Corbusier at the end of the 1920's.

First, as part of his project, the “Ville Radieuse” and later in “Unite' d'Habitation,” Le Corbusier justifies his interest in high-density vertical units comparing them to the traditional configuration of residential areas. He stresses how, through the realisation of said housing structure, both land saving (a concept which is far more popular today than ever before) and economy of resources in the areas of logistics and services, can be obtained.

Nearly eighty years later, groups such as MVRDV brought the question of high-density back to attention

In particular, the theories of the Dutch practice originated from the fact that the Netherlands is known to be the most densely populated country in the world, its inhabitants spread over low-density suburban areas, virtually transforming the whole territory into a sort of “STATE-CITY”

The research carried out by MVRDV together with the students from Delft University looks at the juxtaposition of agricultural and, as defined by the researchers themselves, ultra-density areas. Vast areas of the Netherlands “...seem as though they are about to be invaded by a form of ‘matter’ consisting of low-cost houses with gardens, offices to rent at low prices, warehouses, farm-style factories, areas for motocross and other low-density structures.”

The publication FARMAX- Excursion on Density (acronym for Floor Area Ration Maxima) gathers the reflections and conclusions of their research.

The title's acronym indicates the maximisation of the ratio between the useful surface and the lot upon which it stands, a



figure 7 MVRDV's Pig City

condition investigated using real examples and various projects, amongst which the so-called datascares emerge: large constructions, , shaped by measurable parameters such as light, visibility and sound.

Through instigative projects (such as their 2001 proposal Pig City) MVRDV encourages us to consider the importance of territory, especially in countries like the Netherlands where, over the centuries, much of its land has been reclaimed from the sea, identifying elements of greater sustainability in high-density high-rise interventions.

In addition to extreme and provocative planning hypotheses, high-density is being widely applied especially in the highly concentrated urban areas of Asia.

As in the case of Hong Kong, a reality based on the concept of high-rise density and which “for years has been an habitat in which special phenomenon could take place. An extreme environment in which equally extreme ways of living and social organization could emerge: the place with the highest population density, with the most pervasive commercial culture, with a unique mix of East and West...”

Hong Kong's role on a global scale is to influence what“ will be the leading phenomenon of the next century: the meeting, the comparison, and the possible clash, as well as the definite mutual hybridisation between the Western world and its sole true competitor: China”, an overall positive role, with regard to the controversy surrounding Hong Kong's experience, but also its undeniable vitality and dynamism.

In both 2002's HK Lab and 2005's HK Lab 2 research activities, Hong Kong was assumed as a laboratory for ways of living, as a city facing a crossroad between becoming a global city or downgrading to a regional pole.

As well as being identifiable as an experimental hub, the city has undergone a high-rise explosion which has resulted in a poorer quality of life but at the same time, undertaken an ongoing research of new ways of living and new services for living in hyper-density.

The tower construction typology is diffused in all of the territory ignoring local geography and causing devastating effects. but this strong characterisation has stimulated, on the other hand, the experimentation of new forms of concentration.

Land use and high-rise housing are not the sole factors which determine Hong Kong's urban condition. "The whole system aims to increase activities and circulation at each level of the urban infrastructures, vacant spaces or blocks".

Special attention is given to the organisation of communal spaces and services to compensate for the limited amount of private space. Each residential complex is built on a platform where the roof structure is generally used a roof garden, providing ample space for service facilities, characterising the residence and becoming ground for experimentation..

It is thus not an issue having less living space, since each inhabitant is free to use the entire complex as an extension of their own private space. Hong Kong, uniting different cultures, sea and land, tradition and future, lends itself quite perfectly to being a laboratory of experimentation of new possibilities in the field of urban density.

## CONCLUSIONS

The concept of density, whether pursued through the realisation of low-rise or high-rise housing, must be interpreted positively at design phase: as an interplay of the solids and voids in the economy of the land, as an opportunity for a sustainable development and finally, as a playground for trade and growth.

"Now cities are considered in an increasingly positive way, largely because the very factors of scale and density which had been associated with social disorder and malaise, are now seen as sources of economic and intellectual creativity."<sup>7</sup>

The planning must coincide with the equilibrium between density and habitability of the urban layout, stressing the importance of spaces of mediation with respect to the centrality of quotidian spaces.

"The inferno of the living is not something that will be; if there is one, it is what is already here, the inferno where we live every

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<sup>7</sup> Hiller B., *Spatial Sustainability and Creativity Statistical Associations and Credible Mechanisms*, paper presented at the 2nd Delft International Conference Complexity, Cognition, Urban Planning and Design 10-12 October 2013.

day, that we form by being together. There are two ways to escape suffering it. The first is easy for many: accept the inferno and become such a part of it that you can no longer see it. The second is risky and demands constant vigilance and apprehension: seek and learn to recognize who and what, in the midst of inferno, are not inferno, then make them endure, give them space.”

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## **LOCAL/GLOBAL ANTAGONISMS: Cultural analysis of contemporary bathroom and its elements in Turkey**

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### **ABSTRACT**

This study<sup>1</sup> claims that, at today's homes, the contemporary bathroom fulfils the need of having a tidy and visually attractive or 'pretty' bathroom, however, it does not meet all the functional or cultural needs of the family members. There is a range of activities and strategies that mostly women/housewives employ to appropriate their bathrooms in order to sustain both the pretentiousness of the bathroom and the daily usage in the same space. Based on this claim, the study aims to find out, in a Turkish context, how women appropriate and incorporate the contemporary bathroom and its elements into their everyday routine in order to fulfil their needs according to their cultural habits.

This study can be seen as an attempt to reveal the antagonisms between the culture of the users and the contemporary bathroom designs in Turkey. The findings will show, how, in today's Turkey, users organize and use their bathrooms, and will help the creation of a bathroom which will be adaptable for Turkish market, hence Turkish users.

### **KEYWORDS**

Bathroom. Cultural Habits. Everyday life.

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<sup>1</sup> This paper is a part of my ongoing PhD study in Istanbul Technical University under the advisory of Assoc. Prof. Dr. Sebnem Timur Ogut.

## INTRODUCTION

The domestic bathroom, being the fundamental space of the modern daily life today, had been mostly the topic of historical, architectural and technical studies in the world literature. Besides the literature on bathroom, there are also many studies done particularly on water closets/toilets regarding their history, socio-cultural evolution and technical details. In addition, there are also comprehensive studies on the history and the socio-cultural evolution of norms and ideals of hygiene and cleanliness mostly in the area of sociology. The concern of this research is the socio-cultural and the material culture aspects of the today's domestic bathroom and it is expected that the study fills a gap in the literature, while it tries to understand how the contemporary bathroom is being used and organized within the daily life practices in Turkey. The motivation of the study is the personal observation of the contemporary domestic bathroom being a 'showroom'. Women/housewives organize their bathrooms mostly according to the socially accepted aesthetic values, popular trends or with 'what is on the market' rather than their 'real needs'. As a result, the contemporary bathroom fulfils the need of having a tidy and visually attractive or 'pretty' bathroom, however, it does not meet all the functional or cultural needs.<sup>2</sup> In order to sustain both the pretentiousness of the bathroom and the daily usage in the same space, women appropriate their bathrooms. They create systems or arrangements that are constituted by some strategies; they make changes and they appropriate the space through the everyday routine in order to meet their needs. Based on this claim, the aims of this study are, to find out, in a Turkish context, (i) how the bathroom and its elements are used, experienced and appropriated according to the cultural needs and habits; (ii) how women incorporate the bathroom and its elements into their everyday routine in order to fulfil their needs. Bathroom is one of the everyday spaces where cultural beliefs, values and norms of a society can be observed. Understanding what and how cultural norms and values work in

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<sup>2</sup> What I mean by 'cultural needs' is, making habits of things by living in this particular society and/or some special ways of doing things that we learnt from our families. For instance, soaking stained clothes/white clothes in water one day before the laundry day, performing ablution, traditional ways of bathing, traditional cleaning habits, etc.



the contemporary bathroom would reveal rich data for industrial designers and how they can be integrated into new design ideas would be a challenging study (Moalosi et al., 2010). The findings are hoped to contribute to the creation of a bathroom which will be adaptable for Turkish market, hence Turkish users.

## WESTERNIZATION AND THE EMERGENCE OF THE 'MODERN' BATHROOM IN TURKEY

In Turkey, before the contemporary bathroom, traditionally, a water closet was located outside the house in a courtyard or a garden, which later was relocated in the house. This crouching type of water closet fixture called *alaturka*<sup>3</sup> is still used in some regions across Turkey, Middle Eastern and Asian countries (Figure 1). For bathing, people were usually going to *hamams*, the Turkish public bathhouse, which was also a place to socialize (Figure 2). Apart from *hamams*, there were bathing spaces reserved in the houses called *gusûlhane*<sup>4</sup> which was a small closet having water containers and drainage (Figure 3). They were located in the bedrooms for married couples to wash after sexual intercourse which was obligatory according to Islamic rules.

With the foundation of the Turkish Republic in 1923, many radical reforms were launched in order to change the social, political, cultural and economic structures of Turkey. The main aim was to shape a new nation according to Western models while abandoning the Orientalist representations of the Ottoman Empire. This transition was also manifesting itself in the architecture and design culture (Bozdoğan, 2001; Gürel, 2008). The 'fixed'<sup>5</sup> bathroom space was becoming widespread very slowly and it was being represented and perceived as an important agency of Westernization and modernization



**Figure 1:** Typical squatting posture and a typical *alaturka* type toilet (Kira, 1966, p. 64 and [www.vitra.com.tr](http://www.vitra.com.tr)).



**Figure 2:** 'Turkish Bath' by La Barbier, shows women and children having bath and socializing in *hamam*, copper plate print technique (Yılmazkaya, 2003, p. 35).

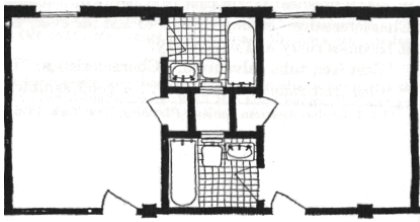


**Figure 3:** A typical *gusûlhane* in Safranbolu Kaymakamlar Gezi Evi Museum, looks like a cupboard when its closed (<http://wowturkey.com/forum/viewtopic.php?t=32504>).

<sup>3</sup> *Alaturka* means 'according to Turkish style' adapted from French *a la turca*.

<sup>4</sup> *Gusûlhane* means 'the place for the complete ablution', one of the rules of Islam which requires to clean the whole body.

<sup>5</sup> Throughout the world, morphologically, the bathroom presented various forms during the 19th century (Giedion, 1955). Around 1900, the portable bath space has been transformed into a fixed and a standard space and a fixed position in the home with industrial 'fixtures' which Giedion defines this as a transition "from a nomadic to a stable condition" (Giedion, 1955, p. 682) (Figure 4 shows ).



**Figure 4:** The plan of Statler Hotel showing the two rooms with compact bathrooms with common ventilation and plumbing shaft which aroused the tendency to combine the bathroom into the apartment plans which ended up in the standard American layout (Giedion, 1955, p. 698).



**Figure 5:** Bidet and *alafanga* toilet in an un-renovated DHMI Cooperative flat in Ankara, Turkey, built between 1958-1960, photographed by Gürel in 2006 (Gürel, 2008, p. 228).

(Cengizkan, 2002; Gürel, 2008). According to Gürel (2008), the case of 'modern' bathroom in Turkey is a concrete example of how modernity "embodies the destruction of the old, traditional, familiar and inherent as well as the introduction of the new, progressive, up-to-date and extraneous" (Gürel, p. 216).

Starting from 1928, the 'modern' bathroom with fixtures (built-in bathtub, *alafanga*<sup>6</sup> toilet, wash basin and bidet) was seen in the multi-store apartment buildings and became a high standard prototype (Yavuz & Özkan, 2005) (Figure 5). With the proliferation of the apartment flats in the first half of the 20<sup>th</sup> century, the bathrooms became widespread in the urban areas. However, the fixtures of the 'modern' bathroom were strangers to the society. For instance, the built-in bathtub was the symbol of status and Westernisation, but Turkish people did not prefer bathing in filled water; according to their beliefs and habits, the body was supposed to be washed with running water as they used to do in *hamams*. It was also taking up too much space in the bathrooms and it was only used as a shower basin (Bektaş, 1998; Gürel, 2008)<sup>7</sup>. New uses were invented among women, e.g., storing water in case of a water shortage, using it as a washbowl for large textiles like curtains, carpets and blankets. In addition to the built-in bathtub, *alafanga* toilet was being regarded as a stranger since the society was used to the *alaturka* toilet; the crouching type. In order to propose softer transitions, starting from 1936, the *alaturka* toilet was being kept in the building plans separately from the 'modern' bathroom (Bozdoğan, 2001). After many decades, most of the *alaturka* toilets were going to be converted into *alafanga* types within later renovations since the *alaturka* toilets were perceived as a symbol of backwardness, underdevelopment and insanitary conditions, however it is still preferred by many users (Gürel, 2008; "Tasarımcı gözüyle (interview with Müçteba Kundul)," 1990).

The other 'stranger' in the modern bathroom was the *bidet* which was initially used in France for washing the genital area after

<sup>6</sup> *Alafanga* means 'according to French/European style' adapted from French, refers to the Western water closet.

<sup>7</sup> See Bektaş's (1998) short article on how the bathtub raised the building cost, how it became the symbol of wealth and how it was foreign to our lifestyles in Turkey.

sexual intercourse (Rybczynski, 1987). In Turkey, this fixture was taking part in the bathrooms between the 1950s and the 1970s because it was perceived as a symbol of wealth and modernism, and it was sold as a set with the water closet (Gürel, 2008) (Figure 5). Later, the bidet started to lose its popularity since it was taking up too much space in the bathroom and the *alafranga* toilet was already had a built-in tap for cleansing since washing with running water after defecation is a requirement according to the faith and habits of the society. Hence, if the bidet was installed already, it was occasionally preferred to be used for washing feet since it was useful that way as well. In an interview in 1990, the designer of Serel indicates that bidet was not very popular in Turkey, thus they sell 1 or 2 sets out of 10 sets with bidet ("Tasarımcı gözüyle (interview with Müçteba Kundul)," 1990).

## THE CONCEPT OF CULTURE AND APPROPRIATION

According to Williams, culture is a *whole way of life* (as cited in Bennett, 2005). It is the particular way of life that a society lives, or of people, a period, a group or humanity in general; it involves ways of thinking, understanding, feeling, believing and acting 'characteristic' of a particular group thus not 'characteristic' of another group (Inglis, 2005; Linton, 1999; Williams, 1985). In other words, it "determines the uniqueness of a human group in the same way personality determines the uniqueness of an individual" (Hofstede, 2001).

Culture does not consist of only words or intangible concepts; it is always around us -in our very everyday life- "represented in material forms and social practice" (Schudson, 1989, p. 154). Therefore, it also includes the objects we use in our everyday lives, i.e. industrially designed products. However, objects do not simply exist in a culture, they define it as they penetrate to its beliefs, values, fears and fantasies (Kline, 1992). From the standpoint of industrial design, design and culture are intertwined, as well as everyday life.

There is an interaction between design and culture; design changes culture, but is also shaped by it (Moalosi, Popovic, &

Hickling-Hudson, 2010). The customs, values and habits specific to a culture might require specifically designed products rather than standard products commonly sold or imported in the market. Forms of a product might be defined by specific cultural needs and conditions, thus they might be meaningful only in that cultural context. Special two-pieced teapot set, so called *ince belli* tea glass, Turkish coffee pot and coffee cup, water closet with the nozzle for water cleansing and squat toilets are some examples for the notion of culture influencing design in Turkey.

In everyday life, culture and cultural habits might lead to the organization and appropriation of our environment, in other words, consciously or subconsciously, we appropriate our environment through our culture. According to some authors (Nippert-Eng, 2010), we construct the 'territory of the self' with our extended selves, some of which may be clothing, photographs, tools, decorations, workplace surroundings etc. Creating the 'territory of the self' can also be considered as an assimilation process of an 'alien' environment or a product. Miller (1987) argues that mass produced commodities are products of human labour and they are alien to us when they are first produced, however, they are appropriated, thus, inalienated through an expanded process of consumption, and are recast as inalienable cultural material.<sup>8</sup> The instant we start to use a product or live in an environment, we transfer and internalize them into our lives with constant appropriations, we charge them "[...] with particular inseparable connotations" (Miller, 1987, p. 190). Building on Miller's arguments on inalienation, Lupton and Noble (2002) suggest that appropriation is about making an object 'mine', in other words it is "the incorporation of an initially 'alien' object into subjectivity via everyday use" (pp. 5, original emphasis).

Simply, we appropriate the new and the unfamiliar space by organizing our things and establishing new everyday routines and habits, and make it one with our on-going life, in other words a place we can call our own (Berglund-Lake, 2008).

Some authors think that we appropriate objects by adding or

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<sup>8</sup> Miller builds his arguments on Hegel's (1977), Marx's (1973, 1974, 1975) and Simmel's (1968, 1978) thoughts.

changing functions in order to adapt or alter them for different purposes (Burkhart, 2006), for instance, using the bathtub for water storage. According to Parsons (2009), such purposeful appropriation of objects highlights the potential of objects and should inspire designers. According to Suri (2005), these actions show how we engage, adapt and make sense of our designed world and they are important source of insight for designers in creating new design opportunities and providing better solutions. It is important to note that, appropriation is not a one-way relation, as if only users do appropriate artefacts or spaces. In the same way, products can shape, transform and in Latour's (1992) words, even 'discipline' users' behaviour and practices through everyday use (Ilmonen, 2004).

## THE METHOD OF THE STUDY

The aims of my study require exploratory qualitative research; a constructionist model which involves ethnographical focus on the domestic bathroom. The study is being conducted with a holistic approach, with the direction of an interpretive aim and with an inductive analysis. Semi-structured interviewing is chosen as the primary data-gathering tool since it is broader and more free, allowing the inquiry to go further and/or deeper (Fontana & Frey, 2005). Observation and trace analysis are chosen as secondary data-gathering tools.

The study is being conducted with housewives/women living in Izmir<sup>9</sup>. I interviewed with 15 women. I excluded men/husbands from my interviews since as a traditional role, the house belongs to the women in terms of organization, decoration, renovation, design, cleaning etc., in other words, women has been assigned as the homemaker throughout the history (Heynen & Baydar, 2005). I select the participants through friends and family network in order to provide a degree of social acceptance. The interviews took approximately 50 minutes to 1.5 hours, which were digitally recorded, supported by the bathroom photographs with the allowance of the respondents and notes, and fully

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<sup>9</sup> Since I live in Izmir and due to the accessibility reasons, I chose my participants from Izmir. Izmir, being on the very west of Turkey, is the third biggest city in Turkey and has a population of 3.948.848 (TÜİK, 2011).

transcribed for analysis.

I try to make descriptions and explanations by analyzing the data with the ethnographic data analysis tools. Mainly, the excerpts turned into my notes, notes are grouped and formed the codes, and similar codes and codes that can be merged came together and helped me to generate the concepts.

## FINDINGS AND DISCUSSION

As I analyse the interview data -although they are subjected to change- I have generated four concepts till now. These include (1) *Women Own the Bathroom*, referring to the domination of the women on the bathroom usage, organization and cleaning, (2) *Bathroom is a Showroom*, referring to the pretentious side of the bathroom, in other words the image women wish to create, (3) *the Practices Performed in the Bathroom Change through Generations*, referring to the differences in the bathroom use and cleaning practices between generations, and (4) *the Contemporary Bathroom is Inadequate*, referring to the physical incompetency of the space and its elements. However, I hereby present some of the antagonisms I found between culture/cultural habits and the design of the contemporary bathroom in Turkey.

One of the obvious antagonisms in the contemporary bathroom in Turkey is the contemporary bathroom being not designed to ease the practice of ablution.<sup>10</sup> Ablution requires washing the face, arms and feet. According to the data gathered, the older generation tend to pray and perform ablution compared to the young. The common but non-ergonomic solution to wash the feet is to raise them above the washbasin. In order to wash the feet during ablution, one of my informants and her husband (age 64 and 66) are not able to raise their feet above the washbasin and they do not wash their feet in the shower cabin as well due to the visual concerns. If they wash their feet in the shower cabin 5 times a day, the water splashes on the transparent glass walls of the cabin, the high hardness level of the water leaves water

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<sup>10</sup> Ablution is the Islamic procedure for washing parts of the body using running water, typically in preparation for formal prayers. 2 of my informants regularly perform ablution 5 times a day, which requires washing the face, arms and feet.





**Figure 6:** A plastic *maşrapa* rests on the countertop, used to pour water above the toilet bowl during ablution (photographed by the author).

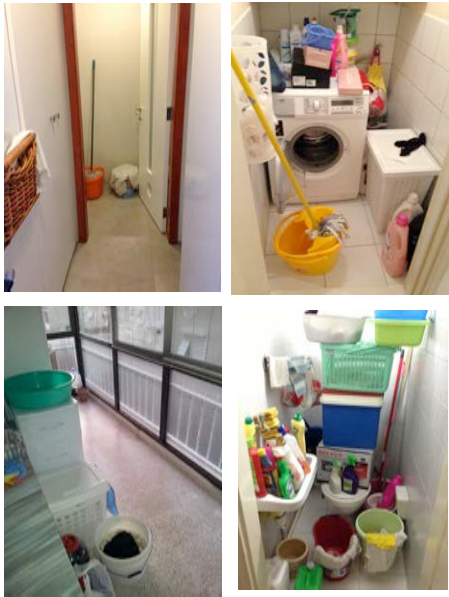


**Figure 7:** Traditional ways of bathing. On the left; a plastic stool to sit on, a plastic bucket to store the water and a plastic bowl to pour the water in the shower cabin. On the right; a foldable seating unit mounted on the shower cabin wall of a renovated the bathroom (photographed by the author).

stains and since the wife feels uneasy about it, it needs to be wiped of after each use. In stead of that, they raise their feet above the toilet bowl 5 times a day and pour water with a plastic container (*maşrapa*) which rests on the counter all the time (Figure 6), and she is kind of embarrassed of it and says; “Actually, it [*maşrapa*] does not suit there but we have to use it, of course we take it away when guests arrive [laughs]”. I realized that the women desire to keep the bathroom visually attractive and trendy, however their cultural habits contradict with the design and the elements of the space. This also occurs when again older generation prefers the traditional ways and tools of bathing. One of the women (age 66) I interviewed uses a plastic stool to sit on, a plastic bucket to store the water and a plastic bowl to pour the water in the shower cabin; a way similar to bathing in *hamams*. In order to be more modern and practical, another informant and her husband (age 63 and 64) mounted a foldable seating unit on the shower cabin wall while they were renovating the bathroom (Figure 7).

Similar to many cultures, in Turkish culture, it is the woman who makes the home. The data gathered through inquiries made with the 15 women, supports the notion of the female domination in the house -thus the bathroom- in terms of organization, usage, renovation, decoration and cleaning. All the 15 women implied or indicated that they have the control on the bathroom space.

During the interviews, they used the first person possessive suffix while talking about the bathroom and its elements, such as my bathroom, my detergents, my cupboards etc. This feeling of ownership also shows how much they feel responsible for the bathroom hygiene. One of the outcome of the data is keeping the bathroom clean and tidy is very important for the women which is directly related to the ‘showroom’ notion of the bathroom and the perception of hygiene in Turkish society. Since culture is learned and transmitted through generations by living and doing as it is impossible to avoid it (Hofstede, 2001), the perception of hygiene and thus the practice of excessive cleaning in bathroom have been transferred through generations among women in Turkey. Throughout my observations, I realized that women buy various types of detergents for various elements and purposes in the



**Figure 8:** Some examples of the 'extension of the bathroom' created by the women (photographed by the author).

bathroom which also related to the frequent cleaning and wiping of the space and its elements. Using and keeping too many detergents, various types of cleaning cloths, plastic buckets, mops, bucket and wringer sets, plastic washtubs, brushes, sponges lead to the problem of storage. These tools and elements are important part of the material culture of the contemporary bathroom in Turkey, however the contemporary bathroom was not and still is not being designed with the consideration of this notion. Since the laundry room has not been the part of our apartment flat culture, the common apartment plans do not include a laundry room either. Thus all the women I interviewed have created an extra space to store such tools and elements which I call the 'extension of the bathroom'. They either use a balcony, a dark and small room or the toilet room for storing such material. As one of the informants (age 33) indicates, "We do the dirty jobs in there [toilet room transferred to a laundry room]", the bathroom extensions become the backstage of the desired bathroom as a 'showroom'.

As a conclusion, the data show that some patterns of specific use, organizations and appropriations in the contemporary bathroom are related to the local culture and habits. There is a contradiction between the design of the space –which is globally defined as the 'modern' bathroom'- and these cultural habits that require specific tools or practices. Friedman (1995) defines culture as the essentialization of difference. Similarly, Appadurai (2003) specifies the concept of difference as the most valuable feature of the concept of culture. Pointing the differences that have cultural dimensions are important in 'design-wise' since the culture in which the product designed may be different from the one in which the product will be used. Nowadays, design companies and industrial designers are challenging the difficult task of designing products for cultures other than their own. In order to design the right product for the right user, industrial designers should be aware of the local or the cultural context of the desired product. In other words, in order to embody the cultural factors into products, industrial designers should learn and deeply understand the users' culture; his/her lifestyle, needs, and values rather than leaning on their intuitive knowledge (Heskett, 2002; Moalosi et al., 2010).



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SPRING CUMULUS CONFERENCE  
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## NOTES FROM COMPLEX TIMES: Reflections on teaching and learning in an Art & design foundation program in Doha, Qatar

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### ABSTRACT

A number of universities from Europe and North America have established campuses in the Middle East. Qatar began the trend by persuading highly respected American universities to open campuses in its sprawling Education City complex. While the impulse, in such cases, may be to replicate ways of teaching that may have been productive elsewhere, I argue that teaching and learning in an age of complexity must always be responsive to the specific context in which it takes place. This article focuses on two assignments from a Foundation program in art and design as well as the students' response to the projects and includes reflections about the interactive exchange between students, professors and Interim Director of the program<sup>1</sup>.

### KEYWORDS

Diversity, education, art, design, complexity, Middle East

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<sup>1</sup> I am grateful to Professors Nathan R. Davis and Simone Muscolino for their insightful approach to teaching and for inviting me to participate in class discussions related to the two projects mentioned in this article.

*Complex thought is essentially thought which incorporates uncertainty and is capable of conceiving organization. It is capable of linking, contextualizing and globalizing but can at the same time acknowledge what is singular and concrete.*

Edgar Morin

## INTRODUCTION

I knew as soon as I stepped off the plane in Doha, Qatar arriving from the West Coast of Canada to take an interim position as director of the Foundation (first year) program in art and design at Virginia Commonwealth University in Qatar, that I would become acutely aware of the continual reformulation of what it means to be an artist and a teacher. I knew at once that a living pedagogy (Aeoki, T.T., Pinar, W., & Irwin, R.L. 2005) involves navigating between one's own awareness and the multiple and varied views of all those around and one's own taken-for-granted position. In the following text, I discuss aspects of my experience working in the context of art and design higher education in Qatar focusing on two specific class projects.

## LEARNING BY DOING

In his address at the 2013 WISE conference in Doha, Edgar Morin reminds everyone that learning to confront uncertainty must be at the core of any program of education. Undeniably, it is not uncommon to hear that we live in an age of complexity where connections between knowing and not knowing eschew reductionist notions of teaching and learning as in causes that lead to predictable effects. Indeed understanding curriculum as an interactive process with unexpected outcomes raises questions such as: How do we question our own assumptions while simultaneously being mentors and teachers? How do we maintain engagement in pedagogical models that support education that is developmental and transformative (Doll, 1993)? And from my new standpoint in Qatar, how do we instill in students a sense of place in an ever-changing global context while respecting local customs and cultural norms?

It is almost a truism to say that learning by doing is core to

art and design education. Engaging with physical materials as a method of inquiry is central to the pedagogical experience of art and design schools. In Foundation programs, students often expect and share a belief that, in their first year, teaching and learning ought to focus on the acquisition of technical skills in order to allow their 'natural' artistic talent to manifest itself. It has been my experience that teaching strategies that challenge this view can be met with significant resistance on the part of the students. This perspective is reflected in an anonymous survey I conducted among Foundation students as exemplified in the following comment:

*We are not taught how to use the software specific to the project – only after the professor notices our struggles we are shown how to use that specific tool causing us to waste our time.*

## OPPOSITES

Early in the fall semester of Foundation, the professor, new to this university and to the country as I was, asked Foundation students to work with a pair of opposite words such as right-left, straight-curve, before-after, yes-no, etc. and to choose one object to represent each word juxtaposing the two with imaging software into a single image. As stated in the project description, the goal was to introduce students to “generating photographic juxtaposition to communicate complex ideas”, to “apply the camera as a tool for critique and observation of a culture” and to “learn to use the lens as an editorial tool to express a viewpoint”.

When I joined the class for the group discussion, the final images were pinned to the wall and each student was asked to speak briefly about the concept that underlined his or her choice of words and objects. As students began to speak, a dynamic interplay between students, the professor and myself unfolded revealing insights into the culture that was new to both of us. Although most of the objects selected for the juxtapositions had word associations that were obvious, two images stood out for me for the discussion that they generated. The first one included a tube of lipstick beside a

photograph of a piece of paper onto which a phone number was handwritten to illustrate “Thanks” and “No Thanks”. When her turn came, the student explained that in her culture, women who wear make-up may be seen as eliciting attention from men who, we were told, sometimes throw their phone numbers at women they find attractive. While the discussion that ensued involved a lot of chuckles, it became evident that for some of the students, the project had inspired them to look at themselves and to reflect on their experience as a source of ideas.

The second image was of a textbook on mathematics juxtaposed with a set of paintbrushes. The student stated that she chose the objects to illustrate “Success” and “Failure”. In the course of the discussion, other students joined in agreement to explain that it was generally understood that their choice to study art and design was principally motivated by their limited academic success in studying math in high school. Art and design was by defect the option for them to study at a university. In response to this disheartening realization, the impulse for the professor and me was to try to refute that belief by citing all kinds of reasons in support of studying art and design in Qatar particularly at this time. After all the opportunities to view art from historical to contemporary are increasing by the day with new museums being built, installation of public art becoming more visible and cultural events that attract considerable international attention taking place more frequently than before. Furthermore, since the pace of the infrastructure and economic development of the country is in rapid mode, the need for design professionals in multiple sectors is without precedent. But as I became more engaged in my efforts to contest the students’ perspective, I simultaneously felt the futility of doing so, this, not for lack of arguments, but because it served no valuable pedagogical purposes.

The students were essentially articulating their experience with the world around them as an integral part of themselves (Dewey, 1934) and to dismiss the students’ perception as

being misguided, however well intentioned, in essence represents a failure as an educator to recognize one's own value-laden beliefs. Students come with norms, values and practices from home and from their previous experiences in education (Mckenna, 2013). Therefore, students' learning is not limited to the subjects at hand but also involves navigating through the values and norms of an American university campus located in the Middle East. I would argue that while one must be vigilant to avoid falling into essentialist views, as educators it is imperative to recognize that any student body belongs to one or more social groups with all the complexities that this implies and to acknowledge the inevitable impact that this has on teaching and learning.



*Success/Failure*

## ALMOST 3EIB<sup>2</sup>

*Almost 3EIB* is a collaborative project between the professors and students from two classes, Time Studio and Surface Research, that investigates the concept of 3EIB, the Qatari definition of socially acceptable practices. In contrast to haram acts, which are typically prohibited in religious Islamic texts, 3EIB refers to socially defined behaviors which may vary widely amongst families, regions and social classes. In order to complete the project, students had to use sophisticated image and film editing software to present the concept in graphic and stop motion forms. They also had to

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<sup>2</sup> 3EIB is written in English with '3' to refer to the Arabic letter 'ع' (ayn).

become primary researchers by observing and reflecting on their own practices and those of others.

The project was assigned towards the end of the first semester and initially served to open a dialogue between students<sup>3</sup> themselves and between faculty and students. However, when students began to argue in class, moving from constructive discussions to accusations based on differences, the professors had to intervene, not as experts but as critically engaged learners. The faculty had to improvise in their interactions with students in class and through social media, acting creatively and innovatively (Montuori, 2003) in response to students' reaction; they had to act mindfully to enable the arising tensions to become productive (Davis, Sumara, Luce-Kapler, 2008). As the department director, I was present when the project was first introduced to students and was kept informed of subsequent developments. At one point, I felt that it was necessary to seek the advice of a Qatari colleague to get her opinion about the project and the students' responses as I wanted assurance that the project in itself had not inadvertently breached local moral or social codes. According to my colleague, it had not.

As a project *Almost 3EIB* explicitly aimed at making students conscious of the practices that surround them as a potential source of ideas and from which all parties involved would learn including faculty. Furthermore the project became a rich focal event (Davis et. al, 2008) where unpredictable connections emerged while avoiding to isolate and to teach technical skills sequentially and decontextualized from exploring ideas. For example, students posted their work in progress on Facebook<sup>4</sup> to receive feedback from professors and peers and it was often students who took the initiative to direct their peers to online resources to solve specific

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<sup>3</sup> The overall student population of Virginia Commonwealth University in Qatar is composed of 51% Qatari nationals. The remaining number of students are mostly long-term residents of Qatar, or were born in Qatar, but do not hold citizenship and others are mostly from other Muslim countries in the Gulf region.

<sup>4</sup> The faculty of each studio course in the Foundation program keeps a private Facebook page where students post their work in progress.



technical issues or to provide other helpful links encountered during their research and which they recognized as being of specific relevance to other students around them.

Qatar's National Vision 2030 states that "Qatar's very rapid economic and population growth have created intense strains between the old and the new in almost every aspect of life" (p.4). I would suggest that as an enabling constraint, the *Almost 3EIB* project unintentionally highlighted the tensions experienced by Qatari students specifically as they negotiate their way in a Western system of education that stands for developing agentive learners while living with the expectations and societal pressure of playing a pivotal role in maintaining and carrying forward their own traditions. As such this project has given students the opportunity to work within an atmosphere that is rich in productive problematic, unpacking and analyzing previously unquestioned behaviors and practices. While it was never the intention for students to be on the same page, for this project at least, students and professors had to embrace complexity, allowing for "cross-fertilization, pollination, and catalyzation of ideas" (Doll, p.25). During the process, the interaction that this project elicited between faculty and students and amongst students themselves, led "... not only to other ideas but ones more adaptable to the issues or problems at hand" (Doll, p.21).

As a focal event, I suggest that the *Almost 3EIB* project built robustness among students and professors. Furthermore by being immersed in a generative experience that reflected on the customs and cultural norms that surround them students gained both technical skills and insight about themselves. I believe that it is also noteworthy to mention that they did so without giving umbrage and with much humor.

## CONCLUSION

In discussing two Foundation level class projects at an American university campus in Qatar, I attempted to share initial thoughts about teaching and learning in this specific context. My intention in this short paper was never to infer,

from this limited experience, a course of action for others to follow, but instead, to offer an open-ended closure. While in the West art and design pedagogy may be largely predicated on encouraging students to demonstrate their own individual talent and unique perspectives, what I have observed during my time in Qatar suggests that such a goal may be of less importance than exercising self-reflection, self-criticism and self-observation while teaching and learning in this age of complexity and wherever one is. I do not have answers for the questions I proposed early in this essay but I see this as a good sign.



Almost 3EIB project

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SPRING CUMULUS CONFERENCE  
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## HUMAN ECOSYSTEMS: Observing the real-time life of cities to foster novel forms of participation.

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### ABSTRACT

This paper presents a methodology we have developed together with the city administrations of Rome, Turin and S. Paulo, to observe the human relational ecosystems emerging in real-time in cities using social networks, as well as a series of usage scenarios for participatory governance, new collaboration and citizen engagement models, and novel service-oriented business models. We will also present the methodology and strategy for the creation of the Office for Human Ecosystem in a city, intended to bring out these methodologies into the public sphere, and to promote active participation for citizens, organizations and enterprises.

This paper will introduce the research questions, as emerging from the identification of the specific needs for forms of smart citizen engagement, a selection of previous works that have proven to be relevant for this kind of project, the methodology that has been created, the designs which have been the outcome of its application, and a critical evaluation of the results that have been achieved so far.

### KEYWORDS

Citizen Science. Cultural Geography. Urban Sensing. Smart Communities. Social Networks.

## INTRODUCTION

Large numbers of urban dwellers use smartphones, tablets, online services and social networks in their everyday experience of cities. This shapes the ways in which we make decisions, work, collaborate, express ourselves and our emotions, learn, consume and relate (Nielsen, 2012).

Together with city administrations such as Rome, Turin and S. Paulo, we started from this assumption to discover innovative ways in which to observe the human relational ecosystems in cities, and to use these observations to understand how to create novel forms of citizen participation and collaboration.

## RESEARCH QUESTIONS

What do we mean by citizen participation?

There is an equivalence running between the idea of participation and the idea of power.

“Participation is a categorical term for citizen power” (Arnstein, 1969). It is the deliberate redistribution of power, to include citizens in the strategies and processes determining how information is shared, goals and policies are set, tax and resources are allocated, and programs are operated. Citizen participation is the means by which they can induce significant social and political reform which enables them to share in the benefits of the affluent society.

We have framed our research questions within this proposed equivalence: our objective is to design novel forms for implicit and explicit citizen participation.

How is it possible to establish observation processes which include city dwellers public expressions of their desires, wishes, expectations and objectives in regards to major topics for public discussion such as environment, energy, transportation and mobility, infrastructures, economy and the development of opportunities? How can the results of these observations be transformed into usable knowledge?

How can tools, shared practices and methodologies can be designed and promoted, for them to be adopted by large parts of the city population and by institutions and organizations, to promote active, aware collaboration and



participation patterns to emerge?

## PREVIOUS WORK

Although many researches and practices exist to address the research questions, a few fundamental issues still remain problematic.

One of the major problems is found in understanding ways in which to solicit input from citizens and to evaluate these inputs for inclusion into policy deliberations. Both research and practice indicate how governments seem to have limited capacity or understanding in this area (Evans & Campos, 2012). Lack of tools and frameworks (Bertot et al., 2010), lack of capacity and collaboration at mass scale (Tapscott, Williams, & Herman, 2008), low quality of indicators and methods for the gathering of feedbacks (Chang & Kannan, 2008; Dawes & Helbig, 2010), are some of the main problems in this domain.

One other problem lies in the need to better describe the nature and scope of public demand for information, and to measure and react to the public's expectations for transparency.

While agencies are releasing data in compliance to open government standards, it is not always clear how this shift is connected to government transparency (Ginsberg, 2011).

Meijer's (2009) research highlights the tension between public's demand for large and updated data sets, and governments' structures and capacity to meet this demand (Dawes, 2010).

Along the same line is the lack of cross-sector and interdisciplinary capacity for the development of open government policies and practices. Ginsberg (2011), for example, suggests the need to establish uniform criteria and principles.

Others (Bertot et al., 2010) identify the need to develop and actuate policies for social media and other technologies. Chang & Kannan (2008) and Tapscott et al. (2008) have described the need to design more integrated uses of technologies and media channels to share resources and resolutions. Some (Robinson et al., 2009; Tapscott, Williams, & Herman, 2008) highlight how third parties should play larger roles in these kinds of processes.

On top of that, it has been demonstrated how agencies of all sorts do not possess a good understanding of users' needs and expectations, particularly in the comprehension of the most appropriate venues and modalities for sharing information.

Researchers have identified that a tension exists between providing comprehensive data sets and meeting the needs of citizens who lack background knowledge, suggesting that public managers must consider the knowledge of users and prepare data accordingly (Dawes, 2010; Dawes, Pardo, & Cresswell, 2004). These studies have also shown how there is a general misunderstanding about the kinds of information expected from users, and of the needs for tools and accessible methodologies for them to enact collaborative, participative processes in order to coordinate themselves and take active part in the life of their city.

## **METHODOLOGY**

Given the results of the preliminary research, we set forth to organize our methodology. The objective was to confront with practical scenarios in actual cities and, at the same time, to create a replicable, scalable, usable methodology that could be used in other occasions and scenarios. We started by obtaining the participation of Rome's and Turin's public city administrations (on top of that, a research instance is now forming in S. Paulo).

Together with them we set up the toolkits and methodologies to use major social networks (Facebook, Twitter, Instagram, Foursquare, LinkedIn) to observe city dwellers' public expressions, to understand their topics and emotional states, and to transform all of this information into a widely accessible and usable source of information.

The methodology is based on five pillars:

- a series of technologies to capture, process and visualize citizens' public expressions on social networks dealing with major issues;
- three types of participating organizations (municipality, research, enterprise);

- an accessible lab, and its related initiatives;
- a series of public, periodic events.

A technological system using the technical and methodological characteristics described by Iaconesi and Persico (2013) was setup for each of the city, called the **Human Ecosystem (HE)**.

Each system was able to:

harvest in real time people's public expressions in the city on social networks;

- classify them, whenever possible/applicable, according to themes (culture, traffic, environment, public space, economy, commerce, public transport, health and wellbeing were some of the main themes identified), emotions (for which we used the basic classification described by Plutchik in 1980, for its readability and accessibility for wide numbers of people), and location (using both geographical coordinates and databases of the Named Places discussed in the messages);
- a series of visualizations showing the three main dimensions of location, time and relation, accessible from a dedicated website and from a public space, under the form of a large, interactive, real-time projection;
- a novel source of real-time Open Data through which anyone could access all of the captured information.

In each city a triad of organizations was setup:

- one research team;
- the city municipality;
- a for-profit or non-profit organization with a strong regional focus.

All subjects involved received basic training to use the HE to observe people's expressions, the emergence of topics for public discussion, the status of these discussions on major issues, and the relational ecosystem, defined as the layout of the personal relations described by social interactions, highlighting people's roles and topographical importance.

Each type of subject received additional support (training and consultancy) to be enabled to use HE to pursue its specific objectives, such as monitoring the territory for opinions and ideas, establish engagement strategies, describe and act on specific citizen networks.

An open, accessible Lab was created in each city. Here schools, universities, hacker spaces, fablabs, citizen groups, designers, architects, urban planners, cultural operators, artists and more were able to access basic training on the ways in which they could use the HE for their own purposes. Some of them involved simple questions: “how can we clean this park by creating engagement in the relational ecosystem in the city?”

Some were more exploratory: “how can I design a new service leveraging the relational ecosystem?” More advanced forms of training were set up to provide additional skills, to work directly with the Open Data source of the HE, create visualizations, and more.

A series of recurring public events was set up, under the form of a virtual and physical space in/for the city. Here people could take part in an immersive, interactive multimedia experience of the Human Ecosystem, as well as participate to workshops explaining the use of open toolkits to use the HE to its full potential. The first events of this kind happened in Rome starting from September 2013.

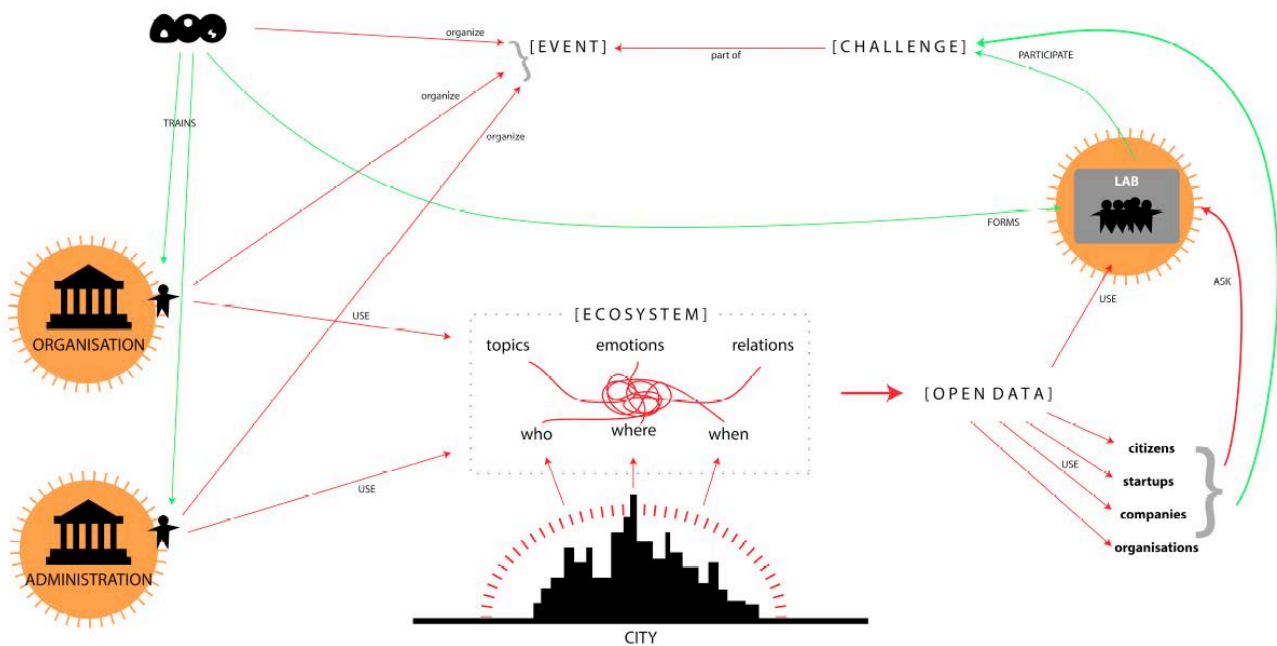
## **RESULTS**

Here we will focus on the description of the various elements of the design process.

### **DESIGN PRINCIPLES**

The following design principles were followed:

- **Unity:** all the HE elements and components should be perceived as a whole, by providing visual and, in general, transmedial clues;
- **Accessibility:** the HE and its offsprings should be available to as many people as possible, across cultures, literacy, skills, by providing different levels of access;



**Figure 1** an early sketch of the Human Ecosystems process.

- Usability: usage of the HE should be easy to learn and adopt, by providing appropriate mechanisms for interaction and relation;
- Customizability: the HE should provide accessible tools and methods using which different people are able to customize for their own needs and objectives, for example by focusing on specific topics;
- Pattern Languages: the HE should define a language, complete with a vocabulary, syntax and grammar, using which users will be able to express, build, collaborate, communicate.

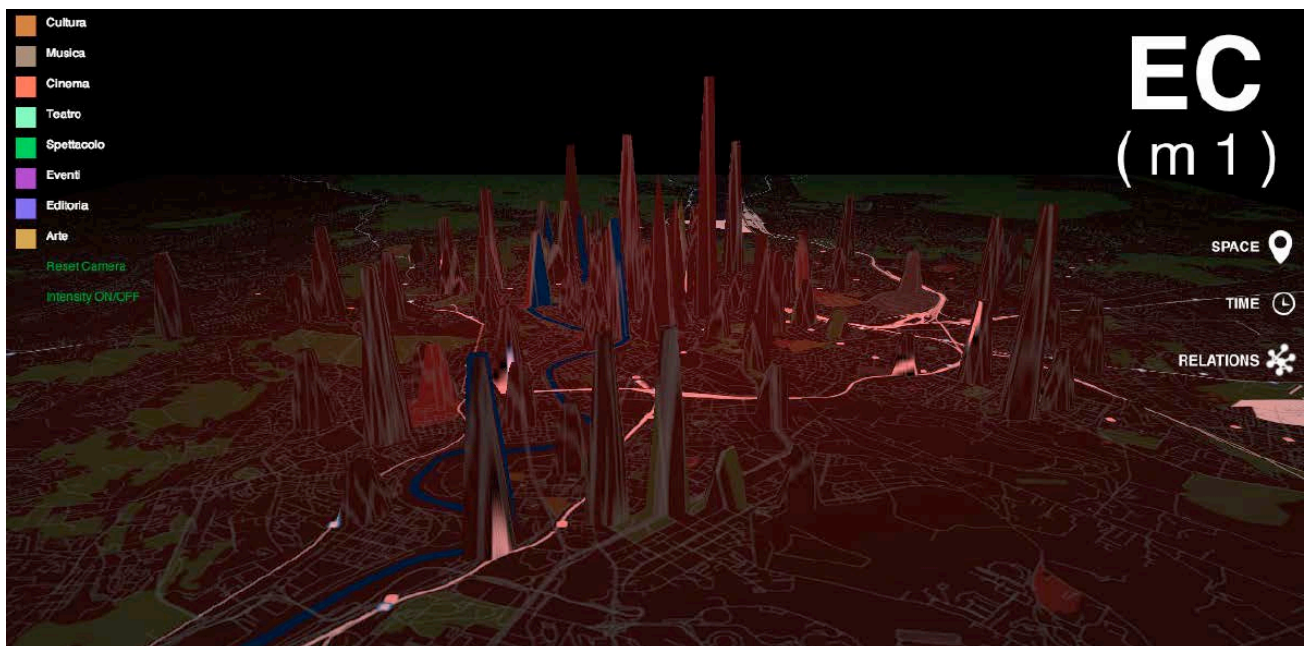
## VISUALISATIONS

The visualizations closely match the information which is harvested in real-time from social networks.

Space. The real-time geography of the city, as it emerges from the things people discuss, from the ways in which they express emotions, from their ideas and initiatives.



**Figure 2** the Space visualization, themes in Rome.



**Figure 3** visualization of the intensity of a topic.

Figure 2 shows a theme based visualization: a selection of colorcoded themes is shown on the map. Clicking on each box reveals the information generating it. Filters can be applied in real-time to affect the visualization. Figure 3 shows a way in which a certain topic can be visualized according to the intensity with which it is discussed in the city.



Time. The time of the city. When do people talk about Culture? About traffic? About their joys, fears, anxieties, surprises? How much do people discuss issues during their working hours, or in their free time? When do they attend events? How are people's expressions connected to the news?



**Figure 4** Time visualization for a venue

Figure 4 shows the information collected about a certain cultural venue in the city of Rome over time: the people talking about the venue and the people who said to actually having been there are shown on the graphs, and can be clicked to gain further details. Figure 5 shows the emotions expressed in the city for a certain topic. Filters can be applied to customize the view and to dig into the emotional landscape of the city, either thematically, geographically or in a certain timeframe. Relations. What is the human relational topography of the city? How do people relate? How does information spread? Who collaborates together? Are people isolated? Are they hubs, influencers, amplifiers, bridges across different communities?

Figure 6 shows a view on the entire relational ecosystem of the city of Rome, as it emerges from social networks. Nodes in the graph are connected to each other and shown in various colors

according to their role in the relational ecosystem (in the image, for example, influencers are shown in orange, bridges connecting multiple communities are shown in green, hubs are shown in light gray and simple nodes are shown in dark gray). Filters can be applied to isolate specific topics, communities, timeframes, geographical locations, languages.

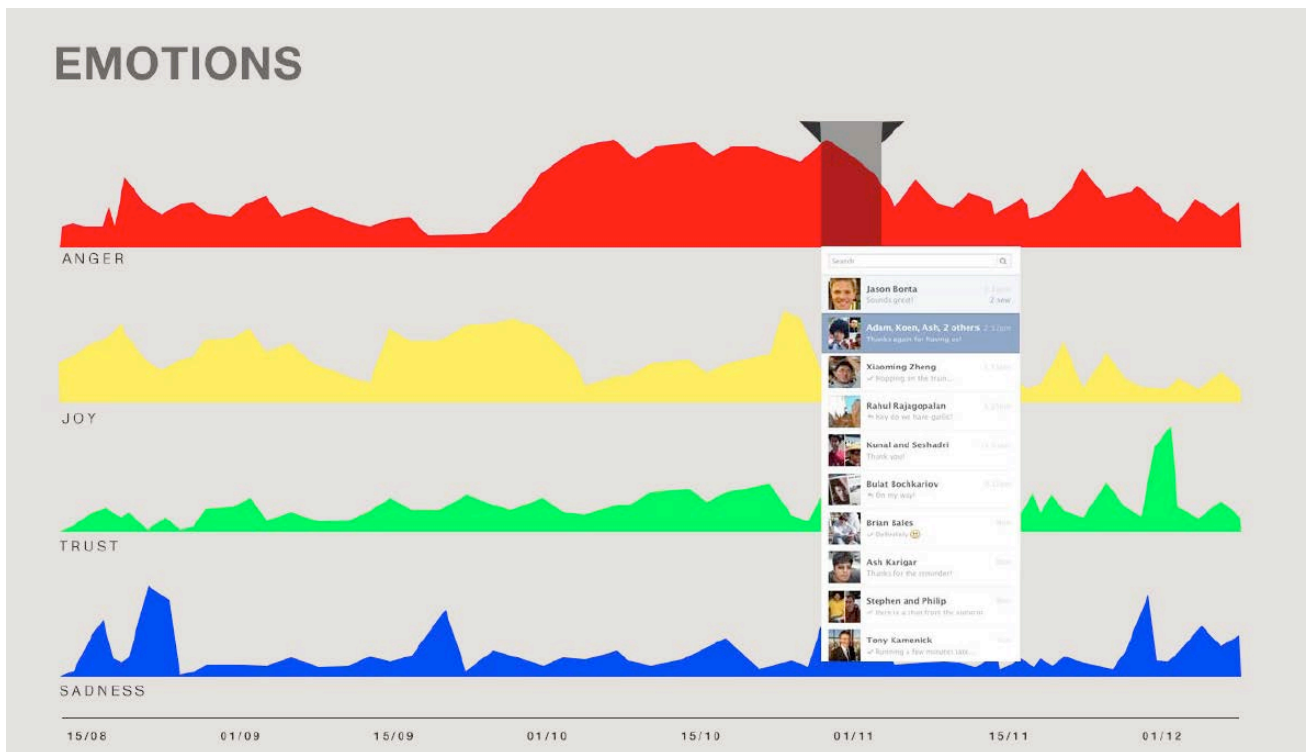


Figure 5 Time visualizations, emotions in the city.

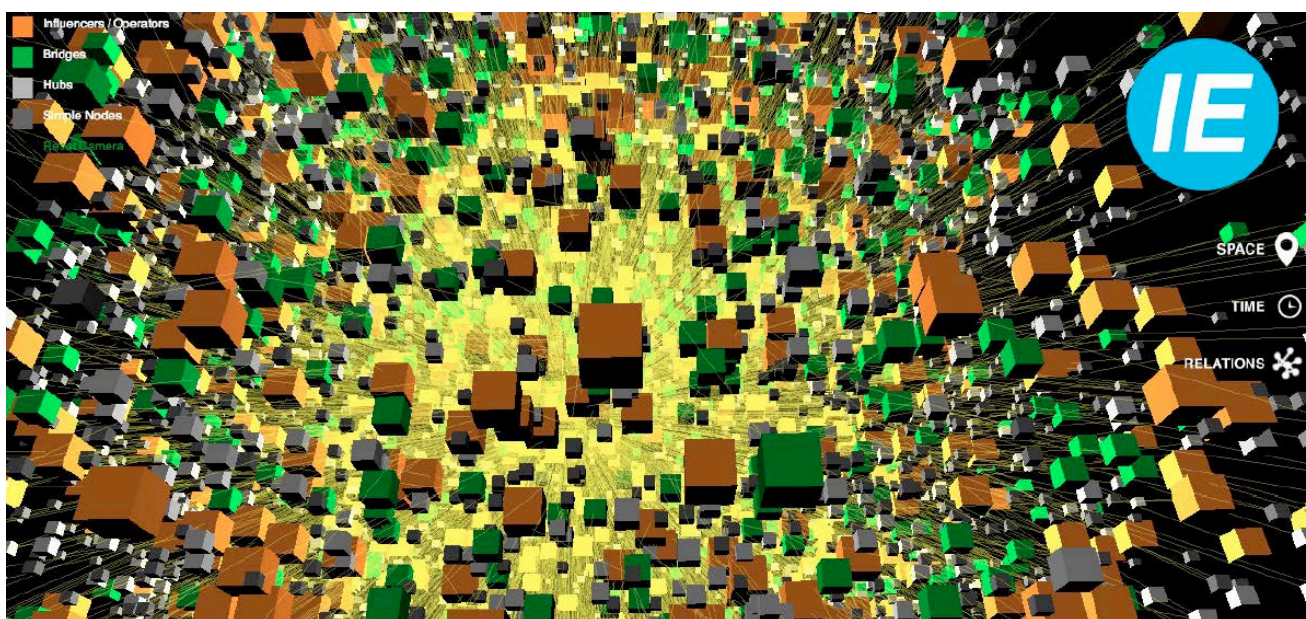
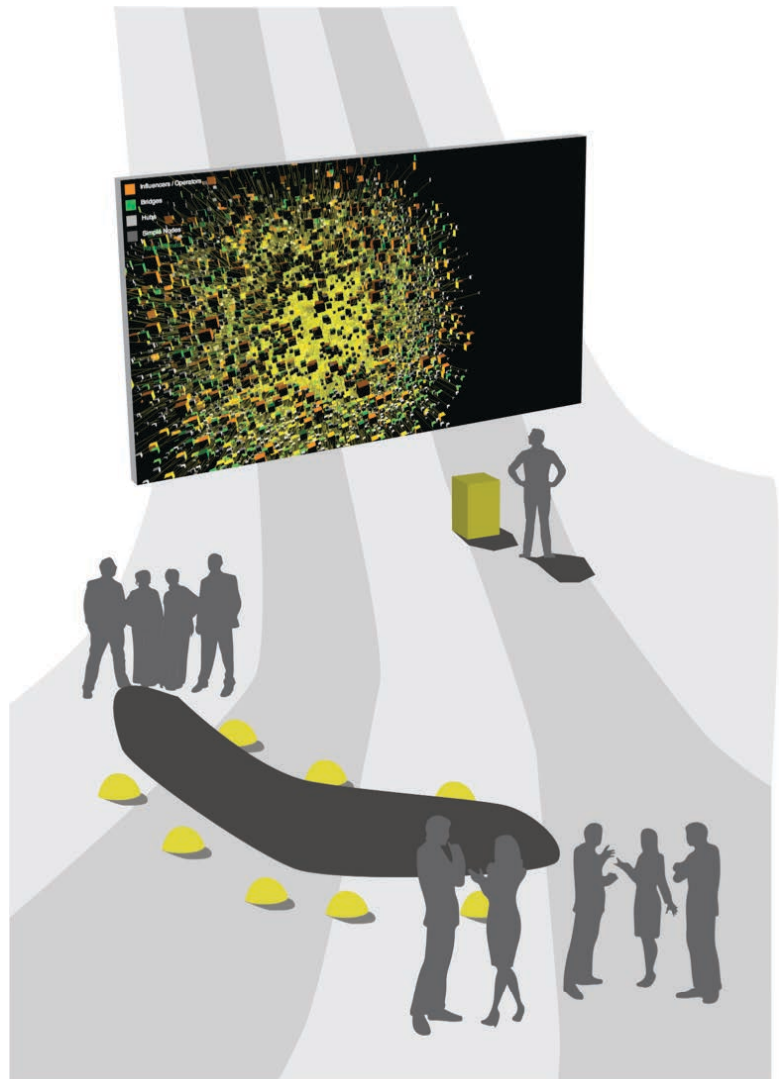


Figure 6 Relations visualization, the ecosystem.



## PHYSICAL SPACE



**Figure 7:** the physical space of the Human Ecosystem.

The physical presence of the Human Ecosystem is composed by two main components: an immersive interactive experience and living space for education, workshops and mentoring.

A info-aesthetic, immersive navigation system for the ecosystem allows people to experience the ecosystem. They are able to find themselves in the relational ecosystem and explore the communities, cultures, networks, emotions and themes for discussion in the city, across neighborhoods, timeframes and topics. The immersive interface and interaction scheme is very accessible and usable: a projected real-time info-visualization surrounds the user, who can interact with it through a simple controller.

Mentors are ready to welcome citizens and organizations.

Workshop and tutoring activities help people position themselves in the ecosystem, and learn how to use it to collaborate, create strategies, observe their communities and their information and knowledge flows.

## **THE LAB**

The Lab is a disseminated entity which is defined mostly through its process and protocols.

The Lab's main asset is the real-time source of Open Data, together with the digital toolkits which come with it, under the form of APIs (Application Programming Interfaces), software tools, programming libraries, documentation and more.

A constructivist, peer-to-peer learning protocol is established in the Lab. A series of hands-on activities are used (under the form of workshops) to understand the basics and the advanced topics related to the HE, and are then generalized to gather insights about possible usage patterns for the HE, which are structured under the form of service concepts to be designed and developed.

One of the first example outcomes for this process is the Emotional Compass for cities described by Iaconesi (2013), a novel form of urban navigation involving the emotions expressed by social network users across the city: an emotional tourist guide for cities.

All the knowledge produced in the Lab becomes a common, and is made freely available and usable to all future participants, and to all the citizens.

Special care and methodologies are dedicated to enacting peer-to-peer learning paradigms: the intent is to transform each Lab participant into a potential teacher for someone else, fostering the emergence of participation and collaboration patterns which also have visible impacts on the society outside the Lab.



**Figure 8** Events, the plenary session.

#### **A TYPICAL EVENT: CULTUR+**

Three main events have been held up to now in the city of Rome, hosted by the city administration. These events saw the participation of a large amount of operators of the cultural sector.



**Figure 9** Events, the Challenges.

All three events followed the same scheme, shown in Figures 8, 9 and 10. In these:

- the current state of the HE is presented, including its results, spin-offs, and next steps (Figure 8);
- the Lab showcases the most interesting projects and visualizations emerged, in a multimedia exhibit;
- a open challenge is organized, to use the HE to confront with an important issue in the city (Figure 9);
- a series of thematic workshops are setup to learn how to use the HE for culture, innovation, startups, design, urbanism, policies (Figure 10), for different types of participants and age groups (from 6 years old, up to elderly people).



**Figure 10** Events, one of the workshops on the Human Ecosystems.

## CONCLUSIONS

Thus far, our research and experimentation on the field on the Human Ecosystems has achieved measurable results beyond our expectations, and it has directly addressed the main research question, as well as the issues identified in the previous research. The observation of citizens expressions on social networks has both provided ways to gain better understandings of people's desires, visions, objectives, expectations in regards to major topics for public discussion, as well as the possibility to include them in the creation of public policies and actions.

Urban dwellers have been empowered in both implicit and explicit

ways, by including their expressions in the determination of citizens' desires and expectations, and by providing settings and occasions in which all stakeholders are able to share this information to collaboratively create new services, policies and strategies.

On top of that, the multi-disciplinary approach has led to better, more efficient collaboration patterns across sectors and agencies, leading to the potential definition of best-practices that will soon be integrated in the knowledge base of the HE. Furthermore, and possibly most important of all, a methodology has been defined to gain better understandings of users' needs and expectations, and these have been turned into public knowledge accessible and usable by everyone, through active, peer-to-peer education processes which are changing the perception of what a 'citizen' can be: a more active, aware, better informed agent who has the possibility to share the power to shape the future of the city.

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## BRINGING DESIGN TO LIFE: Anthropological considerations on the social implications of design

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### ABSTRACT

This paper investigates the possibilities of considering the relationship between design and social practices in dialogue with specific anthropological theory. Using Eduardo Viveiros de Castro's proposals, we ask, what it would mean to "take seriously" social practices, as creative practices, when raising questions about the professional field of design and its responsibility in the creation of objects.

### KEYWORDS

Design. Anthropology. Social design.



## INTRODUCTION

If we speak of a 'social design' <sup>1</sup>, it could be assumed that there is a necessity to add the 'social' aspect to the English word 'design', so as to distinguish a professional field related to design-based projects. As if, in its essence, the project dimension of design is disconnected from social contexts. In this sense, the expression 'social design' itself, actually functions in separating the creative and projective activity of design from ways of life in society. However, this notion could also urge illumination on socially informed design, which revolves around the social dimension and "takes seriously" the ways in which the inhabitants of the world, not all of them being design professionals, understand and lead their lives.

As stated by the Brazilian anthropologist Eduardo Viveiros de Castro, in his article "The Relative Native" [O Nativo Relativo], "'taking seriously' is, to begin with, not neutralizing" (2002:129). It is instead finding another way of thinking, not forming opinion, "the only possible object of belief or disbelief" (idem: 130), nor as a set of propositions considered to be the "only possible objects of judgment of truth"(idem), but rather as an activity of symbolizing or creating meaning (idem: 131).

In this sense, thinking anthropologically about another way of thinking suggests, "keeping the values of others *implicit*" (idem: 131), refusing to change or update on terms other than its own, keeping each idea indefinite as possible: "without unrealizing them as fantasies of others, or fantasizing about them as suitable for us" (idem: 132). Thus, in the viewpoint of Viveiros de Castro, "if there is something that is vested in anthropology, it is certainly not the task of explaining the world of others, but that of multiplying our world, "populating it with all those who express,

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<sup>1</sup> This paper is an unfolding of two oral communications made by Zoy Anastassakis in 2013. First invited by O Globo News of Rio de Janeiro, that held a round table on "Social Design" in the context of Design Week, and then, during a seminar on "Social Design" organized by Prof. Lucy Niemeyer in the Design Graduate Program at the Superior School of Industrial Design, at the University of the State of Rio de Janeiro (PPDESDI/UERJ), where Anastassakis is an adjunct professor. In this communication, from the debates on the notion of "social design" produced on both occasions, Anastassakis and Kuschnir investigate the possibilities of thinking about the relations between design practice and social practices in dialogue with a particular anthropological theory. This topic is related with Kuschnir's MA research held in the same program mentioned above.



who do not exist outside their expressions"" (idem).

Using the perspective described above as the starting point for interpretation, this paper proposes a game of mirrors that uses anthropology in discussing its very own making, in relation to 'native' knowledge. We focus on the 'native' processes of knowledge production. In doing so we consider both the relationship of design with other ways of life, which begin via artifacts derived from specialized making; and the speculation of how design thinking could set about establishing some sort of correspondence (Ingold, 2013) with anthropological thinking <sup>2</sup>.

Thus, we make use of specific anthropological theories to think about the idea of projects in design. We also pursue, in the midst of such a multiplicative game, the possibility of enhancing both society and design through these equivalence trials.

With this doubly aimed goal, we apply the rhetoric introduced by Viveiros de Castro, the idea that "refusing the anthropological discourse its strategic advantage over the native discourse" and (2002: 115), making the native discourse function, "within the discourse of the anthropologist, as a mode to produce a reciprocal effect of knowledge concerning this discourse" (idem). Thus, we have posed the question, in regard to design, that Viveiros de Castro posed to anthropology:

What if, in being dissatisfied with mere passive egalitarianism, and, in fact, with the subjects within these discourses, we could claim an active or even legal equity among the discourses themselves? What if, the differences between the anthropologists' and the natives' creation of meaning, far from being neutralized by such equivalence, could be internalized, introduced into both discourses, and therefore be given more broad reaching potential? What if, instead of complacently assuming that we are all natives, we could take the ultimate and due consequences of the opposite assumption – that we are all 'anthropologists' (Wagner, 1981: 36), no one more than any other, but rather each acting as one in his or her own way, that being, each in very different ways? (idem).

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<sup>2</sup> Here, we would like to highlight not only the already mentioned Tim Ingold and Wendy Gunn, but also researchers such as Bruno Latour and George Marcus who have also invested, each in their own way, in reconsiderations of the anthropological practice from dialogues with the arts, architecture and design.

Nevertheless, it is important to make clear that the exercise proposed begins first in an interdisciplinary dialogue (Velho, 2010) between design and anthropology. Suggesting that the quotidian practices of the world's inhabitants would create interest and stimulation because of what these practices say about the inhabitants of this very world, setting the stage for us to think differently about our own daily tasks and rituals.

The following questions arise: what if we assume that the everyday know-how of the world's population can act upon the specialized expertise of the designers, to then produce a reciprocation of knowledge (Viveiros de Castro, 2002) that is based around these very know-hows? What happens if we refuse to designers (what they imagine to be) the strategic advantage of designing artifacts, by also recognizing the creative potential of those who designers label as 'users'? Moreover, what if we take the fact that the so-called users have also searched for and imagined creative alternatives with which to conduct their everyday lives seriously?

We can thus venture on to practical and conceptual reconsiderations of the specialized knowings and doings of design and anthropology. In this sense, we intend to investigate what happens when one takes the ways of life and creative practices of the inhabitants of the world we live in seriously; considering them to be just as "imaginative" (Ingold et al., 2009) as the specialized practices of those who research them and/or set out to act among them, such as designers and anthropologists who gather themselves around a particular notion of 'social science'<sup>3</sup>.

In our discussion, we have followed in the footsteps of Gunn and Donovan (2012) and Ingold (2011, 2013), who presents the possibility of a discipline waiting to be defined and named, a discipline where anthropology meets art, architecture, and design. Understood by Gunn and Donovan as an emergent field, *Design Anthropology* deals "with emergent situations engaging

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<sup>3</sup> Let us recall that in the definition of the main agencies for research funding in Brazil, design, as well as anthropology, fall among the social sciences, with the distinction that the first adds up the qualification 'applied', which states that design is framed for the purpose of supporting research as applied social science.

with peoples that have different ways of knowing and doing" (2012: 01). To implement the concepts of the aforementioned, we must work with difference – whether it be between the fields of knowledge of design and anthropology, or between designer and user. We must also develop "skills of engagement" (idem), that is, find "ways of imagining oneself into another person's world" (idem), not meaning that "individuals participating want to be the other. Rather they want to learn from each other's practices in order to build closer relations between practices" (idem).

Consequently, this experimentation in the exercise of creating correspondence between the knowing and doing of design and anthropology, and all the inhabitants of the world, involves what these authors present as "juxtaposing difference and drawing things together" (idem: 04). This is where we return to the initial discussion about the meanings of 'social design'.

Understanding social practices as: the actions involved in the social relationships of people among themselves, with things, and the environment. We argue, employing the work of Gunn and Donovan that "designing and making [...] are interwoven into everyday contexts of use" (2012: xv). In Ingold (2013) we have found a further discussion on the relations between design and creation. The author discusses the meanings of a design argument that "attributes all form to a prior design specification" (2013: 56), and thus "does not account for workmanship" (idem). For this British anthropologist, "these definitions [...] belie the creativity of 'messy practices'" (idem: 59) that build most of the things we find in the world.

If we take into account the issues raised by Ingold, we are able to pose the same question that he does: "but if the forms of things are not ideally prefigured, if they are not imposed upon matter but arise through the engagement of forces and materials within an ongoing process of life, then what becomes of design?" (Ingold, 2012a: 29).

## SO, WHAT BECOMES OF DESIGN?

Considering the Brazilian context, if we assume the commitment to "take seriously" the creative dimension of social practices, we could then begin to re-conceptualize design, as suggested by Aloisio Magalhães. Throughout the 1970s Magalhães discussed the relationship between the emerging wave in Brazilian production of industrial goods and the so called 'artisan production' that he rather identify as culture and technology development. He looked to find a place for the rising of industry in Brazil in what he used to call "Brazilian reality" and also "pre-industrial and mainly primitive forms of making and using" (Magalhães, 1988:12). Because of this, Magalhães ended up disconnecting himself from the design practice that, at the time, did some of the largest projects in the Brazilian field and got involved with management of public policies for culture and heritage.

In 1977, on the commemoration of the fifteenth anniversary of the Superior School of Industrial Design, where he was professor, Aloisio sought to provoke, in the professionals of the area, a sense of social responsibility in their professional activity by posing the question: what can industrial design do for the country?

In search of a current look at this question, and to extend the inquiry beyond the debate of a national context, we would like to pose the opposite question: what can life<sup>4</sup> do for design? In other words: what can the lifestyles and creative practices of the inhabitants of the world do for the idea of projects, as currently, they are formulated by the designers who judge themselves as the experts?

If we assume that users are, or could become, skilled practitioners of products and systems (Gunn and Donovan, 2012: 02), i.e., that using is also a way of making and designing, this challenges the role of designers as the creators of objects. To elucidate this idea, Ingold (2012a) discusses the relationship

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<sup>4</sup> "Life" is understood here in terms of Ingold: "as the generative capacity of that encompassing field of relations within which forms arise and are held in place" (2012b: 2).

one can have with a breakfast table. As an obstacle presented by design, the breakfast table represents a 'game' in which design dictates the rules. For example, how one takes cereal to one's mouth with a spoon or sits in a chair are instructed by the design. "Every object of design", says Ingold, "sets a trap by presenting a problem in the form of what appears to be a solution" (2012a: 20). In using these objects, while trying to evade the traps and obstacles, people need to improvise (Ingold and Hallam, 2007), to find ways to deal with the rules of the game. Material things, then, would not be the result of forms imposed upon matter. Instead, because of the improvisational character of the user's relations with the objects, they would emerge "through the engagement of forces and materials within an ongoing process of life" (idem: 29).

Therefore, if creation is not limited to design and is extended beyond the designed object, how can we understand the social role of this professional field? Moreover, how can we realize the social implications of this type of specialized practice, which asserts itself through the notion of project, and is understood as a prescriptive planning? To this end, let us return, once more, to the discussion presented by Viveiros de Castro about the implications between the thinking of the anthropologist and another way of thinking: native thinking, which helps us to rethink our ways of thinking.

Now, we are able to think, in terms of a relative construct between design practices and those performed by the (named by the designers as) users. I.e., we are able to "take seriously" the creative dimension of the practices by those we call 'users', in order to rethink, not only the artifacts we design, but also, and especially, the way we perceive and conceptualize the base site from where we place ourselves amongst the rest of life and its inherent social practices.

Ergo, we would like to turn our attention not to the design world directly, but particularly to the creative practices of the inhabitants of the world, investigating what they can say about the projective activity of design. For Ingold and Hallam, these everyday practices have a strong improvisational component: "to

respond to life's contingencies," they say people need to improvise ... "because no system of codes, rules and norms can anticipate every possible circumstance" (2007: 02).

However, design approaches, according to Ingold, a "totality that already exists in virtual form, at the outset [of the project]" (2013: 47), hence, that exists in the mind of any one who designs, as if it were proposed prior to the actual 'making' itself. On the other hand, in the case of the mentioned concepts, using and producing both emerge from the process of "carrying on" (Ingold and Hallam, 2007). If in the activity of design we see internal design, defined initially by the mind, imposed upon the material world (Ingold, 2013), it is not what we will find in the everyday practices of the world's inhabitants. These, if following Ingold's insight, would be closer to the figure of a 'maker', in that, "far from standing aloof, imposing his designs on a world that is ready and waiting to receive them, the most he can do is to intervene in worldly processes that are already going on, giving rise to the forms of the living world that we see all around us" (idem, p. 21).

So, the makers, the inhabitants of the world, would be the "masters of improvisation, of creating with whatever is on hand" (Ingold, 2012a, p. 29). However, this does not mean, by contrast, that the designer creates from scratch. Bruno Latour argues that all design is a redesign:

There is always something that exists first as a given, as an issue, as a problem and then another task which is to turn it into something more lively, more commercial, more usable, more user friendly, more acceptable, more sustainable, and so on, depending on the various constraints to which it has to answer. In other words, there is always something *remedial* in design (2008: 05, original italics).

Thus, all (re)design may be considered repetition. Richard Sennett (2012) suggests that, the development of human skill, fluency, and confidence in using tools, depend on the repetition and remedy of movements identified as ineffective or tension generating. A rhythm of this process would exist: the impregnation of a habit through repetition; questioning of this

habit, experimenting with new forms of use; and finally re-impregnation of the habit. For Sennet, such rhythm, when practiced repeatedly, is transformed into a ritual.

By transposing the rhythm of skill development into the activity of design, we could think in accordance with Latour about a design ritual. In each project and each redesign we would be revisiting a previous project, and because the system involves continuous remedy and repair (Sennett, 2012), it also requires improvisation (Ingold and Hallam, 2007). It is important to recall, however, that this idea of improvisation does not refer to something thoughtless, but refers to the ability of creation, not only at the moment when something new is conceptualized or accomplished, but rather throughout its rhythmic process of construction, use, remedy, and reconstruction (idem)<sup>5</sup>.

## FINAL CONSIDERATIONS

Would then the professional activity of design be so distant from the creative practices of the inhabitants of the world? From the relationship built, between the idea of redesign (Latour, 2008), the constant remediation in the development of skill, (Sennett, 2012) and the presence of creative improvisation in these developmental processes (Gunn and Donovan, 2012; Ingold and Hallam, 2007), we are able to imagine a ritual of (re)design that is accomplished in continuous improvisation.

If we assume that we are all creative, and consequently, that we are all designers, we will move towards a proposal of open design processes. After all, according to the propositions by Ingold et al. (2009) commented on by Gunn and Donovan (2012), if we follow and take the lifestyles and the creative practices of the inhabitants of the world seriously, we will

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<sup>5</sup> Still on the idea of 'skilled practice', Gunn and Donovan (2012) have approached Ingold (2009) once again when they claim that:

"A skilled practitioner [...] involved within processes of making creates form through flow and forward movements. According to Ingold skilled practice is not about imposing. The skilled acts of making depend upon understanding properties of materials; the creativity of making lies in the making itself. Making is always in a process of transformation, it is fluid and improvisational. Making thus gives way to using and designing as a process of carrying on whereby things are not actually finished ... meaning is created in the making" (Gunn and Donovan, 2012: 5-6).

understand that the creation of things is not limited to the projective activity of the designers, "a process of design thus is not to impose closure but to allow for everyday life to carry on. This way of designing according to Ingold [2009] requires *flexibility, foresight* and *imagination* within processes and practices of designing" (2012: 01).

Once the process of opening occurs and finds itself closer to the idea of (re)design, as presented by Latour (2008), it will then lead us to the idea of design as collaboration. It is understood that such collaboration is not necessarily instantaneous, but that it occurs over time. This time is understood as "duration," as the "continuous progress of the past which gnaws into the future and which swells as it advances" (Bergson, 2011: 04-05, *apud* Ingold and Hallam, 2007: 11)<sup>6</sup>. In this sense, could we then go beyond the notions of design *for* or *with* society, and thus speak of a unified concept of 'social design' that comes from society and exists in the "ongoing process of life" (Ingold, 2012a, p. 29)?

Hence, design would not be synonymous with creation, invention or manufacturing; or with modern notions of making, building and constructing; but rather a '*Dasein*' (Latour, 2008). In other words, a "being in the world", which is always social and always political. This process implies collective resolutions, shared solutions, and drawing together. We understand, that with such ideas, we are then able to consider the notion of a 'social design'. We are able to perceive it more as a synergistic process between the concepts and practices of the limited 'design world' and all other possible worlds, rather than as mere qualitative processes of design activity, which justify or legitimize only certain practices. However, on these terms, perhaps the addition of the adjective "social" to the word design might not be necessary. Perhaps, it would even be necessary to refuse any kind of designer advantage over those who have been designated as 'users' in order to move towards a reconsideration of "being in the world,"

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<sup>6</sup> We understand that the idea of collaboration in creation has been explored by authors such as Sennett (2012), who introduces the concept of "cooperation", and Latour (2008) and Ingold (2011), who speak about, even with their differences, the "drawing together". However, it is not the direct object of this communication and because it is an issue that deserves careful treatment, we have left it to be explored more carefully in future work.



as expert professionals in design practice.

For if we are all designers, while at the same time, inhabitants of the world; and if people live by creating; how could 'we', the so-called 'creative' people experiment in 'doing design' in conjunction with these other lifestyles? How could we add to the multiplication of life's possibilities in the world? By joining this debate, we hope to contribute to the expansion of this discussion, and to the notions of the reconsideration of project and its social implications.

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## SOCIAL INTERVENTIONS ON URBAN BORDER

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### ABSTRACT

"Urban Reading and Narrative Environmental Design (URNED)" course based on the social intervention program as the potential vehicle for people's daily life imbedded in the urban environment and put forward the ideas of future improvements, especially concerning the quality and sustainability of life. This paper looks at four projects, which did within the course, the projects engaged different levels about the social interventions on urban border. It includes multiple readings from diverse perspectives provide an array of interpretations that express rich and varied narratives. "Garden on Ruins" and "Refreshing Sight" as the urban fusion, try to regenerate the social fabric. "Urban District Boundary" and "Occupation Of Public Space and Privatization" take more concern about reflecting on the invisible border. They all serve as the catalyst for social reform and restructuring.

### KEYWORDS

Social Intervention. Narrative Environments. Urban Border

## INTRODUCTION

In contemporary China, social and political reality associated with a top-down model of decision making restricted people from participating in social reforms and restructuring. China has been rapid construction in the past several decades, while most of the cities and spaces created are described mainly as short-sighted makeshifts, China is on its way to establishing a definitive, global “triumph” of the urban scale.<sup>1</sup>

The course “Urban Reading and Narrative Environmental Design (URNED)” has been started for four years in Master Degree in College of Design and Innovation Tongji University. It set in the background of Chinese fast urbanization and to explore possible actions towards a sustainable and ecologic lifestyle. The topic of “URNED 2013” replied to the theme of the 5th Shenzhen Bi-City Biennale of Urbanism\Architecture: Urban Border. In items of study urban culture, urban space, urban lifestyle of many possibilities and related issues, with design approaches to explore the possibility of “borders” issues, which understood as natural and social resource and investigated as analysis context for sustainable urban living. The course combined the lectures and workshop format for four weeks and involved exchange students from abroad and multidisciplinary students in Tongji University.

Urban Intervention has been associated with a changed understanding of the relationship between the social and the spacial. Professor David Pinder of the University of London stated that urban interventions are often specifically directed towards the urban space that it is situated in: “(urban interventions)...are typically concerned less with representing political issues than with intervening in urban spaces so as to question, refunction and contest prevailing norms and ideologies, and to create new meanings, experiences, understandings,

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<sup>1</sup> Koolhaas, R., (1995) Whatever happened to urbanism? In: Koolhaas R., Mau, B., *SMLXL*, New York, U.S.A.: Monacelli Press, p. 961.

<sup>2</sup> Pinder, David. Urban Interventions: Art, Politics and Pedagogy. In: *International Journal of Urban and Regional Research*. Volume 32.3, September 2008. U.S.A

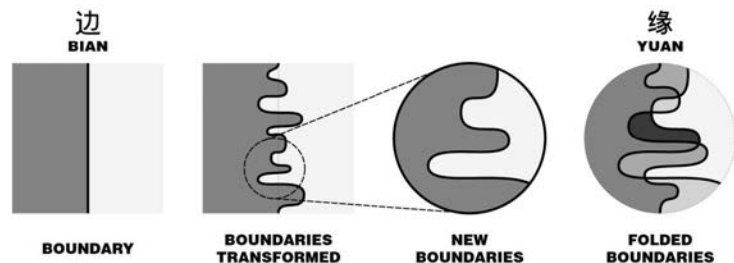
relationships and situations”.<sup>2</sup> High-speed urbanism in China happens simultaneously with the phenomenon of sociological, political, psychological, economic and environmental. Cities can do much create quality and equality, the project proposing to make the social dimension its very material of experimentation and a force for transformation by focusing on developing the intervention approaches.

## URBAN BORDER AND ITS INTERPRETATION

City can be seen as a book written in a social-space language. Once the social space code is deciphered, the city can be read. For designer, reading has dual meanings of both epistemology and methodology. Through examining the perspectives of text – environment mutual translation, the image of the city, spatial narrative and urban semiology. The course encourages the exploration of in-depth observation of the urban environment. During the learning process, the students are required to discover the potential social problems and value of people’s daily life imbedded in the urban environment and put forward their ideas of future improvements, especially concerning the quality and sustainability of life.

“URNED 2013” choose “Urban Border” as the research topic. It aims to explore the “city” through the lens of borders, boundaries and edges. These conditions extend beyond merely physical borders to include those delineated by nonphysical and ephemeral forces, which might include the sociological, political, psychological, economic and environmental. The city can be examined in many ways and across many disciplines. Multiple readings from diverse perspectives provide an array of interpretations that express rich and varied narratives. The curatorial statement of the 5th Shenzhen Bi-City Biennale of Urbanism\ Architecture showed the interpretation of the theme: “The word “Bian Yuan (border/boundary, in Chinese)” represents the concept of border, which does not merely mean physical border, but differences among diversified subcultures and distinctive identities. By splitting the word “Bian Yuan” into two

individual characters, we actually emphasize the meaning of relationship, connection and opportunity (Yuan) instead of the meaning of borderline of differentiation (Bian)<sup>3</sup> (figure 1).



**figure 2** “Bian Yuan” (Border/Boundary) interpretation. ©Curatorial Statement of Li Xiangning + Jeffrey Johnson Team: A single “documentary” through multiple historical readings of “cities”, 5th Shenzhen Bi-City Biennale of Urbanism\ Architecture.

The interpretation of "border" contains the following understanding: it can refer to the urban fringe sociological sense of space, border people, border lifestyle, which can be adjusted on the political significance of urban public about the organization and allocation of resources, the city can also be geo-sense of urban development, the relationship between the city and the natural ecological boundaries and between cities. We provided some interpretation of contemporary Chinese urbanism issue from a sociological perspective. The topics that macroscopic or microscopic have been selected: Space, Industry, Architecture, Urban-Rural, People, Skill and Invisible Boundary. The students separated to different groups and choose different topics for their own group.

## URBAN FUSION

With growing urbanization, the city presents expansion potentially. Between the city and rural, not only produced the boundary of a geographical sense, but also created a sense of edge states humanistic psychology cognitive.

## GARDEN ON RUINS

The group A chose the topic is “Urban-Border”. During the

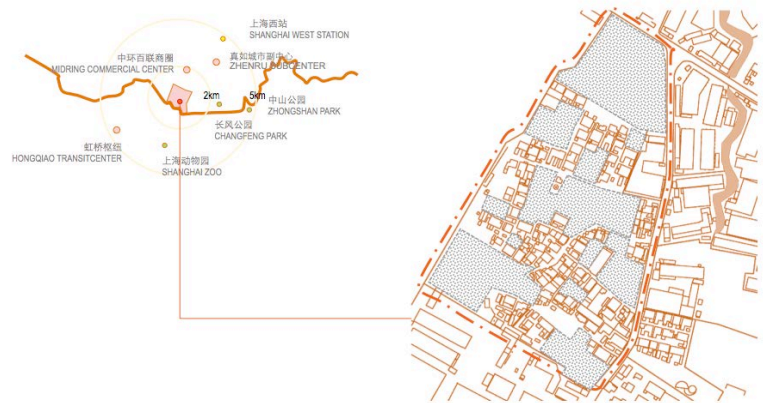
<sup>3</sup> Li, X., Johnson, J., (2013), A single “documentary” through multiple historical readings of “cities”, Curatorial Statement of the 5th Shenzhen Bi-City Biennale of Urbanism\ Architecture, <http://en.szhkbiennale.org/Explaining/default.aspx?id=1>

research and site investigation, they found the problem which at the urban border areas are facing the condition which has been demolished or removed. Dispelling the edge of the urban fringe area is often a relatively lengthy process. Since the government starts to demolition, the residents and government need to spend long time for negotiation. When the first building fall down, local residents moved out and the temporary tenant moved into the field for the cheaper rental, as they know it takes time to completed demolish all. Gradually dismantled, until the last of the whole area is empty, more or less need 5 years, even short period need 2-3 years. During the time, the tenants have to live with them the ruins everyday. (figure 2)



**figure 2** Urban border area are demolishing in process. ©URNED2013

The students started with this special situation, by coming out the concept of “Bianyuan(边园)”, which means the fringe garden, which to reply the theme of “Bianyuan(边缘)” in Chinese. The site located in Putuo district in Shanghai, where half of the area has been demolished in one year, most of the Shanghai local residents have moved out, and now majority are the temporary tenants who pay the affordable price for renting by the house holders. The time when they need to move out is when the landlord agreed the agreements with the government or other departments. Exactly when they still unknown. (figure 3) The gray area as demolition area, in a very strong way to partition off the original texture. People want to reach the road toward to the west, they have to cross through the ruins. In such this environment, crippled much squeezing people's living conditions. Poor health, and public facilities are scarce.



**figure 3** Site Location. The gray area as demolition area ©URNED2013

They found that several common materials on the site, such as large gray bricks, red bricks, hollow bricks and gray bricks, etc., (figure 4) And considered using a recycled materials to build a small public space which could gather together for the temporary tenants, or a playground for the children. All process which worked together with the local people, they created two paths toward to the central garden and the bricks have been compounded to several interesting circles which named by the children who helped with: Funny Circle, Sesame Circle, Spiral Circle and Circle under the Ivy. (figure 5) (figure 6) The garden about 10 square meters, recycling the sofa sponge for the seat and plants field as the landscape.



**figure 4** Several common materials on the site. ©URNED2013





**figure 6** Local people are walking on two paths.  
©URNED2013



**figure 5** Overall image of the intervention. ©URNED2013

“Garden on Ruins” is the process of reading, recycling, recombination and regeneration of life in urban-rural border. It took the angle as micro-renovation in crevice. The temporary “garden” will surely give the people good memories and impressions, especially for the children. These places are in the state of semi-urban spatially and functionally. Although social consciousness and social responsibility have been closely rooted in the nature of design profession, today social design and innovation has wider implications and applications.

(figure 7) (figure 8)



**figure 8** Poster of Garden on Ruins.  
©URNED2013



**figure 7** People gathering at the garden. ©URNED2013



figure 9

### REFRESHING SIGHT

The group C chose the topic is “Border Space”. Border space has more richness than the other urban environments. The students entered the area which located in Hongkou district in Shanghai, which had almost 80 families live there in the old community built in 1980's. With the narrow stairs, dark space and shabby concrete wall, the whole living environment is silence. The students found the locals like to put the green plants for simple decoration, but it's very dangerous the flowerpot could fall down when rainy and windy. (figure 9) Through this insight, the group refreshed the environment by using micro-intervention. Instead of the flowerpot, they redesign the plant shelf which can hang on the window frame. By using the nimble convenient hooks, wood and linen line, the plant shelf can be hung outdoors window, door, every corner and the possibility of increasing its variability. By installing the plants and purify the air, protect privacy and folding enhance the flexibility of its stowed when it not in use. (figure 10) Also by using the existing concrete wall, they created interesting wall painting. (figure 11) When people pass by the narrow corridor with the relaxing mood and communications.





figure 10 Folding plant shelf. ©URNED2013



figure 11 Wall painting combined with the existing concrete Wall. ©URNED2013

## REFLECTIONS ON INVISIBLE BOUNDARIES

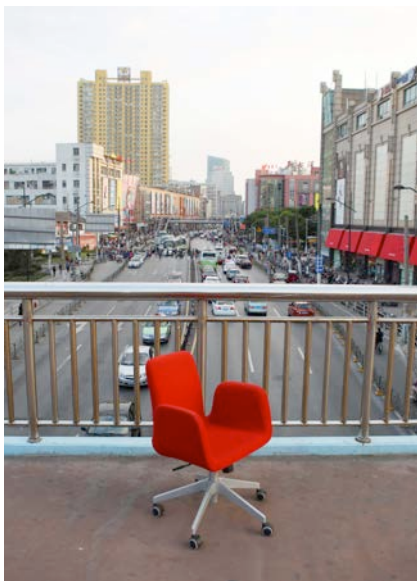
The invisible boundaries around us while some visible boundaries still haven't been known in this city. The gaps like some transparent walls erecting in this vast space. These walls keep us far from giving necessary care to the things unrelated to us. A discourse about boundaries in public space, which is the intersection of the human being's social behaviors - individually or in groups - and given limited space, opens up design questions simultaneously dealing with categorizations of visible and invisible, public and private, norms and exceptions, culture and policy. It is also raising the question which competences are required to define something as a boundary. Hence, we were forced to define a research topic which can create a specific perspective on invisible boundaries.

### URBAN DISTRICT BOUNDARY

The large cities are divided into a number of districts. This has led to an imperceptible management gap. A variety of problems such as disordered peddlers, frequent accidents and dirty



**figure 12** No traffic rules and dirty environment at urban district boundary.  
©URNED2013



**figure 13** Placed a bright red swivel chair near the district boundary. ©URNED2013

environment are caused by the management. (figure 12)

Unfortunately, this situation is very common in Shanghai, and people who live there haven't realized the hidden problems at all. It will be too late when you cannot find anywhere to complain about your accidents or you could not get help from ambulances of the both sides. The group B found this invisible border and they hoped managers and citizens to share a common concern and worked together to pick up the dropped responsibilities. Through the observation at the north Henan road which located in a commercial area, the traffic is very busy. Iron barriers in the middle of the road are the boundary of the two districts, with a pedestrian crossing every 200 meters distance and a bridge at the entrance of shopping malls. Such a zone, muddled, merchants gathered and dirty, it is a rendezvous for mobile vendors, especially in the night. Management neglects the problems because of a variety of reasons, and people are not conscious the serious of the problems.

Although the problematic situation, they placed one bright red swivel chair in different locations near the boundary where people can notice it easily with their passing by. (figure 13) In this case, three metaphors are behind the chair: First, a vacancy of the administrators. The chair is empty, symbolizing the management vacancy and indeterminacy. Second, invisible border space. The chair which is put at the boundary of two districts, can be seen as the additional space, thus it can symbolize an invisible space at the boundary of the two districts. Third, adscription is unclear. Through the rotation of the swivel chair, it faces different directions, expressing its different belongings. When it towards the Zone A, does it mean that it belongs to Zone A? Thus it symbolizes the ambiguity of the district boundary management. (figure 14)



**figure 14** It symbolizes the ambiguity. ©URNED2013





figure 15 Public and private. ©URNED2013

### OCCUPATION OF PUBLIC SPACE AND PRIVATIZATION

The “privatization of public space”, which is dealing with the occupation of public by several parties, the project decided to focus and analyze the several ways people are seizing public space to their advantage as well as the borders they create. The goal was to understand what can be learnt from these results and how they could apply it to the interventions. The group J were much more interested in provoking and creating public interventions as a point of departure for discussion and questions. Thus, they defined three categories to operate and create their interventions within the research focusing on the privatization of public space: visible and invisible, public and private, commercial and institutional.



figure 16

The group encounters the demand of the ‘green’ in public areas. During the research they discovered the problem that natural areas seems not be a private issue but at the same time there are groups of people occupying space for their own plants, which means there is an interest to make the ‘city more green’, because of air pollution etc. (figure 15) The goal of them was to experiment and find out if there is a way urban gardening can become a private and mobile responsibly, not only an institutional. They learned from street vendors that it is possible to make everything you need mobile to fulfill customer’s needs. Bikes caught the attention, people only ride short distances and leave bikes parked most of the day. It is a small given space, mobile. The experimental intervention consisted out of the occupation of given spaces on bikes and as well as giving away as much plants as people could to prove interested. They were exited about finding out, if bike riders would really use plants to fill given space and comfortable riding with it. (figure 16) People were curious and interested, had many questions. The **performance** had also a visual impact, which caught attention and engaged pedestrians.

The Love Street in Shanghai had a surprising feature that find very interesting and simultaneously to work with. As well as in many other cities, couples like to leave traces of they

relationships in several forms, writing on wall, lockers on bridges. The Love Street is nicely decorated with framed poems, clean white walls and perfectly ordered trees. (figure 17) One part of the wall about fifty meters long, at the level of an average person height, the wall's surface was partially vanished. By taking a look closer there are the names and the writings that were removed several times. Suddenly, they understood that exactly this action is moving along the thin line of a border of legality and private interest in form of an occupation, which also can be called vandalism in institutional context.



figure 18 Invisible intervention. ©URNED2013

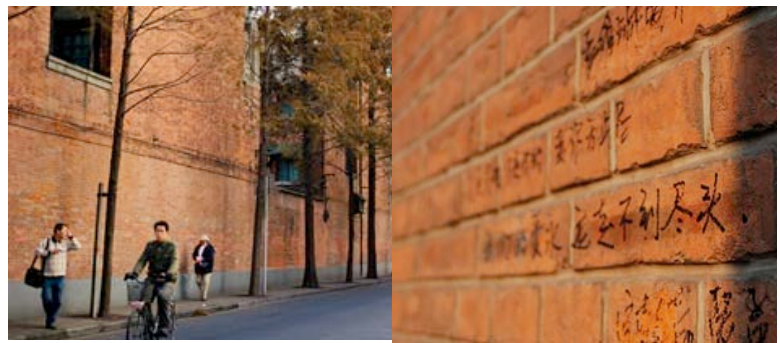


figure 17 Love street in Shanghai. ©URNED2013

They learned from the research that most privatizations of public spaced are temporal and change over time, which makes them not catchable and dynamic. So by transferring this concept to the Love Street, how it can encourage people to continue making their private needs but in a more subtle way, that does not force institutional organization to deal with vandalism. At night, they painted names and a hand, as symbol for action, participation and the public voice, but they used fluorescent paint, which is transparent and therefore invisible. (figure 18) It collecting sunlight as a form of energy and then later, during the first hours of darkness glows. Something invisible and yet removed, becomes suddenly visible and talks about the real character of a love street.



figure 19 Move along the boundary of private and commercial, ©URNED2013

The third intervention was from the very beginning defined to be of a provocative performance. They wanted to move along the boundary of private and commercial, since those are the categories that seem to be overlap and makes the definition of a clear border more difficult. During the research they encouraged a unique phenomena. Residents, who experience a lack of

space, bring their own personal belonging to the public, which are their cloths. They found different ways to use public space to dry their clothes. This seemingly need changes a city visual appearance dramatically and simultaneously. (figure 19) To demonstrating the point, they choose the site at Tianzifang<sup>4</sup> in Shanghai. They occupy space with apparently private objects, exaggerate and rearrange the usual. By taking the underwear as a symbol of something absolutely private. During the experiment, the group members realized a traditional problem in the performance, which is the symbolic negative act to walk underneath underwear. So somehow, they actually crossed a certain border in public space which provoked people for action as well as attraction. This installation was removed after short time. The privatization of public space has its invisible rules and norms. The only way to find them is the experiment, which gave us thoughts to improve the concept and find a more subtle strategy.



**figure 20** The privatization of public space has its invisible rules and norms. ©URNED2013

Each of the accomplished project were leading to urban invisible boundaries we were able encounter throughout the process of the intervention. The urban space is balanced a long the borders between the private, commercial and institutional. What seems to be disordered is actually normed and ruled by several instances

<sup>4</sup> Tianzifang: is an arts and crafts enclave that has developed from a renovated residential area in the French Concession area of Shanghai, China. <http://en.wikipedia.org/wiki/Tianzifang>



and entities. There is very little space left for malleability and improvement which can lead to a better navigation and performance in public space. There is never one way of solving a problem, because each problem consists of several perspectives and parties. The improvement, which is of subjective nature, is not made by artifacts but the creation of awareness and the change of perspective by changing and playing with subtle details.

## CONCLUSION

“Garden on Ruins” and “Refreshing Sight” as the urban fusion, try to regenerate the social fabric. “Urban District Boundary ”and “Occupation Of Public Space and Privatization” take more concern about reflecting on the invisible border. They all serve as the catalyst for social reform and restructuring, also try to question emerging social issues that seek to invent a convivial society in response to effects of the rapid developing process in China.

Social intervention is a design strategy, the main purpose of these interventions is to aid clients in alleviating problems and improving their well-being. As Prof. Manzini said, “we should learn to use these same forces to “change to change” and promote a social learning process that can lead us toward to a society based on networking, knowledge and sustainability”.<sup>5</sup> Social innovation is not reserved only for designers, but exists everyone in our daily lives. The approaches of social intervention could involve the sharing of knowledge, mutualization of tools, reciprocity of exchanges and services, transformation of public spaces and stimulation of participatory actions. Focused on sharing, participation and empowerment, the social intervention questions not only its own finality, but also how the designers should utilize their knowledge to understand, observe and discovery the social environment. The result is a relativization and an extension of design, to such an extent that it appears necessary to rethink the society.

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<sup>5</sup> Manzini, E., (2013), Changing the change. In: Lou,Y., Valsecchi, F., Diaz, C., Design Harvest. An Acupunctural Design Approach Towards Sustainability. Gothenburg, Sweden: Mistra Urban Futures. p. 2



In China, although the political and social reality restricted the public from involving much in the social reform and reconstruction, the bottom-up social intervention model developed like the four projects that have generated consciousness about even the smallest changes and possible ways of intervention into the new social structure. Those social intervention cases act like a traditional Chinese acupuncture practice that a minimal act in the right place and right strength might create fluctuation of the whole body flowing system and change the inner structure of the body.

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Students name list for four projects.

"Garden on Ruins"

by Ye Qiming, Wu Chengyue, Ma Shengjie, Yang Xin, Song Yan, Gu Danye, Xie Min

"Refreshing Sight"

by Long Keyu, Miao Yuqing, Wei Hanni, Yang Xiaotian, Yuan Shuai, Liu Chuan

"Urban District Boundary "

by Duan Ran, Lei Yidan, Jiang Yi, Zhou Na, Zhu Feng, Gan Xinyue, Di Yujia

"Occupation Of Public Space and Privatization"

by Paul Gisbrecht, Yulila Popova, Yang Xue, Zhang Qianqian, LiQi, XuJun



## DESIGN AND ECONOMICS: A potential solution for tackling socio-economic challenges

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### ABSTRACT

Under the theme *economics for the people* this paper is probing the possible role of design/designers in relation to economics. Arguably, the field of economics has been influential in the governance of societies. However, attention needs to be drawn to the fact that economics is a social science and therefore, there is a need for other fields to help enrich economic analysis and policy making. Fields such as *design* draw their essence and relevance in the process of proffering solutions for problem facing many people. The combination of design heuristics and economics principles can help ameliorate society's challenges and inspire change, since economists on their own appear to have achieved limited success in solving the wicked socio-economic problems afflicting today's global society. This paper thus looks at the possible role of designers in relation to persistent socio-economic challenges that face the majority of the world's population. The paper adopts a qualitative approach by interrogating various sources of literature to form the basis of the argument for the case of designers working with economists to deal with these complex and varied social challenges.

### KEYWORDS

Design and society. Humanistic approach to economics.  
Social empowerment

## 1. INTRODUCTION

The goal of most design endeavours is to improve the human condition. The field of social entrepreneurship gives designers an opportunity to participate in the process of incorporating humane approaches to business. This essentially means that designers need to become initiators of positive action and move away from only playing a supportive role to other sectors. Designers are taking up social challenges and are leveraging their skills to drive change. However, the interest to drive change needs to be aligned with an interest in learning about business, economics and the global need for social entrepreneurs (Peterson & Joo, 2012).

Economics is described as a science that analyses production, distribution and consumption of goods and services. Keynes (1931:75) defined economics as the study of human activities that direct themselves towards the creation, appropriation and accumulation of wealth. He further stated that “the greatest value is attached to the practical applications of economic science, and that the economist ought to turn attention to the practical application not, in his character as a pure economist but rather as a social philosopher who is in possession of the necessary theoretical knowledge which if distinction is drawn the social and ethical aspects of practical problems which may be of vital importance are less likely to be overlooked or subordinated” (ibid).

Neoclassical economics which drives the field of economics today has changed the field from being about the people and their relationships to one another as it had been before to become about commodities, the production of commodities and the utility of those commodities could impart in consumption (Gintis & Khurana, 2006). Now the field views human beings through a mechanistic view (Rosana, 2009). The objective of economics stopped being concerned with the distribution of income, which determined one's ability to acquire commodities, which is relative to welfare or members of society from those commodities or from other sources. Economists seem incapable of predicting and solving problems facing today's world (Guellerin

in formia, 2012). There are increasing opportunities of designers to bring back the human element to the economic activities through social entrepreneurship (Rosanas, 2009). Social entrepreneurship encompass economic, social, cultural and environmental mission which is aligned to public or community benefit.

Design brings human-centred approach to products, services, and organisational concepts as they look at the whole organism of a product or system (Kelly, 2013).

Design contributes to social, ethical and dealing with social problems, due to design operating from a social constructivism perspective. Social constructionist rely on observing many aspects of our daily experiences, which are a result of implicit social, institutional practices which result in objective reality, while the social reality is based on behaviour, language, culture and institutional practices (Murphy, Dingwall, Greatbatch & Parker, 1998).

In considering the economic implications of various options, designers might help a field that typically has boundaries which reinforced the idea that economics was not about increasing satisfaction of the citizens, but rather increasing the production of goods and services which when consumed gave satisfaction (Bromely, 1989). The field of design is already contributing immensely to aspects such as user-centred design – subsequently, designers can also contribute to human-centred economics.

## **2. DESIGNS AND SOCIETY**

Design can be used strategically to plan solutions to problems that discussed at policy level. This is because design is able to cross a diverse range of subject fields and disciplinary borders, giving it a unique reach among the creative disciplines, while simultaneously adding more complexity and blurring the discursive space (Fuad-Luke, 2009:2). *Design for Sustainability* in particular covers four sustainability dimensions those include economics, ecology, social and institutional dimensions.

Design for Sustainability and social entrepreneurship and how they contribute the notion of human development makes them of critical importance in the modern day challenges that face societies around the globe. The concept of human development is often explored in the discipline of development economics due to the realisation by economists that countries that have been long industrialised by the 1950s would not be able to follow the same path of economic development (Todaro & Smith, 2006). Economic development philosophy involves working towards improving the material aspect of human life and the quality of life in broader terms.

Notwithstanding, design activities are now recognised as an important mechanism for community development through job creation, social reconstruction, social innovation and empowerment (Poulis & Inglesi-Lotzm, 2011; Booyens, 2012). Government departments seem to recognise the potential design has in terms of economic development and helping come up with strategies to many socio-economic challenges that face society.

Designers need to take a lead in showcasing the potential design has and engaging society and politicians on various aspects of social challenges. Sound social entrepreneurial ideas respond to social needs as this will be discussed in the following session. These needs are usually unmet or poorly met while entrepreneurs sometimes lose sight of this principle due to the influence of economics. Design is a cross-functional way of thinking that is valuable in starting up new innovative businesses and has immense potential in also contributing towards economics policies.

The challenge to designers is therefore to combine the two types of challenges and help build competencies within both areas of economics and problem solving. According to Guellerin (2012), designers could be the first entrepreneurs of a different economy, economy no longer based on the old industrial models, or mass consumption. He further argues “designers will play a key role in new types of economic structures, which are more flexible, adaptable and mobile” (ibid).

### **3.1 PEOPLE ORIENTED ECONOMIC DEVELOPMENT**

The position adopted by Polanyi (1944:68) is that the economic system should be embedded in the social system. Be a self-regulating system of exchange grounded in individual choice governed by prices and constrained by scarcity based on an impoverished conception of the importance of the economy and its institutions in the reproduction of ethics and society.

Eco-living is an example of economic development initiatives that combine environmental, economic and social issues as well as different professions and backgrounds into a cooperative that is dedicated to solving some of society's problems while creating economic empowerment opportunities. The initiative also fosters sustainable consumption while dedicated to civilian driven economy along with the promotion of sustainable economic activities from an ethical point of view, social and environmental issues. The cooperative that was established in 2012 is said not have profit as the main priority but to raise *d'être* or the thing that is most important and the reason for which the organisation exist.

Eco living is situated in the Emilia-Romagna region of Italy in Forli. This is town known for strong social cooperative initiatives both in manufacturing of goods and offering services. The manufacturing of goods and services is focused on environmental sustainability, economic sustainability and social sustainability. Eco-living has a 0km radius products policy, meaning that all its fresh produce and products are sources locally.

The cooperative focuses on affirmation of solidarity and social justice and avoid economic activities that leads to exploitation of people. The organisation start up was financed by members of the cooperative through contributing a set amount, while professional skilled members such as architects and designers were also required to contribute with their skills, which formed part of their share of financing the start up. This model speaks to the social embeddedness of economic activities that tap into social values, tradition and culture. Where usually members of society would work together to come with a solution to community's challenges. This was often the case in many societies, but the cultural norms also play a pivotal role in

economic development initiatives. Polanyi argued that when social actors are not viewed as autonomous, value maximising actors exclusively focused on economic gains, but, included social aspects the economic activities become socially embedded.

The Eco living model combines innovation environmental considerations with raising awareness of the environmental impact caused by the manufacturing of goods and over consumption. The consortium buys products in bulk from the producers



The company encourages people to reuse; charging less for bringing their own packaging for their shopping. The process is helping in raising environmental awareness and educating consumers about the impact our behaviour might have on the environment and future generations.





However, there has now been a renewed call for business not to divorce itself from developing social understanding of economics including the understanding of social dynamics and culture (Birchs, 2004). Concepts such as design for sustainability become more relevant when it comes to the issue of economics as it also includes the environment and society.

They also recycle waste from coffee houses to be used for growing mushrooms.





Social entrepreneurship is important because it integrates social and ecological considerations into the economic development by fostering social change. Social change varies, and social entrepreneurs introduce and push through alternative concepts of social, political and cultural agenda that will bring about positive change (Ganly & Mair, 2009).

Economics has strongly influenced the strategy field, other areas of management, including finance and accounting (Rosanas, 2009). However, the Frey (2000:3) quoted (Clower, 1989:3) also points out some failures which can be attributed to the field of economics, he also points out that “economics is so far removed from anything that remotely resembles the real world and it is often difficult for economist to take their subject seriously. Blaug (quoted in Frey, 2000:3) meanwhile suggests that modern economics was sick and has become an intellectual game played for its own sake and not for its practical consequences. He further argues that economist increasingly focus on self-defined problems and only faintly related to real world issues.

Economist should be focusing on issues relative to management and other fields in order to solve pressing social problems such as unemployment, poverty and environmental issues. Frey (2000:18) argues that economics loses its importance especially with respect to issues of economic policy, and more generally in the social discourse. The humanistic approach requires that business evolve from existing approaches that are only about consumption of goods and services. Designers can help

economist consider the human element, since designers are about humans.

### **3.2 DESIGN CAN RE-INTRODUCE THE HUMANISTIC APPROACH TO DOING BUSINESS**

The humanistic management theories put emphasis on human dignity and humanity of employees, customers. Everyone involved in the business are affected by the company's actions, all business decisions should include thoughtful ethical analysis and business decisions should be made in dialogue with all those affected by them (Frey, 2000). Humanism is recognised as an active ethical and philosophical approach, with a particular focus on human solutions to human problems through rational influences. Humanism underlines the value of human life. Business needs a consistent approach to integrate humanistic values into economic life, which is what the field of design for sustainability seeks to achieve.

Businesses can define themselves on ethical humanistic values and still be profitable. In today's societies, the economy is occupying centre stage while civil rights, social issues and humanistic values, have been relegated to the back (Dreyfuss, 2012). Aktouf, and Holford, (2012:33-34) noted the failure of numerous streams of management literature to reflect on creating business frameworks or management practices that embrace man's emancipation as a finality onto itself, and are placing central importance of human person or personal attitudes and behaviour at work. The current nature of economics encourages endless pursuit of maximisation of profits leading towards a truncated understanding of man, which in turn leads to further quest for maximisation of profit. According to Buchanan (2013) "the field of economics is desperately in need of a paradigm shift if it wants to play a role in improving the lot of humanity. Instead mainstream economists keep trying to get away with tiny tweaks in their fundamentally flawed way of looking at the world". The growing criticism of the field is nothing new, however the economic crisis, which affected the world, has put the spotlight on the field.

Since design strategies are at times driven by the need to foster

social change based on the rooted capacity of culture to express ferocity, dignity harmony and humanity for bolstering and maintaining of community that maintains justice and mutual caring (Gamely, 2008) – it is therefore important that design becomes an integral part of economics.

## 4. CONCLUSION

This paper looked at the potential contribution and value to society when economic activities become socially embedded. Since designers are good at identifying social challenges and trying to come with solutions to those challenges – they are already promoting user-centered design, they also are able to influence how the products are consumed and ultimately impact the economy. Humanism underlines the value of human life, and business need a consistent approach to integrate humanistic values into economic life, which is what the field of design for sustainability seeks to achieve. It is therefore only appropriate that designers also actively engage with the economic aspect. Design thinking is one of the design concepts that are readily applied to businesses and business schools in order to find solutions to problems has the potential of offering insight into many complex social matters. This paper looked at the eco living model, which combines skills from general members of society, designers, architects and other professions in order to create a non discriminating platform for people to participate. Designers help infuse the human aspect into the science of economics – in so doing, design help shift the focus of economics from merely pushing commodities, to a discipline that is arguably more ethical in orientation, as well as being genuinely committed to improving the human condition through its positive influence on myriad societies globally.

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## THE INTELLECTUAL DISABLED PEOPLE AS ASSET: A Chinese case study of design for active welfare by co-creation and co-production

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### ABSTRACT

One of the most important design principle arising in social innovation field, is the concept of users regarded as active resource in problem-solving, and the re-framing of their role as part of design solution. Therefore, a main design challenge in social innovation is how to discover, and enable, the capabilities of the users in processes of co-production. This paper reports a case study of design intervention of Intellectual Disabled People (IDP) in China. A one-year public welfare project "YiGongFang" was carried out in two service centers for the people with Intellectual Disability at Wuxi. The project aims to discover, empower and enable their confidence and skills in social life, work and every life. The project represented an iterative process, as the people with intellectual disabilities are extreme cases in terms of capability discovery and empowerment, thus the design actions require to be smoothly adapted to the emerging needs and behaviors. The research outcomes include the consideration that design intervention may change the approach of public welfare of IDPs to be more active and positive, by making the principles of co-production also available to extreme users cases, with adapted strategies and intentions.

### KEYWORDS

Social Innovation. Active Welfare. Intellectual Disability. Enabling Solutions



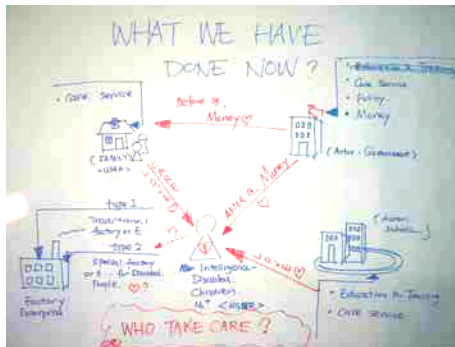
## INTRODUCTION

The modern public service and welfare system is facing emerging challenges all over the world, by the influence of economy crisis and aging society. It calls for radical social innovation to cope with new solutions for collaborative service and active welfare. Nesta (2012), a leading UK organization in social innovation studies, proposes in *People Powered Health Co-production Catalogue* a new understanding of users, *people as asset*, and services, as *people-powered services*, which refers to a paradigmatic shift of design principle: those users or recipients of welfare services, who are used to be considered as people with problems, have to be recognized instead as people with capabilities. That is, people with knowledge, time and energy to usefully contribute to the service conception and, most importantly, to its day-by-day production and delivery.

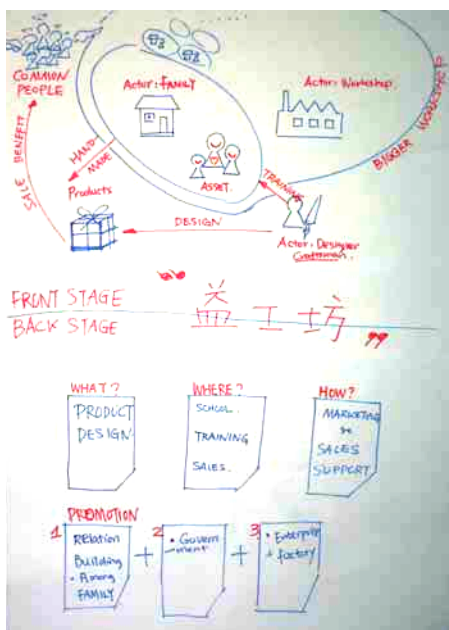
Therefore, the design challenges and opportunities are now to be re-framed towards how to discover the capabilities of users to be part of solution as co-producers. This paper analyzes a case study from China, where this approach has been evaluated by practice. The initial proposal (Fig.1, 2) has been defined during 2012 DESIS symposium<sup>1</sup> at Jiangnan University and it was developed and carried out in the next year in two care centers of intellectual disabled peoples, in partnership with Sunny Group<sup>2</sup>, a local organization already active with pilot researches on public welfare project for IDP.

The consideration of “people as assets” brings out new design opportunities but also challenges: how to approach the design intervention of people powered service? We think IDP could be a typical case of people that are normally considered with “problem”, within a traditional welfare approach.

By the use of methods of co-creation and co-production, the research team has organized 30 workshops with IDP groups in order to discover, empower and enable their confidence and skills in social life, work and daily routine. Two exhibitions have been organized to facilitate the wide interaction between them



**figure 0** the design proposal “YiGongFang” in JU DESIS Symposium 2012



**figure 2** the design proposal “YiGongFang” in JU DESIS Symposium 2012

<sup>1</sup> DESIS Symposium is an annual academic event at Jiangnan University endorsed by DESIS network and organized by JU DESIS Lab.

<sup>2</sup> A student volunteers-based NPO focusing on the public welfare projects in Jiangnan University. <http://blog.sina.com.cn/sunnygroup7>



and larger citizen and civil society.

## **PEOPLE AS ASSET AND PEOPLE-POWERED SERVICES**

Today, the challenges of sustainable development have deepened not only in environmental conservation, but also in social capacity; those challenges refer to complex and interconnected issues of global society, towards which the consolidated scientific and technical approaches limited to solutions that already exist, are insufficient. As example, the need of public welfare systems that cope with future social innovation is emerging in all countries regardless difference in development index or degree of economic success.

We define those challenges “complex” since they are due to social, cultural, political, market and lifestyle concerns, and since they will impact the future well-being of global population.

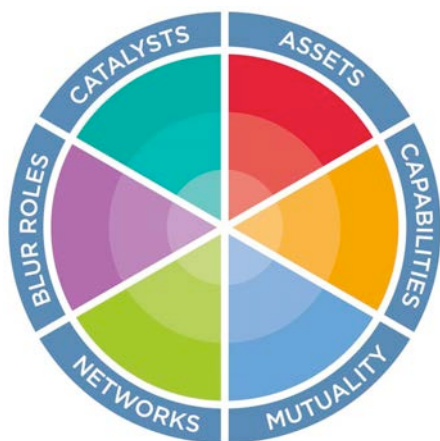
In other words, to overcome the multifaceted and interconnected challenges and to deal with complex problems, social and not technical innovations are necessary (Thackara, 2005) for our common future (Bruntland, 1987). Manzini (2008) defines the social innovation as a process of change where new ideas emerge from a variety of actors directly involved in the problem to be solved: final users, grass roots technicians and entrepreneurs, local institutions and civil society organizations. The previous researches in EMUDE (2006) and CCSL (2007) collected grassroots social innovations emerging all over the world, by the discovery that a number of people, for different reasons and motivations, start to change towards more active and collaborative lifestyle with emerging quality, abandoning mainstream passive and individualistic way of living and working.

A deeper observation of those cases (<http://www.sustainable-everyday.net/>) shows that they impact as social innovations where every participant there directly and actively involves into the actions to achieve the results that they set out. Some examples are: a house where elderly people of different ages live in a resource-sharing community; a service that facilitates house sharing between elderly and young people, where students find cheap, family-style accommodation, by exchanging with help,

companionship and financial support to lonely, but independent, elderly; a workshop where unemployed, disabled and immigrant people find new jobs in repairing and up-grading used products. For these characters, those diffused social enterprises are collaborative organizations and the social services that they generate are collaborative services.

Collaborative services are social services where final users are actively involved and assume the role of service co-designer and co-producers (Jegou & Manzini, 2008). Collaborative Services are based on peer-to-peer relationship between actors (Figure 2.1). These services can require different degrees of interpersonal relational qualities (Cipolla, 2005; Jegou & Manzini, 2008). They are people-powered services in an equal and reciprocal relationship between professionals, final users, their families and their neighbors. Where activities are co-produced in this way, both services and neighborhoods become far more effective agents of change.

In its *People Powered Health Co-production Catalogue* Nesta includes six principles of co-production and people-powered services (Fig. 3) as follows:



**figure 3** Six principles of co-production and people-powered services<sup>3</sup>

- 1) *Assets: transforming the perception of people from passive recipients of services and burdens on the system into one where they are equal partners in designing and delivering services.*
- 2) *Capacity: altering the delivery model of public services from a deficit approach to one that recognizes and grows people's capabilities and actively supports them to put them to use at an individual and community level.*
- 3) *Mutuality: offering people a range of incentives to engage with, enabling them to work in reciprocal relationships with professionals and with each other, where there are mutual responsibilities and expectations.*
- 4) *Networks: engaging peer and personal networks alongside professionals as the best way of transferring knowledge.*
- 5) *Blur roles: removing tightly defined boundaries between professionals and recipients, and between producers and consumers of services, by reconfiguring the ways in which services are developed and delivered.*
- 6) *catalysts: enabling public service agencies to become facilitators rather than central providers themselves.*

In our case studies, those six principles have grounded the design guidelines.

## THE CASE STUDY: “YIGONGFANG”

“YiGongFang” is a on-going social innovation project for public welfare of IDP organized by Sunny Group and DESIS Lab since October of 2012 in collaboration with local government and two IDP service centers in Wuxi. The initial proposal has been defined during 2012 DESIS symposium at Jiangnan University.



figure 4 IDP in Taihu community



Figure 5 basic labor work in IDP service center

In China, IDP service points are public governmental organizations to support cases of young and adults over 18 years old. Our cooperation developed mainly with three selected centers that have been introduced by local government, Taihu, Helie (Fig. 4) and Nanshan, where 60 IDP are hosted. Most of them are at level 3 or 4 of intellectual disability. They are not able to live independently, and lack of social relations. They do not have sufficient education literacy, nor specific skills, and this often implies that they are hardly employed, and become a burden for their families. Beside of a few caregivers of centers and families, they almost have no social interaction, and degree of social acceptance is also low. Therefore, at present, the viable solution for families is to leave them to public service centers for IDP during the daytime. Nevertheless the utility and the need of this centers is clear, the service provided is very basic and lack of professionals and experienced capabilities (Fig. 5).

## DESIGN INTERVENTION BY CO-CREATION AND CO-PRODUCTION

Yi Gong Fang project aims to enable IDP by three leverages: art workshop to increase the cognition capabilities and increase social interaction; handcrafts workshop to train manual capabilities; and interactive exhibition to increase the social engagement.

### 1) Art workshop

By employing painting, music, drama and other forms of arts, research team organized 11 workshops, aiming to increase the

cognition of IDP by multidimensional stimulation, and the experience of teamwork (Table 1).

## 2) Handcrafts workshop

The research team have organized 15 workshops (table 2) and designed handmade products which are used to train IDP manual skills. In practice, the design experiences for IDP based on several principles for the production of handcrafts:

- The process should be simple. 3-5 clear steps is the most appropriate formula.
- Combination between independent handmade patterns and collaborative handmade patterns.
- Spontaneous creativity of IDP could be better stimulated by using semi-designed products and tools.

The Month	The Theme
May	Being Colorful
June	Drama performance
August	Go Home
September	Mid-Autumn
Early October	Good Holiday
Late October	Harvest season

IDP cannot fully perceive complex process because of dispersive attention and lack of memory capacity, therefore the process should cut into smaller pieces and the train has to be gradual and to proceed step by step. An example occurred in the workshop with wind chime shows how the reduction of the process into three basic steps made possible to IDP the achievement of the interaction task; the example is detailed in the following table 2.

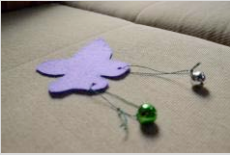



Handcrafts	Materials and tools	Details
Cylinder wind chime 	Waste paper tube Stick papers Sandpaper Bell Threads	<b>Steps:</b> 5 <b>Hand-product characteristic:</b> Crude; Low creativity; Difficult to preserve; Independent handwork <b>Training effect:</b> Medium degree of participation because of complex process that requires high handmade skills
Felt wind chime 	Felt fabric Plastic template Bell Threads	<b>Steps:</b> 3 <b>Hand-product characteristic:</b> High quality of exhibition; Easy to preserve; low creativities; Independent handwork <b>Training effect:</b> High degree of participation and the process is explicit; It increases basal handmade skills of IDP.
Art photo frame 	Photo frame Cardboard	<b>Steps:</b> 2 <b>Hand-product characteristic:</b> Low creativity; Easy to preserve; Independent handwork <b>Training effect:</b> High degree of participation and enable the creativity and drawing skills of IDP.
Hop-pocket 	Hop-pocket Plastic template Acrylic paint Marker pen	<b>Steps:</b> 3 <b>Hand-product characteristic:</b> High creativity, Easy to preserve; Independent handwork <b>Training effect:</b> High degree of participation and enable the creativity of IDP.
Papery cake 	White cardboard Color paper Glue	<b>Steps:</b> 3-4 <b>Hand-product characteristic:</b> High quality of exhibition; Difficult to preserve; Collaborative handwork <b>Training effect:</b> High degree of participation and increase skills in communication and teamwork of IDP.
Corn vase 	Waste paper tube Crepe paper Felt fabric Sandwich rubber	<b>Steps:</b> 5 <b>Hand-product characteristic:</b> High quality of exhibition; Easy to preserve; Functional; Collaborative handwork <b>Training effect:</b> High degree of participation and increase skills in communication and teamwork of IDP.
Christmas tree 	Felt fabric Color paper Sandwich rubber Cardboard Bell Threads	<b>Steps:</b> 6-7 <b>Hand-product characteristic:</b> High quality of exhibition; Complex of process; Easy to preserve; Collaborative handwork <b>Training effect:</b> High degree of participation on the condition of previous workshops. It increases skills in communication and teamwork of IDP with high achievement.

Table 2 Handcrafts works



figure 6 Interactive Exhibitions



figure 7 Co-production in a workshop



figure 8 Handcrafts made in 3 steps

### 3) Interactive exhibition

Finally, the research and project team have organized two interactive exhibitions (Fig. 6) to present and introduce IDP to the wider public and built communicating bridge between them. In the first exhibition, “Gallery 333” as part of 10<sup>th</sup> international Design Expo in Wuxi, the research team compiled the raw documentation and material outcomes from the workshop, by embedding symbols and languages of IDF and transforming them into design products to be displayed and shared with the audience of the exhibition. There were more than 500 audiences visited the exhibit.

The exhibition “You See Me/I See You” that is a independent exhibition in Wuxi Great Opera, aims to display the real situation of IDP by engaging the audience in learning and manual process very similar to those experience by disable people; information visualization and interactive exhibition settings have been chosen as design tools with the aim to convey information about IDP, but also to make possible the experience of their subjective and tacit dynamics. There were more than 1500 audiences visited the exhibit.

## DISCUSSIONS

The project “YiGongFang” is a long-term exploration of IDP concerns, as well as a developing relationship between the research team from the University, the Sunny Group and local service centers. This kind of cooperation in between public institutions and civil society organization represents itself a developing innovative strategy to approach social issues.

Although the research team had clear theoretical hypothesis and objectives since the very beginning of the project, the factual plan and contents have been dynamically updated according the practices and ongoing findings, mostly in unpredictable ways.

### ASYMMETRICAL ASSETS AND CAPABILITIES

In the application of the principle *people as assets*, and when applying methods of co-production, the first concern should be to acknowledge the people from being passive recipients to equal partners (Fig. 7). Nevertheless, cognitive constraints of IDP make



very hard to achieve this equity, and this requires designers and participants to continuously increase the intention and action in being equal. This effort represent a significant learning process for the research team, itself, and it's necessary to avoid fragile kind of intervention.

At this purpose, before the fieldwork, all designers and participants are trained to build a common understanding and attitude towards the practice of peers relationship; this represents a high challenge to most of them, and those whose sensibility and empathy were less adaptive, they unfortunately gave up at preliminary stage.

In our project, we finally acknowledge IDPs as active recipients and asymmetrical partners: due to the cognitive and relational problems they have, the capacity is very limited in practice.

Therefore, building on what they can do by capabilities means a large gap between what is needed in terms of process definition, and what they can really work out. For example, established and traditional methodology of engagement have to be delicately designed to enable a true participation, this means include a re-design activities of toolkit and instrumental devices, with the aim of simplification and breaking into the smallest blocks (Fig. 8).

Notwithstanding these constraints, we have been able to discover IDPs normally hidden and underestimated strengths. They certainly have limited cognitive and social capacities that show their literacy and behavior like children. Thus, their simplicity in rational thinking, and the purity of cognitive and subjective space generates strong motivation without any conflicting attitudes. Therefore we experimented that, once appropriate condition are provided to their learning process, such as adequate mediation and simple tools, they often show special skills. Through art workshop we were able to observe talent and sensitivity in art creation; on the other hand, they show great internal patience and stability in keeping solid handwork, and to produce qualified craftworks. By the evaluation of IDPs skills empowered through these participative activities, the research team acknowledges that there is great potential to enable them by the leverage on their internal simplicity and tranquility.

## **CO-CREATION AND CO-PRODUCTION**

Any process of co-creation or co-production implies a clear collaborative relationship between actors. At the current situation, although groups of IDPs stay normally in service care centers, and they work together, the degree of collaboration and direct mutual exchange is very low and mainly in terms of physical sharing of the space and equipment, therefore being mainly unconscious.

In order to enable proactive typology of relationship among IDP people, “YiGongFang” developed touch-points to facilitate direct interaction and emotional communication between them.

Moreover, collaborative engagement within IDPs networks includes different types of participants of the service. Those actors are families, caregiver of service centers, relatives. In the current activity of service care centers, those people are in fact mostly disconnected. Along the process we define the need of supporting a more networked communication among the actors involved in IDPs service care, as well as we experienced how much this is a very delicate intervention: the research finds out that those relationships depend on high degree of mutual trust, and they impact on the quality and the success of co-production. During the project, the team spends large efforts to build the trust among service centers members, families and IDPs step by step. The intervention started very lightly, and increased slowly according to the growing of mutual trust. Given that IDPs live largely depend on material support of families and society, building the trust between all the involved actors is precondition to move forward to a deeper step of people-powered services, and therefore to improve this support to be a co-produced positive impact.

Collaborative engagement has been also a challenge from the perspective of the research methodology, and we explored mainly three designed modes of co-production: a) learning based: the design team provides full concept and realization of the artifacts and the techniques of handwork, IDPs learn by imitation, copy, and deriving; b) design is given, IDPs exercise specific skill, by redesigning and recycling with iteration; c) design team provide a set of semi-final artifacts that is then given to IDPs for independent and autonomous completion. These



three modes perform towards different impacts on IDPs capabilities: first one is mainly to train the skills and confidence; second one aims to define proper mediation and condition for them by co-creation passively; the third one is to enable inner an unexpressed creativity by active engagement and creation.

## **BOTTOM-UP AND TOP-DOWN**

As overall consideration, we experienced, throughout the process and the different workshops, the need of developing a combined strategy in between top down and bottom approach. The heterogeneity of stakeholder networks and the complexity of the system involved required us to face several concerns. For example, if somehow we can consider collaborative processes as related to bottom-up, or anyway synergetic type of relationship, we are aware that any concept of co-production is in the track and agenda of Chinese Authority's policies or statements (Wu and Gong, 2012). This necessarily required us to cope with the consideration of strong top-down energies. While dealing with public welfare issues, it's fundamental to build good partnership with public governors and get their support as main stakeholders. In the case of "YiGongFang", we learned that Chinese government is learning to cooperate with NGOs to face those social challenges that have been mostly left behind, compared with the push assigned to the economic growth. Then, we point out that the final force that can sustain a positive evolution of the IDPs public condition are nevertheless the citizens, by the leverage on increasing the social acceptance. The two public exhibitions we organized dramatically changed the perception of IDPs to audience, who were surprised by the vividly concrete results of co-production, as well as by the reflective power of visualization and storytelling elements of the exhibition. Several members of IDPs also participated in person to the exhibition and engaged with the audience in interactive play around handwork.

## **CONCLUSION**

In our research community, "YiGongFang" represented a real, challenging, and positive opportunity to apply design intervention

within the realm of public welfare, as a crucial social issue in contemporary China. It also generated a rich reflective experience the way to formulate design strategy and principles about active welfare and collaborative services. Although further investigation of the project will produce more accurate understanding on our research concerns, it's a encouraging stimulus to verify that design intervention may change in practice the approach of public welfare of IDPs to be more active and positive.

## **ACKNOWLEDGEMENT**

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## A DESIGN EXPERIENCE FOR THE ENHANCEMENT OF THE QUALITY OF LIFE FOR PEOPLE WITH ALZHEIMER'S DISEASE

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### ABSTRACT

As the most common form of Dementia, Alzheimer's disease (AD) causes behavioral, cognitive and Physical impairments, which severely affect people's ability to fulfill their daily activities. Currently, there is no cure for AD, both pharmacological and non-pharmacological treatments can just slow down the process. Design of the physical environment is increasingly recognized as an important aid in caring and treatments for people with Alzheimer's. This paper aims to discuss the role of design, through therapeutic habitat design experience, to enhance the AD patients' quality of life. Therefore, two prototypes of the therapeutic habitats are developed; first organized train habitat by therapist and the second one is designed "therapeutic train" by designer. These two prototypes are tested separately to evaluate effect of design for the effectiveness of the train therapy. The results showed that the patients, who were treated in "Therapeutic Train", responded more effectively to the therapy than the patients who were treated in a non-designed environment.

### KEYWORDS

Design. Dementia. Alzheimer. Quality of life. Therapeutic train.

## INTRODUCTION

### BACKGROUND

Dementia is the umbrella term used to describe the symptoms that occur due to AD. It is characterized by memory, thinking and behavioral symptoms that affect person's ability to function in daily life (Alzheimer's Association, 2013). In particular, AD is one of the most common forms of dementia. Dementia generally occurs after the age of 65 and the prevalence of the condition rises more than 20% after the age of 80. In most instances, the progression of dementia is slow and consistently changes over time (Timlin & Rysenbry, 2010).

With an increasing number of people being affected by Dementia due to AD, almost everyone encounters someone who has dementia or whose life has been affected by it (WHO, 2012). Today over than 35 million of people are suffering from AD and this number will increase to double in 2030 and even triple in 2050 to 115 million. Besides, more than 40% of those cases will be in late-stage Dementia due to AD (Prince et al., 2013).

Currently, there is no cure for dementia due to AD. Pharmacological or Non-Pharmacological treatments (NPTs) can only improve the quality of the patients' lives or slow down the progression of the disease (Olazarán et al., 2010).

Apart from medication, NPTs concentrate on cognitive and behavioral impairments. Emotional, mental and physical activities are the key elements of NPTs. Although some are used with the goal of maintaining cognitive function or helping the brain compensate for impairments. Other NPTs are intended to improve quality of life or reduce behavioral symptoms such as depression, apathy, wandering, sleep disturbances, agitation, and aggression. Finally, physical rehabilitation therapies that focus on motor activities help individuals with dementia to rehabilitate damaged functions or maintain their current motor abilities so as to maintain the greatest possible autonomy (Grässel et al., 2003; Olazarán et al., 2010; Tapus et al., 2009).

## DESIGN AND ALZHEIMER'S DISEASE

Historically, the main goal of interior design is to provide environments with a certain degree of quality and specific connotations, often filtered by a cultural interpretation.

In the particular relation between interior design and features of AD, the elements of such environmental systems, both tangibles (colors, finishes, etc..) as well as intangible (lighting, sound, video, air conditioning, etc..), are identified through their therapeutic efficacy, especially in terms of their prosthetic dimension, concerning NPTs.

Inside this perspective, the environment can be considered as one important Non-Pharmacological treatment modality, as it can reduce dysfunctional symptoms and behaviours, (Zeisel & Raia, 2000). Furthermore, Campion argued that therapeutic physical environments can positively affect the lives of residents with dementia (Campion, 1996): *"Faced with a patient with progressive Alzheimer's disease, physicians may feel they can do nothing to help. This is wrong...Care in a supportive environment can protect function for years"* (p. 791)

Therefore, the peculiarities of an environment take on relevant importance, qualifying as one of the tools that allow the correct activation of NPTs, in order to ensure effective results.

Hereby, design of the physical environment is increasingly recognized as an important aid in caring and treatments. The aim of our research is to discuss the role of design in NPTs for AD through a case study of train therapy. In order to reach to the goal, the evaluation of the Therapeutic habitat prototypes were conducted and discussed by the authors.

The structure of this paper is as follows: Methodology, Design approach used for the design of therapeutic habitat, Case study as train therapy, Therapeutic train design concept, Prototypes conducted both by therapist only and by designers, Cognitive evaluations of the patients for both prototypes, Results, and Final conclusions are drawn, respectively.

## METHODOLOGY

Our methodology included related background research of design problem; a hypothesis, of how to better support research questions, is proposed based upon an analysis of design problem. This hypothesis is formulated into a project within the field of interest. A solution is then developed, evaluated and the overall results and appropriate documentation generated.

The research question is: What is the role of design in NPTs for AD?

Our hypothesis is that design increases the realism and effectiveness of NPTs that can improve the patients' quality of life.

Case study on train therapy was selected for testing the hypothesis. Accordingly, two prototypes were conducted; one by the therapist only and the second prototype named "Therapeutic Train" is designed by the principles of primary design. The testing and data collection were held by the authors. The cognitive evaluation of the first prototype is conducted at Pio Albergo Trivulzio in Milan (Italy) and 20 patients have been participated in the Train Therapy sessions. The second prototype experimentation is conducted at Institute Santa Maria Ausiliatrice in Bergamo (Italy) and the data is collected from 37 patients. The results will be discussed in the conclusion part.

### DESIGN PRIMARIO (PRIMARY DESIGN) APPROACH

The Design Primario approach adopts the set of intangible qualities of an environment to define a new dimension of the project. This specific design approach has been chosen for this research, in order to explain the significance of the parameters for the use of the physical environment in NPTs for AD.

Design Primario term was created in the mid-70s by Clino Trini Castelli. More than designing an object, Design Primario deals with designing sensory states and sensory experiences related to objects and environments. Design Primario perspective is concerned with the use of very subtle effects, like smell, light, color, amplifying them to a degree that becomes significative at the figurative level.

Commonly architects and designers believe that the quality of an object or an environment is determined by its formal, constructive and structural peculiarities, considering of negligible importance anything concerning with the sensorial use of a space connected to its chromatic, luminous, acoustic, tactile and climatic stimuli. The requirements of the people living or working in a certain environment are connected more to such physical peculiarities. The sum of these qualities is related to structures that we can call “soft” in contraposition to the “hard” structures corresponding to the solid structures of a room. The control and design of those “soft” qualities requires a new kind of cultural approach and new instruments. Soft qualities of an environment characterize the physical and subjective experience of products and environments (Castelli, 2000).

## **CASE STUDY: THERAPEUTIC HABITAT APPROACH IN TRAIN THERAPY**

### **THERAPEUTIC HABITAT**

Environmental systems are composed both by tangible (e.g. colors, finishes and linguistic elements of signs) and intangible elements (e.g. lighting, sound, video) and we describe them as *Therapeutic Habitats*.

*Therapeutic Habitat* is a highly recognizable and identifiable presence, able to cause a controlled emotional and affective state in the users.

In this environment, the highly recognizable and distinguishable peculiarities are calibrated to stimulate a feeling of familiarity, trust and intimacy.

*Therapeutic Train* is a *Therapeutic Habitat* with high aesthetic impact and a strictly defined therapeutic purpose.

It is based on the need of creating an environment with a high level of control about environmental qualities. Its intrinsic aim is to support therapies as Non-Pharmacological ones that stimulate and activate cognitive and physical functions not completely deteriorated, intervening on their residual potential (Cilesi, 2011).

Since 2005, Ivo Cilesi (therapist), Lapo Lani (architect) and our research group Lab.I.R.Int – Laboratory of Innovation and Research about Interiors (designers), have designed

environments in order to maximize the effects of NPTs for AD. All these professional profiles deriving from different backgrounds developed a strong teamwork through both applied research and experimental learning activities, mainly in the Design School of Politecnico di Milano

### **TRAIN THERAPY**

Train Therapy is a therapeutic treatment useful to slow the cognitive and functional decline caused by AD. It stimulates the senses of sight, hearing, touch, smell and phonetics with the activation of dialogue, of long-term memory and relaxation. Train therapy is focused on people being affected by Dementia due to AD, that show particular behavioral disorders (i.e. wandering), expressed agitation and aggressiveness. These are behavioral disorders (BD) strictly connected to the perception of being inside a closed space. Due to this difficulty of acceptance of closed spaces, it is necessary to stimulate inside patient's mind a separation from the reality in order to stimulate relaxing.

Train Therapy consists on the staging of a real trip in a train compartment environment (Therapeutic Train). It is important to consider and to analyze the idea of the train trip: this particular event is chosen as the focus of the therapy because is a common experience in the past lifetime of old people. The idea of a trip stimulates memories and activates socialization between patients or patients and therapists, creating a relational space (Cilesi, 2010).

Train Therapy is articulated into three consequential levels. The first is related to the improvement or maintenance of a certain individual well-being. All the activities concerning the therapy have to guarantee a fundamental psychophysical balance in the patients. The second level takes into account the spaces of socialization and the communicative dynamics among people. All those activities able to create connections with the external social reality are related to the third level. It is important to design specific and adequate opportunities for interaction that lead to a kind of osmosis between the microcosm and the social context outside (Cilesi, 2010).



The therapy begins with the gesture of ticket-printing. Patients are encouraged by therapists to obliterate their ticket before entering in the compartment. The doors of the compartment open only after this fundamental gesture. The destination of the trip is often undefined. Therapists leave the patients free to imagine it, guided by their old past memories. As a consequence, the rituality of the actions that characterize the trip assumes fundamental importance. The virtual trip lasts a maximum of 30 minutes. Therapists are seated with patients for the entire virtual trip. The trip ends when the virtual train stops in a station. At this moment, doors open and patients are accompanied out of the train compartment. In this particular condition it is important to consider and validate the fictional reality that the patient is living, keeping in mind that it doesn't correspond to ours. Staging a train trip allows a reinterpretation of historical memories related to travel, in order to reassure from the loss of memory typical of people being affected by Dementia due to AD. These kinds of memories are re-elaborated inside the patient's mind as a moment of escape from normal reality inside a personal fictional world.

Train Therapy sessions are organized according to the onset of disorders, especially in correspondence of an acute phase of them. The goal of this program is to decrease significantly expressed agitation, aggressiveness and BD; also to stimulate attention, relational capability and relaxing.

#### **“THERAPEUTIC TRAIN” DESIGN CONCEPT**

Therapeutic Train, specifically its prosthetic and therapeutic concept, is part of those NPTs specific for people being affected by Dementia due to AD. *Therapeutic Train* consists in the design of a safe, embracing and comfortable environment, with a prosthetic aim entrusted to the memory of a train trip. This personal memory is triggered and managed through the use of appropriate technologies that work on specific deficiencies of the individual patients. This environment has to be recognized by people being affected by Dementia due to AD as a real compartment of a train. This indispensable condition prejudice the effectiveness of the Train Therapy.

As explained previously in this paper, Train Therapy consists in the staging of a fictional train trip.

Inside the internal monitor that works as a virtual window, a video of a real train trip is shown. The program of the trip is antecedently organized, defined and memorized inside the integrated computer. Previously, sounds and sensory stimulations can be modulated specifically on the patients' needs and BD. The various stimulations aim to evoke awareness and orientation in the patients reducing anxiety, pain and depression. They also promote the activation of memory processes. The study of the internal configuration has been developed through a constant dialogue between designers and therapists. (Cilesi, 2011).

This continuous dialogue enabled designers to understand the unique characteristics of the users; as a consequence they can design a series of solutions able to satisfy some requirements in terms of security, without a prejudicial perception of overall familiarity and environmental well-being. This cognitive comfortable setting enables opportunities for individual cognitive rehabilitation, with a high possibility of monitoring user's reactions.

### **1<sup>ST</sup> PROTOTYPE: SENSORY VIRTUAL TRAIN**

The initial prototype of Therapeutic Train was developed within a protected area of Alzheimer's ward in Pio Albergo Trivulzio in Milan (Italy), under the name of *Sensory Virtual Train*. The therapist Ivo Cilesi worked on an environment aiming to recreate the experience of a compartment of a train. It consisted of a wooden panel with two sliding doors, as shown in **Fig.2**. Inside, he placed side by side two pairs of common old-style looking armchairs, with a common small table and a domestic lamp. Beside them, he adjusted two LCD monitors in which patients could see movies taken from real moving trains, as shown in **Fig.3**.



**figure 2** Wood panel with sliding doors.



**figure 3** Internal configuration.

## **2<sup>ND</sup> PROTOTYPE: THERAPEUTIC TRAIN**

The second prototype of Therapeutic Train was developed within a protected area of Alzheimer's ward at the Institute Santa Maria Ausiliatrice in Bergamo (Italy). This more complex version of the Train was developed with the intervention of our research group in collaboration with Lapo Lani (architect), assisted by therapists. They underlined difficulties and suggested to make changes on our proposed solutions, due to their intimate knowledge of the patients. As shown in **Fig. 4**, the train compartment recreated is designed as an "environmental device", with its own autonomy in terms of space, equipment and energy. It is a space carefully calibrated in its aesthetic -that strongly characterizes the object-

and dimensional components, through a specific study of the internal and external proportions.



**figure 4** Therapeutic Train



**figure 5** Internal configuration.

Inside there are two pairs of armchairs, especially designed on the needs of the users, placed side by side in order to turn on communicational dynamics among passengers. Beside them, there is a monitor, integrated in the wall, in order to be considered as a virtual window. Movies taken from real moving trains are reproduced through this element of the system, supported by a complex environmental sound system. Therapists can monitor patients reactions through the digital camcorders placed inside the Train. All these implemented technologies enable therapists to create customized scenarios modulated on the specific cognitive residual functions of each patient treated inside Therapeutic Train.

## **RESULTS**

### **RESULTS OF 1<sup>ST</sup> PROTOTYPE**

The experimentation conducted at Pio Albergo Trivulzio in Milan (Italy) gave a negative result. 20 patients, assessed using the MMSE to ascertain their residual cognitive capabilities, have been included in the Train Therapy sessions. All of them received an evaluation that underlined their minimal residual cognitive capabilities.

Patients involved did not recognize the environment as a compartment of a train, even if they were in a severe stage of the disease. The environment did not trigger the patients' old memories related to travel. Patients involved associated this environment to a domestic living room.

Consequently, the data collected about the acceptance of the train compartment environment were completely negative.

### **RESULTS OF 2<sup>ND</sup> PROTOTYPE**

After three months of experimentation conducted at Institute Santa Maria Ausiliatrice in Bergamo (Italy) the data collected are the following: 37 patients assessed using the MMSE to ascertain their residual cognitive capabilities, have been included in the Train therapy sessions. All of them received an evaluation between 6 and not assessable, underlining their minimal residual cognitive capabilities.

Designer's intervention in the developing process of the prototype made possible the recognition of the Train as a real train compartment.

31 of the patients involved have positively accepted the Therapeutic Train space (**Graph 1**). As explained previously in this paper, the behavioral disorders affecting them are strictly connected to the perception of being inside a closed and retentive space.

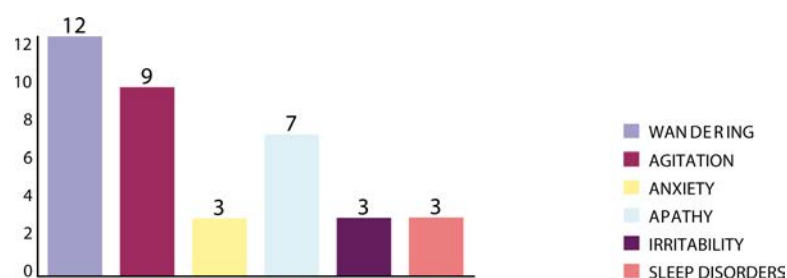
This prototype of Therapeutic Train was able to arouse patient's old memories connected to travels. They perceived the Therapeutic Train environment as a safe place and accepted positively to enter inside it and sit down.

Among them (**Graph 2**) 12 were suffering from wandering, 9 showed expressed agitation, 3 showed anxiety, 7 showed constant apathy, 3 showed expressed irritability and 3 of them were suffering from sleep disorders. As can be seen in **Graph 3** these behavioral disorders have been treated efficaciously, enhancing their quality of life.

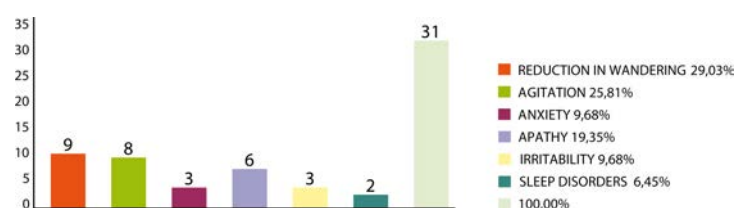
In particular: 9 of the 12 patients suffering from wandering positively responded to the therapy, showing pauses in their purposeless movements. 8 of the 9 patients suffering from expressed states of agitation positively responded to the therapy, decreasing their onset of the behavioral disorder. The same positive results were observed for the decreasing of anxiety, apathy and sleep disorders.



**Graph 1** Therapeutic Train



**Graph 2** BD of patients



**Graph 3** Percentage of reduction of BD in patients after the treatment

## DISCUSSION AND CONCLUSION

### DISCUSSION

The Culture, as well as the practice of design has always had as one of its main goals the improvement of the quality of life of people.

NPTs propose a new approach, which consider the human being, the “Person”, as the center of the issue. A new approach in which the “person” re-acquires a dignity. Dignity represents an important topic within the main issue of “quality of life”, especially during the last stage of AD.

The quality of life is even more strongly related to the quality of the complex socio-environmental system in which Alzheimer’s patients live. This complex system consist of environmental components, as well as objects and human interactions.

A complex and multi-layer system, in which we have to manage the emotional fragility, as well as the extremely sensitive nature, of people being affected by dementia due to AD.

A complex and multi-layer system, that requires a complex and multi-layer approach, as well as a developed sensibility to human factor.



## CONCLUSION

The experience of Therapeutic Train supports the idea that Design can play an important role on enhancing the quality of life of people affected Dementia due to AD, due to its capability to work on multiple levels (environments, products, services). A role that belongs to the predisposition of the Designer to interpret, and to understand, needs, in order to develop solutions.

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## PRACTICES AND CHALLENGES IN CREATIVE RE-USE OF AUDIO-VISUAL MEDIA

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### ABSTRACT

This paper presents findings from a collaborative video remix workshop, *License to Remix!*. The aim of the workshop was to stimulate legal creative re-use of audio-visual media, and to study current and emerging remix practices. The goal was also to understand 'legal' remixing in comparison to an 'anything goes' approach, where any material available online is used, regardless of copyright issues. The findings presented in this paper open up some of the practices and challenges that people have in re-using audio-visual content, and we discuss what kind of requirements these emerging media practices pose to the field of media design. In addition, we develop a conceptual framework characterizing creative re-use practices. The framework describes the various levels of creative use and re-use of audio-visual materials online.

### KEYWORDS

Media design. Collaborative media. Video remix. Creative re-use. Media practice

## INTRODUCTION

In recent years the study of remix and participatory culture has gained a lot of attention. However, understanding the grass-root level practices of people participating in the creation and remixing of audio-visual content, the challenges they face, and how these media practices are facilitated and mediated by media design, has received less attention. This paper aims to shed light on the interplay between people's media practices and media design, by presenting findings from a participatory video remix workshop focused on re-use of audio-visual materials found online.

The aim of the workshop was to stimulate legal creative re-use of archival video content, and to study current and emerging media in practice online. Additionally, we sought insights to the demands that these practices impose on the design of online audio-visual platforms. We apply the workshop findings to develop a conceptual framework of creative re-use practice. This describes the various levels of creative use and re-use of audio-visual materials online. In addition, the paper seeks to help designers tackle a cumbersome challenge: how to facilitate and support creative re-use in a manner that would take into account the multiple levels of use activities, flexible agency and legal frameworks.

The research employed design methods – studying remix by designing and facilitating a remix video workshop, and by observing and interviewing workshop participants.

This paper is rooted in the field of media design, especially collaborative media and media design (cf. Löwgren & Reims 2013). In the project's design-oriented activities we leant on interaction design methods (Löwgren & Stolterman 2004) and in particular participatory design approach (Ehn 1988; Greenbaum & Kyng 1991).

## COLLECTIVE ACTION IN PARTICIPATORY MEDIA

The study of media design has increasingly been oriented towards peoples' collective action (e.g. Moggridge 2010, Faust 2010, Löwgren & Reims 2012, 2013). This is partly due the popularity of social media platforms and countless digital tools on

Internet, which have given everyday people a possibility to participate in the production and distribution of media. In the current media landscape, where people's media use and practices are intertwined with media consumption, it has become evident that people have taken a more active role in participating in the design and production of their 'media everyday', a space that was before reserved for professional designers and established actors.

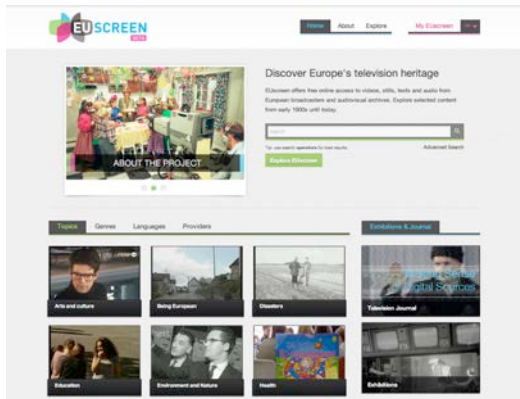
This rise of 'participatory culture' was characterized by Jenkins (2006) as having "relatively low barriers to artistic expression and civic engagement, strong support for sharing one's creations, and some type of information mentorship whereby what is known by the most experienced is passed along the novices" (Jenkins, 2006 p. 7). In a similar tone, scholars argue that the freedom to participate in mediating the everyday encompasses a prospect for better democratic participation (Benkler 2006, Bauwens 2009).

Participation culture refers to new modes of media practices and production that rely on social networks, participation platforms and common-pool resources on Internet (see e.g. Jenkins 2006, Fischer 2011). Remix practice has an essential role in participation culture, and remixing is a way to own our culture (Lessig 2008). As Benkler argues: "if we are to make this culture our own, render it legible, and make it into a new platform for our needs and conversations today, we must find a way to cut, paste, and remix present culture" (Benkler 2006, p. 300).

Wider user participation changes not only media content and production, it fundamentally alters design of the platforms they rely on (Bruns 2010, Schäfer 2011). Against this backdrop, we discuss a participatory video remix workshop, and study how current and emerging remix practices poses challenges for the media designer and requirements for media design.

## **THE CASE: LICENSE TO REMIX!**

The workshop described in this paper was conducted within the framework of the EUscreen project. The key design challenge in the project was to design the EUscreen portal ([www.euscreen.eu](http://www.euscreen.eu)) that makes publicly available a wide audio-visual collection of European television programming and offers



digital tools for various pre-identified user groups (e.g. researchers and educational sector) for their multiple creative activities online. One specific challenge in the project became to study the practice of creative re-use of archival audio-visual content, a challenge taken up in this paper.

## FACILITATING REMIX THROUGH A PARTICIPATORY VIDEO WORKSHOP

We<sup>1</sup> designed and organized a collaborative video remix workshop, *License to Remix!* in order to study, support and stimulate creation of audio-visual remixes and mash-ups using existing audio-visual materials online. The one-weekend workshop took place in Helsinki Finland, and was conducted in collaboration with The City of Helsinki Youth Department, which provided premises for the workshop and advertised the event for the selected target group.

The workshop had three main objectives: first aim was to facilitate and study the video remix creation in practice, and collect good practices and tips for other practitioners. The second objective was to share knowledge about open tools and licenses, and stimulate discussion about the intellectual property issues and challenges that practitioners may face when creating a remix video. The third aim was to 'promote' open audio-visual content online.

An open call for the workshop was published online as well as in the form posters and flyers. Eleven people participated in the workshop. The participants were mostly in their twenties, and students in the fields of media, design, performance arts, music and political studies. All except one had some previous experience in video or audio editing, and three people had also done some DJing or VJing. The main motivation for coming to the workshop was to explore video remixing, as this was familiar to the participants only through the works of others online.

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<sup>1</sup> The workshop was designed and facilitated by Andrew Paterson and the authors, and supported by VJ PHOQ and video editor expert Ilpo Kari.



The workshop began with a public event in which experts and practitioners gave presentations related to remix culture. This was followed by two days of intensive remixing with discussions on remixing and open content in between. No predefined theme or assignment was given for remixing - the brief was deliberately left open in order to probe which strategies participants would choose for creating a video remix.

The participants could create a remix with video editing programs, or a live remix with VJing equipment (see photos on the left). Help - both technical assistance and content related guidance such as guidance on available repositories of visual content - was made available to support participants' exploration of video remix. At the end of the last day there was a public screening of videos created in the workshop. Finally, we interviewed participants about their workshop experiences and how they created their remixes.

As one of the aims in the workshop was to understand the current challenges facing legal remixing, we asked the participants to choose between two camps, a 'Legal' remixing and an 'Anything goes' approach. The 'Legal' camp had to use only audio-visual materials that were Creative Commons licensed, in Public Domain, or otherwise legally available for remixing. In contrast, the 'Anything goes' camp could remix any material that they liked<sup>2</sup>. Seven out of the eleven participants chose the 'Anything goes' camp. The four people who joined the 'Legal' camp wanted to try out what can be done with the 'legal' materials, as they were not familiar with open content and/or open license frameworks.

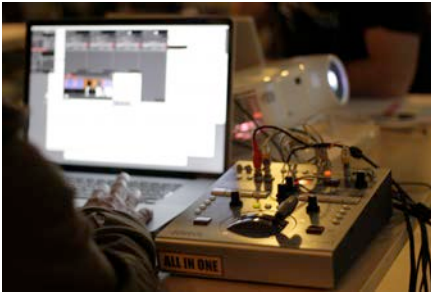
## REMIXING RESULTS

As no particular theme was assigned for remixing, the workshop participants could work freely on their ideas drawing inspiration from materials they found. In order to facilitate finding content with open licenses, the workshop organizers gathered a list of online sources beforehand<sup>3</sup>. Overall, the participants worked with

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<sup>2</sup> The limitation imposed was that remixes containing copyrighted material would not be published in the context of the project

<sup>3</sup> The list included e.g. Open Images, Internet Archive, Flickr and Freesound. Also workshop tutor VJ PHOQ provided some of his video clips for VJing.



a large variety of audiovisual materials during the workshop, as explained in more detail below.

The range of tools used for remixing was also broad including both proprietary video editing software as well as open source software. The organizers provided a list of open software tools, but the majority of participants used the tools that were readily available and familiar to them.



### **THE ANYTHING GOES APPROACH**

The Anything Goes camp explored mostly content from YouTube, and materials found using Google search. For the participants VJing, the remixing practice was driven both by music and images. For example two participants with DJing background mixed videos related to old house and rap culture, such as clips containing dance moves and urban landscapes found on YouTube and FileTube. They started by searching for something that would look “cool”, trying to picture what would look cool in a short clip.

The other three people in the Anything Goes group made politically oriented remixes. The first one was a live performance and a critique of life being bureaucratic and expensive in Finland. Browsing through YouTube with these initial thoughts, the participant compiled videos related to how to become richer and more successful, a kind of cultural mantra. In his performance he mixed these videos with more abstract imagery, experimenting with different types of software, combining and switching between them.

The second political remix was inspired by a series of TV commercials with the slogan “It will not get better by changing it”. The remixer appropriated the company slogan by replacing the head of one of the characters in the commercial with the Finnish Minister of Finance, as well as manipulating the audio. The method of replacing a person was something he had seen online earlier. This participant emphasized the “pirate romanticism” of the remixing process as more important than the actual outcome. The third political remix was an experiment in using remix for research purposes, and eventually became an academic video published in the academic video journal *Audiovisual Thinking* (Saugmann 2012).





## THE LEGAL CAMP

The three remixes created in the 'Legal' camp also varied quite much in their themes and style.

The first one was based on old, mostly black and white videos from the Internet Archive's Prelinger Collection. The remixer started by looking for footage of faces and expressions with the idea that she would create a narrative between people from different videos (e.g. commercials and instructional videos). She also wanted to create contrast between the visual and auditory dimensions by combining smiling faces with a sinister song found in Jamendo. Her editing of the visuals was built on this song, and she said that it was easy to create a story to the mystical and movie-like music.

The second legal remix was made by two guys and inspired by a Lily Allen album containing tracks for remixing. They created visuals, mixing clips containing imagery from war, magic tricks, youth culture and cartoons. The videos, which were from Internet Archive's Prelinger Collection, were combined with Creative Commons licensed photos of people showing their middle finger found from Flickr – matching with the 'Fuck you' in the song lyrics. The video contained quite intricate audio and video editing such as looping, animation and colour effects.

The final remix from the 'Legal' group was made by a teenager whose source of inspiration were computer game clips found also on the Internet Archive. He worked largely based on the audio, combining the original audio of the video clips with sounds found on Freesound.

## LEARNING FROM THE WORKSHOP

Observations and interviews made during the workshop provided some insight to the process of remixing, as well as the challenges regarding legal re-use of audio-visual content. Here we discuss three key themes: finding footage, giving attribution and remixing strategies. In addition we discuss the need to accommodate the social aspects of the remixing.

First, the interviews with participants underlined that it is not currently easy to find legal, relevant video and audio content for creative works. Even with Google search and YouTube, and

without consideration for the legality of re-use, it takes time to find materials from the vast pool of content available online. With the open content sources, such as the Internet Archive, finding material was even more difficult. The amount of 'legal' content is still limited and the search tools are sometimes cumbersome. Some participants in the 'Anything goes' camp began by searching content from the open content websites, but gave up soon when they could not find what they were looking for. Overall, the most common way of searching for audio-visual materials was keyword search with nouns (e.g. "bodybuilder") and adjectives (e.g. "scary"). Additionally, thumbnail images of videos - which may not always be representative - and 'abduction' through "Related videos" type of features helped participants to find relevant content.

The workshop participants expressed a desire for search tools that would allow search query by colour, by specific theme/event (e.g. fire) and by image comparison, rather than only key word based search functionalities. Keywords, tags and other descriptive metadata might be an ineffective way to search specific images or colours on video, as often the text is a description of a whole video and not its parts or segments. Navigating video through preview key frames, or fast forwarding or scrolling video footage is time consuming and laborious.

Second, the participants in the 'Legal' camp had to pay special attention to the licenses and terms of use regarding the content that they remixed, attributing sources when licences required so. Licensing information was experienced as complicated, and license compatibility was difficult to understand, complicating which materials can be mixed together, and how the final work can be licensed. Attributing the sources was also found laborious – one participant mentioned it being the most annoying thing in making the remix. Participants were asked to keep track of their materials in a separate text file dedicated to this, but as the creative process was rather dynamic, keeping the information up to date, and transferring it to the actual video files was not easy. These issues are essential, as the process of making audio-visual derivative works includes a wide range of different types of content from different sources (e.g. video, audio, still pictures), as well as different tools for searching the content (e.g. Google

search, online video platforms) and editing it (e.g. video editor, audio editor).

It is also important to point out that giving attribution is not only a technical manoeuvre. Participants' attitudes towards giving attribution to the original authors varied a lot based on the source of originals. Acknowledgement of individuals and peers were considered more important than mass media productions (e.g. news). Attribution also varied with the video genres that participants chose to make, (e.g. one participant made an academic video, and adapted the practice of referencing sources from academic writing conventions). Makers of political video remixes, on the other hand, did not see attribution of sources as relevant, as neither did the VJ practitioners. To the latter, the marking of the source materials was seen to compromise the visual style of the outcome.

Third, as the description of the works produced has demonstrated, participants' remix practices and strategies varied a lot when the brief was left open. The strategies can be grouped to three main categories: 1) Content driven, here a video remix was compiled based on the footage that was available, or representative footage was analysed to form an argument. 2) Form driven, here the e.g. style and length of a remix was guided by a genre (e.g. music video) or an emerging cultural form online (e.g. meme, mantra). And 3) Purpose driven, here a video remix is a vehicle for one or multiple goals or messages. The main aim seems to be to initiate or join an existing discussion with peers with a specific issue.

The socio-technical nature of a remix video is vital. The remix videos are aimed for viewing, commenting, sharing, and being-built-upon in online participation platforms.

These creative re-use activities should be acknowledged and supported better. Within an audio-visual platform, this could mean activities like creating stories, exhibitions, playlists and collections, while actual derivative works like remixes might not be possible due copyright restrictions. Social and collective creative agency needs facilitation through design. For example, clear terms of use or community guidelines in the platforms, along with rights related information, could decrease confusion

related to copyright issues.

In sum, the Licence to Remix! video remix workshop proved a good way to study and demonstrate creative re-use in the context of the EUscreen project. It stimulated discussion around the topic in general, and provided valuable insights about what kind of new requirements these emerging media practices demand, an important issue for media designers.

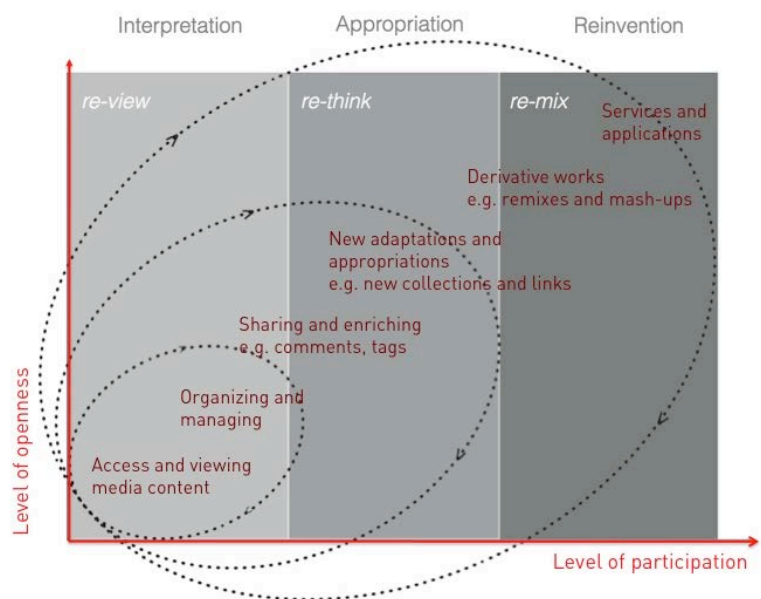
## **UNFOLDING THE CREATIVE RE-USE PRACTICE**

Various studies and ethnographic fieldworks have shown that people's online activities are manifold and heterogeneous, and that people are rapidly and creatively adopting and developing new practices and ways of communicating, cooperating and mediating with and through media content (e.g. Buckingham et al. 2009, Burges et al. 2009, Lovink et al. 2008). Re-view, re-think and re-mix have become cornerstone activities of our online media culture, and have become a favourable tactic of engaging with and take part in various discussions in our society, varying from political comments to aesthetic investigations and self-expression.

Digital media artefacts, both produced by mass media and 'user' created exist in a constant cycle of interpretation, appropriation and reinvention through various levels of activities and media practices (e.g. sharing, commenting, creating media). It should be noted, however, that this participation and enrichment of media is not consistently a voluntary or conscious act; interactive media systems generate, collect and display information about use and users (e.g. statistics, location, user information) with or without consent.

## A FRAMEWORK FOR CREATIVE RE-USE

In order to situate the learnings from the License to Remix! workshop we develop a framework (Figure 1) for understanding the multifaceted nature of creative re-use media practice online. This simple framework presents a condensed illustration of the various levels of activities through which we take part in the understanding, social enrichment and evolution of audio-visual content online. It highlights how the accumulation and evolution of information and related media texts/artefacts taking place through practices of interpretation, appropriation and reinvention requires open media content and design frameworks. In the figure, the basic dimensions of the framework are visualized. The vertical dimension represents the 'level of openness' of use and re-use activities require of the digital realm they take place in. Activities are situated in a continuum from restrictive towards more open content requirements. The horizontal dimension represents the 'level of participation', and indicates the degree of participation and engagement, as well as creativity. The third dimension, the corresponding media artefacts that exist in the digital media landscape, are in red writing within the figure. These assembled media texts are constantly evolving and circulating in a loose ecosystem of connected services, tools and media resources. How the level-of-participation-columns relate to content enrichment is discussed below.



**Figure 1** A framework for understanding creative re-use online.

### **Interpretation - Re-view**

The first column on the left, Interpretation, refers to an activity where media is accessed and viewed and consumed/read without active and/or voluntary enrichment of media texts. Media is re-viewed, and people are creating their own understanding and interpretation based on e.g. their previous knowledge. People are interactively constructing meaning by reviewing media artefacts/texts, comparing and linking them to other media elements (e.g. metadata) in connection to the items.

### **Appropriation - Re-think**

The column in the middle, Appropriation, represents activities where media is actively contextualized and enriched in use situation. These everyday media practices include activities like recommending, organizing, creating additional metadata and meaning to the media (e.g. comments, tags, rating). In most cases these activities do not affect the original media files, and the media use is facilitated by providing various functionalities and tools in the system. Media is re-viewed and contextualized; the level of participation and openness requirements increases (i.e. the system offers tools for engaging with media, and people use them).

### **Reinvention - Re-mix**

The right column, Reinvention, communicate the most open and participative part of media use. Media is altered, reconfigured, new derivative works are produced and applications designed, requiring open content. For example media remixes and mash-ups can be seen as reinvention of audio-visual media content and additional sources of data (e.g. metadata).

The simplified creative re-use framework highlights the multiplicity of people's creative use and media practices, and reminds us how professional designers should address all levels of use and create frameworks for flexible agency. The framework also hints at the new skills and knowledge that is required from media designers when these are situated in a wider socio-technical media ecosystem (e.g. expertise and understanding of regulations, policies and laws). Examples of different areas of design, and concrete designs needed to facilitate creative re-use

of audio-visual media are given in the Table 1 below. In addition some design approaches addressing these needs are presented.

	Design for INTERPRETATION	Design for APPROPRIATION	Design for REINVENTION
Area of design	Visual representation, navigation, usability	Policies and guidelines, access management, licenses	Tools, resources, good practices, APIs
Design approaches	Human-computer interaction (HCI)	Participatory design, co-design	Meta-design, Open design

**Table 1** Some design areas that are required in media design, and some design approaches addressing these areas.

## CONCLUSIONS

Today, people are creatively adopting and developing new practices and ways of communicating and cooperating with and through video, as can be observed with popular online video sharing platforms such as YouTube. Video remix has in particular become a way to engage and take part in discussions in our society, with remixers' interests varying from politics to aesthetics and self-expression. Based on our findings from the License to Remix! workshop we argue that the video remix practice is a complex procedure which have a strong social aspect and connections to other creative activities online (Figure 1).

The current challenges in legal remixing seem to lie in finding relevant and compatible content, as well as in understanding licenses and terms of use, in particular when materials from multiple sources are combined. There is also no strict juxtaposition between the 'legal' and 'illegal' from the practitioners' perspective. Therefore remix practice is often conflicting with the legal frameworks, often only due the lack of knowledge of openly available online resources and open licensing frameworks.

Our findings also point to the need for a shift from human computer interaction design to design of participation structures

and collaboration mechanisms of social networks to support and facilitate emerging media practices. This sets new requirements for the role and practice of the media designer, such as engaging with the legal frameworks regulating content enrichment and re-use.

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## DEVELOPMENT OF A TOOLKIT FOR CHILDREN WITH COGNITIVE DEFICITS OF LEARNING: Example of changing perspectives for design students

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### ABSTRACT

This paper aims in reflecting on perspectives for design students, interested in subjects related to social innovation, particularly during the development of their Final Undergraduate Works (FUW) and at the beginning of their careers. Difficulties and gains achieved during the development of FUWs are pointed out, trying to find evidences of the relevance of working beyond marketing needs as differential to enhance design students' opportunities on the market. In this sense, one final undergraduate work is shown as example of topic and development of ideas in search for a better quality of life, particularly related to the field of design for health throughout the development of tools for children with cognitive deficits of learning. This paper is based on the case study method, trying to establish some starting points for the understanding of the role of social engagement in the background of designers during the first stages of their careers as professionals. The main contribution of this paper is to work as reference for design students, highlighting the relevance of some social engagement together with social responsibility during their formation, in a way that better present a theoretical and practical discourse for a change of perspective for designers and practitioners.

### KEYWORDS

Design for health. Final Undergraduate Work in design. Social innovation. Social responsibility. Cognitive deficit of learning.

## 1. INTRODUCTION

As relevant part of the majority of undergraduate programs in Brazil, design students must develop a Final Undergraduate Work (FUW) following the standards set by Brazilian Federal Ministry of Education, considering one of three models of work, as follows: a) monographic text on a limited field of inquiry; b) supervised scientific introductory research; c) design project or interdisciplinary applied activity covering both praxis and theory of design. This learning experience aims in using the knowledge acquired during the undergraduate program, giving the student an opportunity to develop a high quality work in a professional basis, under supervision of specialists and highly skilled workers or university professors, using design techniques and methods in order to achieve a mature sense of criticism, involving entrepreneurship, innovation and scientific rigors. At the end, the students present their work facing an external jury of design specialists and/or business staff. This strongly means that the FUW is seemed as a self presentation of each student to the real professional market.

Despite the fact that there is no consensus on the basis of design, particularly in terms of methods, the use of research techniques since the very beginning of design formation as well as the immersion of design students in different contexts of work play an essential role in generating innovative answers to social problems, considering design beyond the market demands, making students to experience and act under the social and ecological responsibility spheres. In this sense, uncommon topics have been proposed as Final Undergraduate Work in Brazilian universities, such as design for inclusivity, design for social care, design and solidary economy etc. As commented by Margolin (2003), the possibility to work beyond the demands of manufacturers can elevate the work of designers to the world of entrepreneurs, giving them the chance to change markets and create new product and service sectors of interest of large companies.

This paper discuss the relevance of one FUW developed in the field of design for health, showing how designers can be an

essential part on interdisciplinary projects, mediating dialogues with other professionals and helping to set a more responsible and humanized solution. As pointed out by Szenasy (2003, p. 24), we should understand that “good design is responsible design [...] a noble and necessary human activity”.

The main contribution of this paper is work as motivation for design students to look for fields of study beyond the traditional market orientation. Moreover, the discussions point out a dashboard for a curriculum proposal in design at undergraduate level, which approximates the praxis of design to some social engagement together with social responsibility, that better present a theoretical and practical discourse for a change of perspective for designers.

## **2. THE FINAL UNDERGRADUATE WORK AT FEDERAL UNIVERSITY OF BAHIA**

In the particular context of the undergraduate design program at Federal University of Bahia, School of Fine Arts (UFBA/EBA), in Brazil, the design students perform an applied activity covering both praxis and theory of design, facing complex problems under supervision of professors or design practitioners developing an experimental design project, trying to connect all knowledge acquired during their formation as a designer as well as working in interdisciplinary scenarios. The main goal of this activity is to let students work with design demands in a professional perspective, taking into consideration the need of presenting design solutions that actually give the audience the sense of responsibility and quality expected from a mature designer.

The FUW in design at UFBA/EBA, also called experimental design project, is performed as a discipline in one semester, on-site or with online mentorship<sup>1</sup>. Contents and activities cover problem definition, developing of project steps and priorities, briefing, data collection and analyses, restrictions and limits, generation of alternatives, visualization of ideas in 2D and 3D, election of best solutions and final oral and written presentation.

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<sup>1</sup> Website: <http://www.moodle.ufba.br/course/view.php?id=10230>

Contents of FUW are divided into two main parts, involving two evaluation processes, as follows: 1) pre-jury, involving the validation of the project and development of ideas; 2) final jury, involving all the development of ideas together with the results and main contributions of the project as well as project presentation.

The first part is organized into steps that cover project definition and activities flow, briefing, data collection and analyses, prototyping, visualization of ideas, self-organization and presentation to a jury, in a private session. The role of this initial jury is to identify strengths and weaknesses of the project and as well as its development. At this point, the jury can indicate the continuation of the development or its inviability as a design project in regard of quality, fulfillment or complexity.

Once the project is validated by the initial jury, it can continue to be further developed and presented with high quality standards. This second and final part of the FUW is dedicated to the finishing of proposals in a way that untechnical personnel can understand the design solution together with documenting the proposal with detailing and execution steps at a professional level. At the end, the results of the design project are presented to a jury, in a public session, when students communicate their design solutions to general audience.

Some reflections and learning from the past FUWs reveal that, despite difficulties with time and self organization, together with restrictions of technology and materials for a better quality of proposals, students tend to achieve results that give relevant responses to daily problems in all fields of design (Souza, 2012). Recently, topics more related to quality of life have been progressively taking part of the thematic palette of the students, particularly environmental and social problems. In this sense, we present as follows one example of project in the perspective of changing of course for a more responsible way of working in design, particularly in the field of design for health.

### **3. DEVELOPMENT OF A TOOLKIT FOR CHILDREN WITH COGNITIVE DEFICITS OF LEARNING**

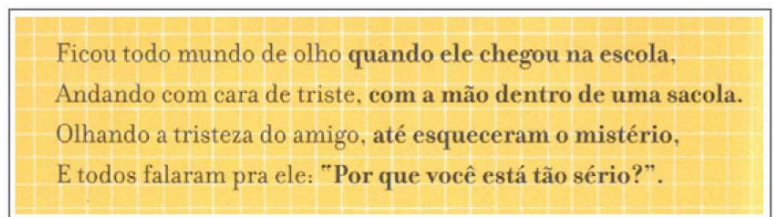
The project called “Making history” (Silva, 2010), was developed as a Final Undergraduate Work at Federal University of Bahia, by design student Vania Silva, under supervision of professor doctor Paulo Souza and professor doctor Aline Alvarenga. The main goal of the project was to develop ludic tools that could help therapeutical sessions to children with deficits of learning.

The technical literature on the topic deficit of learning is diverse and mostly controversial (Ciasca, 1994). In this study, it is considered as a heterogeneous group of disorders, manifested by difficulties in speech’ acquisition together with difficulties in writing and developing logical and mathematical thinking. Others may seem children with deficits of learning as lazy and slow at school resulting in prejudices, and consequently lose of self-esteem. According to Manhani et al. (2006), therapeutical treatment can be performed to enhance children’s abilities throughout the use of mnemonic strategies, writing and reading strategies as well as the focus on activities addressed to the development of mathematical and logical skills.

Despite the fact that children with cognitive deficits of learning have difficulties of perceiving and retaining information they usually have a regular level of intelligence. This means they can achieve adequate learning experiences as much as children that do not have these particular deficits (Manhani et al., 2006). In this sense, the learning process addressed to children with cognitive deficits of learning should be focused on motivation and different ways of teaching/learning mediation during classes and learning activities. In order to identify which means and processes fit best on therapeutical sessions, the project called “Making History” was proposed within a multidisciplinary group of physicians, psychologists, therapists, social assistants and a designer, in a search for developing specific materials that could be used in a way that enhance children’s mathematical skills, writing and reading, together with mnemonic abilities.

The study was performed during 8 (eight) therapeutical sessions involving children with diagnostic of deficit of learning, aged 7 to 12, when they were invited to create and interact with art and design activities, drawing materials, artistically displayed typography etc.

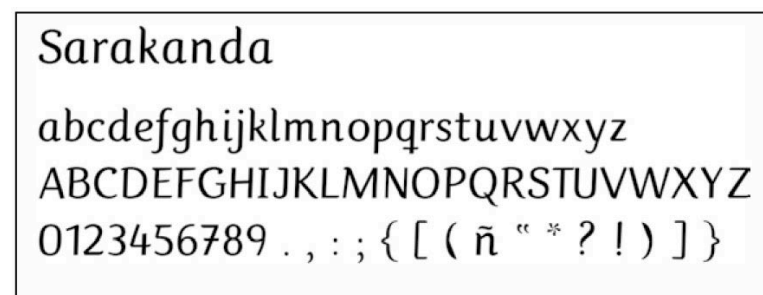
Besides the observation and production of graphic materials during therapeutical sessions, the data collection was built from visual references and semantic panels with previously released books and other support materials used by physicians and psychologists specifically designed for children with deficits of learning. Some relevant aspects identified as mainstream for the design of the toolkit were related to the way typography is displayed and presented in a search for a better understanding for the children as well as the need of enhancing perceptions of shapes and contrast of colors in printed materials set as patterns for the graphic design. Figure 1 presents differences of pace during reading experiences with alternate use of roman and bold types.



**figure 1** example of typographic reference for the project (Silva, 2010).

The typographic family adopted at the book was the “Sarakanda” type, designed by Alejandro Sanabria, in Paraguai, aimed in adjusting physiological aspects of reading to attend needs of perception and recognition of certain letters in children with dyslexia (Sanabria, 2009). The main focus of this typography is to better connect characters that usually create difficulties of perception, such as the letters “p”, “b”, “q”, “d”, “n” and “m” due to theirs shapes. The type design takes into account the rhythm and sense of reading, particularly by readers in occidental cultures, i.e. from left to right, together with visual blocks of letters that may enhance the perception of words. The figure 2 presents samples of Sakaranda’ type family.





**figure 2** Type font Sakadanda, used at the project (Sanabria, 2009).

According to Nodelman (1988), the size and styles in typography such as alternate use of bold and roman, might enhance perception of the whole message in a graphic page. In this sense, the pace of reading can be managed in a way children can better understand the contents and follow narratives more easily. Moreover, the shape of the page its own can generate a more decisive influence on children's perception and understanding.

The square format, for instance, can be of great simplicity for the reading process, despite the fact that it imposes restrictions for illustration and graphic design planning. Figure 3 shows some visual references of design books for children.



**figure 3** some visual references for the project (Silva, 2010).

The project adopted simplicity of elements and focus on drawing and use of typography as mainstream for communication and motivation for children. Drawings and graphic materials produced during therapeutical sessions worked as basis for images and stories in a book, specially designed to be used as motivation for the development of learning abilities as well as the enhance of perception skills. Some examples are shown in figures 4 to 7.



figure 4 example of page with children's drawings (Silva, 2010).

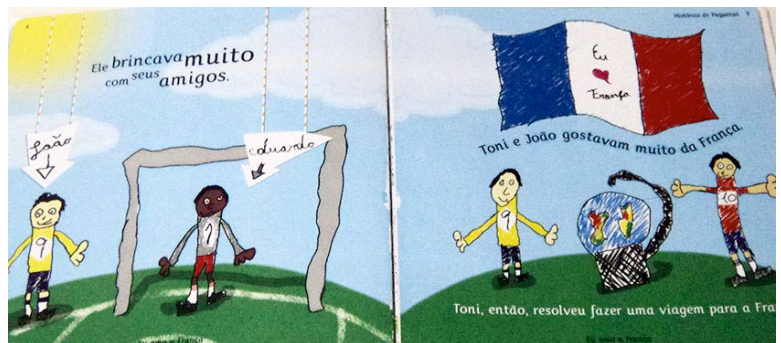


figure 5 example of page with children's drawings (Silva, 2010).

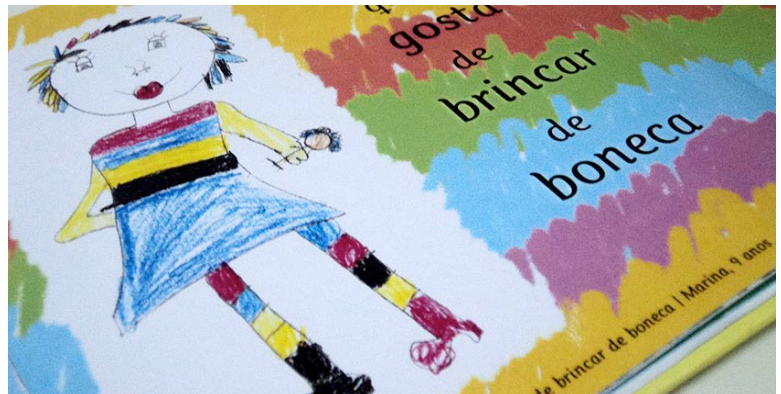


figure 6 example of page with children's drawings (Silva, 2010).



**figure 7** example of page with children's drawings (Silva, 2010).

Besides the book with drawing and stories developed by children at therapeutical sessions, other materials were designed to help with mathematical and logical skills, such as memory games, which aims in associating the sounds of words and recognition of meanings, and the bingo game, which is focused on the development of mnemonic skills.

Figures 8 and 9 present the final design of the toolkit.



**figure 8** toolkit box (Silva, 2010).



**figure 9** contents in toolkit box (Silva, 2010).

The project was further tested during therapeutical sessions and considered adequate to support teaching/learning activities especially design for children with cognitive deficits of learning. Nowadays we are looking for public and private investors that might be interested in publishing the project in large scales.

## 4. FINAL CONSIDERATIONS

The experience achieved from the development of a Final Undergraduate Work takes into account the consolidation of theoretical and practical knowledge acquired during the academic formation of a designer, involving different skills and abilities necessary at professional levels of work. A recognizable worry that often appears during this process is related to the development of a *modus operandi* and a particular way of thinking when searching for design solutions and proposals focused on human needs in a perspective of social responsibility and ethics overall. In this sense, the development of criticism and adequate professional praxis, according to values such as sustainability, ethics, and social responsibility should play a relevant role in the work of designers and practitioners. As pointed out by Cardoso (2012), the formation of a designer as a thinker, particularly covering the field of social responsibility, is still a goal to be seriously pursuit by anyone who is interested in design education as a way of changing positively life.

We strongly believe that these discussions on the choose of



topics and new demands of projects beyond market needs can elevate the work of designers to a more comprehensive way of thinking that effectively may change quality of life in a broad sense.

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## CARING FLAME (Chama Solidária): Socially responsible designers

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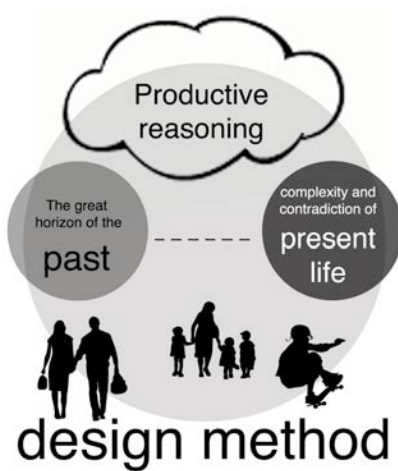
### ABSTRACT

This research aims to demonstrate and emphasize that academic projects allow for socially responsible design hypothesis. Our research was based on 'designerly ways of knowing' (Cross, 2006) and process-oriented projects. The first section revisits the meaning of responsibility and its application in design, considering semantic and social dimensions. To grasp the concept of responsible design we invoke authors such as Papanek (1997) and Bonsiepe (2011). The second section analyses a craft-design collaboration between a design school and a local enterprise. Promoting sustainable design, it was an opportunity to reinvent the school and the productive enterprises involved in the project (Mendini cit in Ferrari, 2005).

As interpretation model we present an experimental exercise in regional products systems project. This rationale allows us to take time, space and circumstances (Brown, 2009) as fundamental in the development of different proposals. Finally, this research supports that design is a responsible contribution to social sustainability and entrepreneurial competitiveness.

### KEYWORDS

Responsibility. craft-design collaboration. Design of Experience. Responsible design



**Figure 1** Diagram of design method, linking cultural signs of the past and present life, to design the experience of knowledge. Image by the authors.

## INTRODUCTION

Reality and designer are regarded as dynamic elements in their interactive process of transformation. The authors support that designers select a cognitive open process in order to act. It is an open process to the extent that when designers take a path, including forwards and backwards changes to the project, they are taking a course that includes external factors as part of the project – people, information, culture, time, space, circumstances; It is a choice of a cognitive process in order to act insofar as it refers to an intellectual method that “has become regarded as the most likely method (perhaps the only method) to bring out into the open the somewhat mysterious cognitive abilities of designers.” (Cross 2006, p.77).

That choice is based on a constant renovation period which defines the twenty-first century, and leads the designer towards project proposals promoting unlikely encounters between elements with different nature.

Concerning the application in design, this means the designer relates past and present culture to define the future, instead of choosing one over the other.

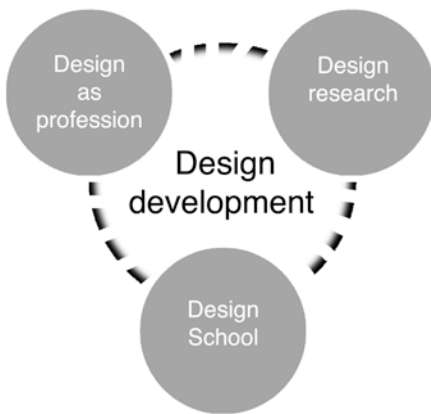
Primarily, this paper addresses the elaboration of product systems conveying culture, linking research, teaching, and profession. On the one hand, shared knowledge between schools and local productive enterprises may favour the development of design as a discipline and the identity of the design practice in school. On the other hand, a craft- design alliance may favour innovation, social sustainability, and the future designer’s responsibility towards his community.

## RESEARCH PROCESS

### PURPOSE

In the present research, the academic context allows to raise awareness, among future project makers, of the need to become responsible actors in society. According to Gui Bonsiepe, “however well-intentioned sustainable design was, it seems not to reach far if restricted to Nature and to the consumption of resources, excluding the issue of social sustainability.” (Bonsiepe





**Figure 2** Diagram of design development in the twenty-first century reality. Image by the authors.



**Figure 3** Forest area of Alto Minho region. Images composed by the authors. Source: <http://gtfsdoaltominho.blogspot.pt/p/regulamento-e-aplicacao-do-fogo-tecnico.html> (accessed October 28, 2013).

2011, p. 29). Accordingly, to contribute to the education of the design student involves conveying social values and ethics. Design students should also apprehend the virtue of responsibility from their training. The acquired knowledge contributes towards becoming social agents with a key role concerning sustainability.

The project maker evaluates the social good before starting the project. For Victor Papanek, the designer's "social and moral judgment must be brought into play long before he begins to design, since he has to make a judgment, an *a priori* judgement at that, as to whether the products he is asked to design or redesign merit his attention at all. In other words, will his design be on the side of the social good or not." (Papanek 1997, p. 59). This project was developed in the north of Portugal, in the Alto Minho region. Therefore, the research targeted its *genius loci*, interpreting the apparent image projected by the place. This led us to the understanding of designer action as educator of his own society. "All design is education of sorts. It may be education by studying or teaching at a school or university, or it may be education through design. In the latter case, the designer attempts to educate his manufacturer-client and the people at the marketplace." (Papanek 1997, p. 68).

In Viana do Castelo, district capital, woodworking is one of the main activities. In this region, wood is an abundant raw material. In fact, forests represent 58.9% (18.776 ha)<sup>1</sup> of Viana do Castelo area. Subsequently, this community, including the academic community, must be aware of the important heritage values of indigenous forests and the need for their conservation, maintenance and enhancement.

Combined with the unrest caused by forest fires, forests demand special attention from all social actors, including designers. Given the elevated subtraction rate and replacement by new species, wood emerges as a particularly striking problem to be addressed urgently. In addition, the region is strongly affected by forest fires. "Considering the last decade (2003-2013), and subtracting the dramatic years of 2003 and 2005 in which the burned area exceeded respectively 4.000 and 3.000 Km<sup>2</sup> and

<sup>1</sup> <http://gtfsdoaltominho.blogspot.pt/p/gtf-de-viana-do-castelo.html> (accessed October 28, 2013).



**Figure 4** Diagram of design development in the twenty-first century reality. Images by the students.

more than 20 people were killed, including civilians and firefighters, this summer is to history the second most severe. The worst year was 2010, with 1.280 Km<sup>2</sup> of burned scrubland and forest during the summer period, equalling 128,000 football fields.”<sup>2</sup>

### **CRAFT-DESIGN COLLABORATION FOCUSING ON SUSTAINABILITY AND SOCIAL ENGAGEMENT**

The forest fires devastating the region, coupled with the diversity of craft activities using wood, constitute the setting to rethink what it is being (un)built. A creative system consisting of local craft shops, the design school and the fire services – ambassadors of the cause of forest fires-fighting – were the foundations for this craft- design collaboration focusing on social engagement and sustainability.

On the academic side, designers work with a “reflective practitioner” (Schön 1983), guiding the artisan towards the ongoing assessment of sustainability values. The design school can promote innovation by coordinating this complex system, proposing pilot projects acting as catalyst for entrepreneurial innovation. According to Alessandro Mendini “(...) university will become the central institution of the next hundred years due to its role as new source of innovation and knowledge” (Mendini cit in Ferrari 2005, p. 102). On the side of the productive fabric, the artisan conveys the designer his handicraft knowledge.

In this context, the Caring Flame project arises as an auction of objects designed by design students and manufactured by local enterprises, to raise money for the Humanitarian Volunteer Firefighters Association of Viana do Castelo.

The significance of creating an auction in behalf of such entity is particularly relevant for students' learning. As advocated by the Nobel Prize-winner Muhammad Yunus, “Students must learn that businesses are of two kinds: a) business to make money, and b) business to do good to others. Young people must learn that they have a choice to make which kind of entrepreneur they would like to be? If we broaden the interpretation of capitalism even more, they'll have wider choice of mixing these two basic

<sup>2</sup> [http://www.dn.pt/inicio/portugal/interior.aspx?content\\_id=3425147](http://www.dn.pt/inicio/portugal/interior.aspx?content_id=3425147) (accessed September 17, 2013).

types in proportions just right for their own taste.”<sup>3</sup>

## RELATED WORK

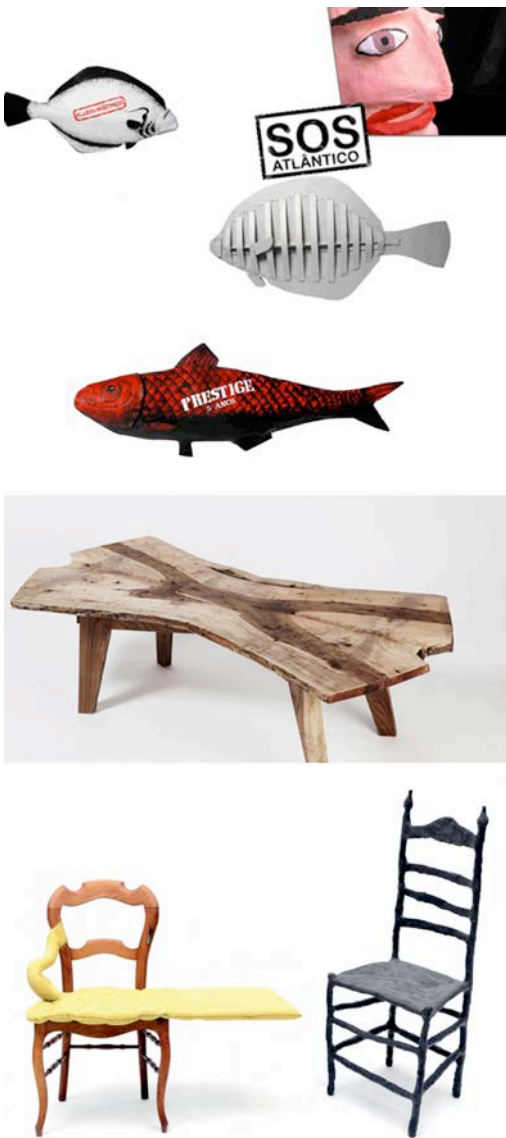
There are other academic projects on social sustainability, such as ‘SOS Atlântico’ (2006)<sup>4</sup> organized by the Product Design course from Viana do Castelo Polytechnic Institute, to support the ‘Casa dos Rapazes’ [Boy’s Home]; ‘Chairs For Charity’ (2012), organized by the auctioneers Venduehuis der Notarissen<sup>5</sup>, or ‘Desks’ (2011), to support the association Kids of Kathmandu<sup>6</sup>.

Nowadays, design schools must take the role of catalyst for innovation, and also teach socially responsible design. According to Victor Papanek, “the main problem of design schools seems to be that they teach a lot about creating and not enough about the environmental, political, economic and social setting in which the project is to be developed. It is impossible to teach something in void, much less in a system so deeply involved with the basic needs of man, as is the case of the project’s reality” (Papanek 1997, p. 87).

## PARTICIPANTS AND METHOD

The Caring Flame project is a protocol between the Viana do Castelo Polytechnic Institute Product Design course and the Humanitarian Volunteer Firefighters Association of Viana do Castelo. Approximately 40 students worked in teams of 3 to 4 elements, oriented by 5 faculty members.

The research had several stages. The first stage was held at the firefighters’ headquarters and was the first contact between students & teachers and firefighters. The second stage involved analysing firefighters’ history, to understand the different signifiers, followed by data processing. The third stage involved self-production and networking with productive enterprises. The fourth stage targeted the creation of communication products to



**Figure 5** From top to bottom: Projects ‘SOS-Atlântico’ (2006), ‘Desks’ (2011) and ‘Chairs for Charity’ (2012). Images retrieved online (footnotes 4, 5 and 6).

<sup>3</sup> [http://www.grameen-info.org/index.php?option=com\\_content&task=view&id=217&Itemid=206&limit=1&limitstart=2](http://www.grameen-info.org/index.php?option=com_content&task=view&id=217&Itemid=206&limit=1&limitstart=2) (accessed December 16, 2013).

<sup>4</sup> [http://portal.ipvc.pt/portal/page/portal/estg/estg\\_noticias/estg\\_noticias2007/estg\\_sos\\_atlantico](http://portal.ipvc.pt/portal/page/portal/estg/estg_noticias/estg_noticias2007/estg_sos_atlantico) (accessed October 28, 2013).

<sup>5</sup> <http://design.venduehuis.com/node/46> (accessed December 16, 2013).

<sup>6</sup> <http://inhabitat.com/nyc/11-new-york-designers-create-childrens-desks-to-raise-money-for-nepal-orphanage/> (accessed October 28, 2013).



**Figure 6** Location of the productive enterprises joining Caring Flame project. Image by the authors.

promote the students projects, the involved enterprises and the event in favour of the firefighters. Finally, the fifth phase focused on the preparation of the auction, the high point of the project.

## MATERIALS AND APPROPRIATENESS

This project was intended to develop mainly wooden objects, for different purposes, such as fashion accessories, toys, musical instruments or office supplies. The choice of wood as raw material characterizing the projects is linked with the semiosis created around the firefighters' subject.

The adoption of a process oriented system allowed the projects to develop as new partnerships were made. This was a specific opportunity to experiment new project scenarios, demonstrating design capabilities in materializing product systems.

As a condition from the initial brief, students could not spend any money to develop the prototypes. Subsequently, materials and specific workmanship were provided in different moments of the project, upon establishing alliances with enterprises.

Sector	Nr of enterprises	Place
Social Solidarity Institution	1	Viana do Castelo
Carpentry	5	Viana do Castelo
Carpentry	2	Barcelos
Carpentry	1	Fafe
Carpentry	1	Vila Verde
Carpentry	2	Amarante
Carpentry	2	Felgueiras
Wood-carving	1	Braga
Employment Centre	1	Viana do Castelo
Automotive repair shop	1	Felgueiras
Pulp and Paper Industry	2	Viana do Castelo
Basketry	1	Ponte de Lima
Basketry	1	Vila Verde
Typography	1	Viana do Castelo
Glassmaking	1	Braga
Shoe Factory	1	Felgueiras
Textile	1	Barcelos
Embroidery	1	Barcelos
Leather supplier	2	Viana do Castelo
Painter	1	Viana do Castelo
Upholsterer	1	Viana do Castelo

Seamstress	3	Viana do Castelo
Seamstress	1	Felgueiras
Seamstress	1	Braga
Goldsmith	3	Viana do Castelo
Haberdashery	2	Viana do Castelo



**Figure 7** Toy project, developed by the students Cristiana Oliveira, Roberto Alves and Susana Rufino. Musical instruments project, developed by the students Adriano Meireles, Carlos Almeida and Nuno Ribeiro. Image by the authors.

A total of 38 enterprises from different sectors of activity agreed to participate in this project. This reveals business holders support the firefighting cause and also that responsible design is appealing to investors.

Finally, the 40 students were asked to apply the system to local manufactures, promoting new operations and an interaction with new urban models.

## FINDINGS AND RESULTS

Starting from a common ground for analysis, different proposals were developed, generating different solutions. The Caring Flame project allowed design students to interact with regional/local productive enterprises, to leverage alternative markets, and to offer a varied supply of products.

In this scenario, the role of design may be the key to identify new product types, connecting knowledge from design students and knowledge from craftsmen and business owners. These links may be a starting point for future designers to become business drivers and entrepreneurial individuals.

The Caring Flame project (*Chama Solidária*), obtained a total amount of over 2.000 euros from the auction sale that took place at the Viana do Castelo Volunteer Firefighters' Home, on December 20, 2013. The Auction also gathered representatives of the four main political parties in Portugal (PS, PSD, PCP and CDS). They each purchased an item.

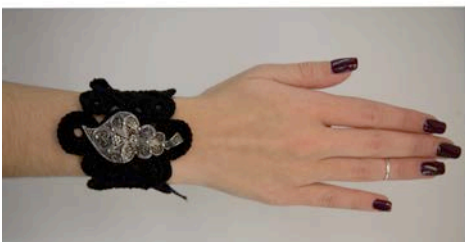
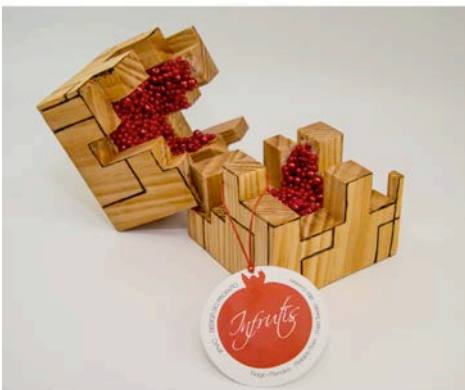
## CASE STUDY

### PRODUCT DEVELOPMENT

The first project was developed by the students Cristiana Oliveira, Roberto Alves and Susana Rufino. This toy project uses

**Table 1.** Number of enterprises involved in the project by sector and place.





**Figure 8** Stationery project developed by the students Daniela Rocha, Jacinta Silva and Sílvia Faria. Toy project developed by the students Tiago Mendes. Fashion project developed by the students Ana Esteves, Joel Ferreira, Nelson Faria and Vânia Cortês. Image by the authors.

as a reference two icons of Viana do Castelo culture (*Manel & Maria*), performing as firefighting heroes. The students developed a product system with two dolls and a hand painted chiselled pinewood toy car.

Regarding musical instruments, the students Adriano Meireles, Carlos Almeida and Nuno Ribeiro developed a flute, a tambourine and a reco-reco. This project holds as reference the recreational and cultural activities promoted by the firefighters during the 20th century, to animate the city. The three instruments were 'humanized', assuming a role - sign told by popular festive characters such as the legendary *Zé Rancheiro*. The flute was made in olive wood, the reco-reco in beech and oak wood, and finally the tambourine was made from a sieve. The third project targeted stationery and was developed by the students Daniela Rocha, Jacinta Silva and Sílvia Faria. It involved creating notebooks exploring the four elements in Nature: fire, earth, air and water. The notebook covers were in beech plywood, pine plywood, wenge wood and oak plywood. The respective symbols were laser engraved and the sheets were in recycled Kraft paper.

The students Ana Esteves, Joel Ferreira, Nelson Faria and Vânia Cortês developed a fashion product, using as reference the symbols in the crest of the volunteer fire department of Viana do Castelo: the helmet, the axe, the caravel, and the lifesaving float<sup>7</sup>. These students developed a pendant, a bracelet, a pouch and a cloak.

As cultural catalysts, these designers transferred ideas from one context to another, qualifying the products with the firefighters' essence.

## PRODUCT COMMUNICATION STRATEGY

The Auction's visual communication strategy went beyond Graphic Design as social responsibility tool. The visit to the firefighters' headquarters allowed students and teachers to share experiences and canvas ideas concerning the visual message of the event's image.

Due to their valuable reputation, the firefighters' figurative representation became Caring Flame's image. We also assumed

<sup>7</sup> <http://www.ahbvvc.com/inicio/> (accessed December 28, 2013).



**Figure 9** Postcards and Bookmarks

Project 1 - developed by the students Tiago Mendes, Mafalda Novo, David Carvalho and Vitor Correia. Project 2 - developed by the students André Ferreira, Catarina Cardoso and Josefa Franco. Project 3 – developed by students Sílvia Neves, João Costa and Dina Brandão.

that the firefighters' image could reach a wider public in a clearer and more intelligible way.

To emphasize the student's engagement, two students took on the role of firefighters, wearing their uniforms for a photographic session. Caring Flame's image has a double meaning: a visual impact of two young 'firefighting students' announcing a charity auction, and also a visual impact on the academic community they belong to.

The concept of Graphic Design should be highlighted not only as a role linked to the aesthetic function, but also as an activity ordering information. By emphasising this, we enhance the notion of design as an activity, a process of making and communicating hybrid signs, and not merely of producing a set of graphical coatings for linguistic signs, with a certain style.

To compose the communicational elements, the students were encouraged to establish a relationship between the message content and the typo (graphical) language. The flexible and articulate exploration of these factors provided the generation of different meanings according to the relationship that is inevitably established, such as the socio-cultural context in which the message is received, set and interpreted.

The students were assigned a free and intuitive exploration into the possibilities of typographical variations, analysing the graphic criteria of dimensioning, weight, inclination, spacing, and image / typo ratio. Their proposals challenge the rules of modern design, addressing end results in a more contemporary way.

The final image of Caring Flame identity was conceived and determined, and the graphics elements were standardized in order to assure the project identification in all digital and analogic communication supports – billboard, poster, invitation, image for press release and email.

## CONCLUSION

The Caring Flame project has shown that people and institutions choose the signifier they want to associate to a referent, such as the firefighters.

For design teaching, the project's value is demonstrated in the development of a learning process through practical work, training future designers to research for answers.



**Figure 10** The outdoor strategically placed in one of the entrances to the city Viana do Castelo, enabling efficient exposure and visualization of the event. Image by the authors.

The high point of the project: the auction, gathering students musicians and representatives of the four main national political parties (PS, PSD, PCP and CDS).

Instead of choosing between culture and technology, both can be connected, producing effective and satisfactory hypotheses.

Concerning the creation process, it is important to define methodologies that are consistent with the complex and uncertain contemporary reality, and also with the reality of design teaching in a polytechnic school.

Design should reformulate satisfactory responses stemming from methods in connection with manufacturing contexts. The issues of corporate identity, culture of the place, or socio-productive sustainability allow the recognition and legitimacy of the designer's role as an active agent; engaged in the transformation of his reality, not resulting from it. These issues also allow the creation of new business opportunities for entrepreneurs and designers, ensuring business survival and ultimately enhancing business competitiveness.

Finally, interconnecting with the firefighters' identity, the creation process qualified people and places. This may be fundamental to question and redefine the efficiency of product-oriented projectual methodologies. In volatile times, when individuals search for orientation and shelter among virtually everything, the projects in the scope of Caring Flame provide design answers that assume the characteristics of their day and age, including personhood.

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## **PALMU - SERVICE DESIGN FOR THE ELDERLY: New procurement models for the provision of services in support of independent living**

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### **ABSTRACT**

Most of the funding for the PALMU Project was provided by the Finnish Funding Agency for Technology and Innovation TEKES as part of its 'Innovations in Social and Healthcare Services' programme.

The objective was to involve elderly service providers in co-design and development efforts in order to create new services transcending organisational boundaries. Another objective was to develop new user-centred services and practices that support independent living by the elderly as well as promote the creation of innovative production models using the tools offered by service design.

The participants in the research project were service users, social and healthcare organisations, companies, municipalities and third-sector actors. Yet another objective of the project was to enhance the methodological competence of organisations. Implementation was based on practical development cases shared by the organisations involved in the provision of the services intended for the elderly.

### **KEYWORDS**

Service design. Elderly people. Co-operation

## INTRODUCTION

Service design is a fairly new concept in Finland as far as the efforts to develop social and healthcare services are concerned. Service design can be used for formulating the sometimes diffuse service design process in more tangible terms. It provides a way of presenting new processes and methods to service providers and designing and generating ideas for new services (Miettinen [Ed.] 2011). The growing number of the elderly has posed new challenges and underlined the need for services specifically designed for this age group.

Most of the funding for the PALMU Project was provided by the Finnish Funding Agency for Technology and Innovation TEKES as part of its 'Innovations in Social and Healthcare Services' programme. PALMU is a research and development project carried out by the Savonia UAS Faculty of Business, Tourism and Culture, and the Savonia UAS School of Healthcare. The objective was to involve elderly service providers in co-design and development efforts in order to create new services transcending organisational boundaries. Another objective was to develop new user-centred services and practices that support independent living by the elderly as well as promote the creation of innovative production models using the tools offered by service design.

A further goal was to offer a competitive edge for the participating organisations because service design makes it possible to develop service models that are less taxing on the resources required for the provision of the services for the elderly. New service products were created in the course of the project combining the private and public-sector aspects of service provision: accessibility, availability and user orientation.

The participants in the research project were service users, social and healthcare organisations, companies, municipalities and third-sector actors. Yet another objective of the project was to enhance the methodological competence of organisations.

## CONTENT AND IMPLEMENTATION

A total of 20 staff members from the UAS and over 40 students were involved in the pilots included in the project. Several PALMU teams and work pairs were set up for the purpose of the project.

Implementation was based on practical development cases shared by the organisations involved in the provision of the services intended for the elderly:

- a) Care of the elderly after discharge from hospital;
- b) Forms of support available for independent living for the elderly and the handicapped living at home;
- c) Activities for service centre residents.

As a result of the project, a range of new support services for independent living by the elderly and user-centred production models were created. The consortium involved in the project made it possible to commercialise the new service products transcending organisational boundaries.

Experiments were also made with a number of new, more streamlined service structures and models significant to the further development of the services and the operating environment on a national scale. A further objective of the project was to generate new skills and competence and foster ideas to respond to social and commercial needs. The approaches and ways of working developed in the course of the project can be utilised by municipal actors, providers of supportive services and private companies.

The new service concepts are tested operational models which also make it possible for organisations not directly involved in the project to apply the results. With the new models, the financial burden on municipal services can also be eased. At the same time, the new service models offer earning opportunities to third-sector actors. Similarly, the technological concepts related to support services may generate business for those operating in the social media sector.

## **PALMU PROJECT AS PART OF TEACHING AND LEARNING**

Through the pilots implemented in the course of the project, students gained first-hand experience of the potential uses of service design and the opportunity to complete methodological exercises. At the same time, the project generated data for the teaching programmes of both fields of study involved (healthcare and design) regarding the needs of the elderly population and the provision of services.

The students had the opportunity to be involved in a research and development project, draw upon the resources of specialists and experts, carry out research, produce a publication and establish international contacts.

## **WORKING TOGETHER WITH THE ELDERLY**

Elderly people are dissatisfied if the members of the nursing staff are busy and it takes time to receive help and assistance (Järnström 2011). The willingness and opportunities of the elderly to participate vary from individual to individual because this is affected by the state of health and current condition of the patients in hospitals (Hyvärinen 2011).

Lumme-Sandt (2005) notes that old people over 75 are often excluded from Statistics Finland interviews because such interviews tend to be time-consuming and complicated. Consequently, data on the needs of one group of people necessary for the development of services are not necessarily available. Service design offers the elderly the opportunity to make themselves heard.

## **HUMAN SERVICE DESIGN**

The service design process and tools underline the importance of advanced interpersonal skills, empathy for users, creativity and visual thinking (Miettinen [Ed.] 2011).

As the views are arrived at in interaction with the customer and

the various parties involved, central to this process are the concepts of collaborative planning known as 'co-creation' and 'co-design'. This approach makes it possible to create concepts, work out solutions and influence future user experiences of the services.

In its traditional form, service design focuses on the relationship between individual products or product groups and the user. Service design makes use of the methods that have been employed in traditional design projects for a long time for the purpose of incorporating user inputs in the design process. In the PALMU project, the service designers visualised, designed and manuscripted service ideas and concepts. In doing so, they observed and interpreted the users' service requirements and behaviour patterns transforming them into potential future services. The processes apply the principle of investigative, productive and analytic design research. Methodological competence and practical field work contributed new content to the service design processes.

## **TOGETHER IN PARTNER NETWORKS**

Kuopio University Hospital

Alina Hoivatiimi Oy

City of Kuopio

Vaskikodit Senior Residence Community

Kuopio Evangelical-Lutheran Parish Union

Violakoti Ulla Peurala Oy and Ryhmäkoti Alavuden Karoliinakoti

Voluntary work

## **FROM PLAN TO ACTION**

### **I DISCHARGE FROM HOSPITAL**

It was determined that it would be ideal if elderly persons could be monitored all the way from home to the Kuopio Central Hospital so as to ensure that the entire customer journey from home back to home again could be traced.

Work pairs shadowed the elderly, made observations and conducted interviews. The information is used for context mapping. AS an outcome of the process, the user profiles are verbalised and visualised into narratives using the camera as an

aid.

## **IMPLEMENTATION OF THE STUDY IN OUT-PATIENT CARE**

### **FINDINGS AND OBSERVATIONS**

The data revealed a number of common factors and needs for improvement shared by the elderly. A board game was designed based on the findings.

To illustrate the visits to out-patient care by the elderly, customer journeys and profile cards were prepared highlighting a range of issues regarding their daily life and patient visits. Even though the data were limited in scope, they provided a wealth of information on ageing corroborated by the findings of other studies.

## **II THOSE LIVING AT HOME**

### **1 VIDEO-TAPED SERVICE SESSIONS**

The sub-project 'Service sessions for the elderly living alone at home' was carried out in collaboration with Alina Hoivatiimi Oy. The objective was to propose ideas for new care services, supplementary services and the potential they offered for new customers using the electronic media. The PALMU team interviewed, manuscripted and taped service sessions and compiled the material.

The following methods were used in this case:

- a. Context mapping by getting to know the people and the premises;
- b. Interviews;
- c. Empathic design;
- d. Manuscripting;
- e. Co-design;
- f. Experience prototyping by means of dramatised service sessions.

## **2 INTERACTIVE CONNECTIONS AT HOME**

Alina Hoivatiimi took an interest in developing a Skype video call

service for its home nursing customers. It would permit contacts with relatives living far away from the customer's home. The 'Skype service for the elderly' project was carried out by the Savonia PALMU team in collaboration with Alina. Both customers and their next of kin felt that the Skype video call connection was a meaningful and functional service. Establishing a video connection with a relative through Skype proved to be an energising and life-enhancing service session.

### **3 WORKING WITH DIARIES**

This case study was designed to find out about the daily life of people living at home who were taken care of by an informal caregiver as well as that of the caregivers themselves. The objective was to learn about daily problems, shortages and wishes. Co-design was applied to establish that the task was justified and to obtain general information on the topic and part-time groups in sheltered housing facilities.

#### **IMPLEMENTATION OF THE PROCESS**

To gather the information, so-called diary briefcases were prepared. Customers were given the opportunity to record daily events throughout the day and night on a variety of themes.

#### **FINDINGS AND OBSERVATIONS**

We looked into the question of how effectively the information on the services reaches those who need it. Clear needs for improvement were identified.

One such area is accessibility. Extensive efforts are required to improve the flow of information – for example, public awareness of the Culture Pilot services is quite limited. A magazine intended specifically for the elderly would be an idea worth exploring. Due attention should be paid to the daily pace of life of old people who tend to do things earlier than the rest of the population, for example when plans are made for services such as theatre, libraries and cafes. Informal caregivers should be allowed more time for themselves, and the continuity of part-time groups should be guaranteed.

Hobbies and activities could be developed on a broad front by

paying attention to the wishes of the elderly people themselves.

Structured diary-writing worked smoothly and proved to be a method worth developing further. Empathising as part of structured diary-writing is an effective tool for future uses as well. Additionally, the diaries highlighted themes that would have otherwise remained in the dark.

## **4 AT HOME IN A RESIDENTIAL HOME**

The purpose of this case study was to gather information on the level of satisfaction among the residents of the Vaskikodit Senior Residence Community by finding out about the problems, wishes and positive effects associated with this form of housing. How do people feel about living in a residential home? What expectations and wishes do they have regarding their housing conditions? What is good, what is bad and what things should be improved?

### **FINDINGS AND OBSERVATIONS**

Compared with earlier meetings with elderly people at other residential homes, the difference was staggering. It was an invigorating and gratifying experience for all. The Vaskikoti Senior Residence Community stands out as an ideal, highly functional form of communal housing, a 'house of happiness'.

### **III SERVICE CENTRE RESIDENTS**

#### **1 ENJOYING DAILY LIFE**

The objective established for this case study was to develop a service model that would support living in a service centre. The plan was to identify concepts combining public-sector services with third-sector efforts.

Experts were also interviewed to gain a broad understanding of the operations of the service centres as a whole. In the interviews, picture cards were used as tools to help the parties working together with the service centres to clarify what they were saying. The interviews were useful in providing information on the activities organised in the service centres.

Context mapping yielded a visual chart shedding light on the



various activities and showing that there are a lot of activities, some of them overlapping.

### **A DAY AS A PRINCESS**

A decision was made to hold a special event for the residents of the Puijonlaakso Service Centre during which they were treated as 'princesses' for one day.

In the course of the co-design process, the special skills of the students – photography and portrait sketching – came in handy helping to shape the event of the day. Finally, it was decided that the elderly people would be photographed and drawn for which purpose a temporary photography studio was set up in the centre. All this was designed to give people a personal experience and a good feeling about themselves.

### **'LIFE AS LIVED' EXHIBITION**

The portraits, photographs and works created by the residents in the course of the festive day event were used by the PALMU team to set up a special exhibition focusing on ageing. Additionally, the exhibition displayed touching text excerpts dealing with the personal lives of the elderly.

### **COSIER RESIDENT LOUNGE**

When the recreation day was held in the Puijonlaakso Service Centre, a proposal was made to redecorate the resident lounge to make it more attractive.

A spatial and user analysis was carried out to identify the users and the needs for space.

Based on the spatial analysis and the wishes expressed by the users and staff, the students decided to design tablecloths, wall hangings and curtains for the lounge and resurface the notice boards.

## **2 MEANINGFUL ENGAGEMENT WITH PEOPLE WITH MEMORY DISORDERS**

This case study explored ways to support people with memory disorders by using the methods offered by service design.

## **IMPLEMENTATION OF THE PROCESS**

Context mapping, observation, shadowing and joint meetings helped to clarify the current situation. Observations were made and active part taken in the activities. Shadowing was used to monitor the situation of a given resident or situation.

A parish deaconess and a group of volunteers paid a visit to the memory disorder ward.

## **WORKSHOPS**

For co-design purposes, the PALMU team selected the following methods and tools:

- Picture cards;
- Profile cards;
- Empathic approach;
- Photo boards of the elderly;
- Visual manuscripting;
- Prototyping using the methods of drama;
- Ideas tree;
- Participatory observation;
- Photography and video-taping.

## **FINDINGS AND OBSERVATIONS**

- Personal involvement is of great importance in creating a sense of a comprehensive experience (music, art);
- A key role is played by evocative items (pictures, cards, objects, symbols, games);
- Reinforcement of the role of voluntary workers (training courses);
- Utilisation of the skills possessed by the service centre residents as part of the interaction.

Both parties underlined the importance of developing the services with due regard to the individual skills possessed by the elderly. Identifying and making use of the inherent resources and potential is of great importance. The goal is to enhance meaningful engagement with people with memory disorders by drawing upon their skills and memories.

### **MEMORY LIVES – LONG LIVE MEMORY IMAGE SERIES**

As a continuation to the project, textile design students prepared image series on various themes. A prototype was created on the subject entitled 'Memory Lives – Long Live Memory, Image Series for Reminiscing by People with Memory Disorders'.

### **3 ADDED WELLNESS THROUGH CLOTHES DESIGN**

The case study focused on developing a functional yet aesthetically appealing collection of clothing for demented people who need assistance in putting on the clothes on a daily basis or finding other solutions that make dressing easier. In designing this user-friendly collection, the objective was two-fold: to take due account of the needs of demented patients and to facilitate the work of the nursing staff.

### **FINDINGS AND OBSERVATIONS**

The process broadened the views of the parties regarding the procedures related to the dressing and undressing of elderly demented patients and the values associated with it. The role of the textile design student completing her thesis as part of the project was to engage the various parties in the design process.

## **CONCLUSIONS**

The PALMU Service Design for the Elderly project was carried out during 2010–2012 under the supervision of the Savonia University of Applied Sciences. Its objective was to identify new service production models to support independent living by the elderly.

The goal was to create new or improved products, production tools or methodology as well as services.

One aspect highlighted in the present service design project was that users were involved in the development process early on, the objective being to enhance the ability to identify behaviour patterns and operating procedures where improvements were called for.

The project was successful in bringing together service users, providers, planners and designers. Pilots were used in the

course of the project to experiment with the evaluation of the activities and the models and conclusions derived from such evaluations. As project administrators, we wish to thank all the parties involved in the project for their valuable contribution. We hope that the experiences gained during the PALMU project will generate innovations that help develop services.

### **COMMENTS BY THE STEERING GROUP**

The Steering Group defined today's elderly person as an independent, relatively healthy and capable experimenter who is curious about his and her environment and expects adequate services. However, major differences were perceived between individuals in terms of the impact of social networks, income levels or domicile (rural areas vs. cities) on the availability of services and opportunities for social participation. While this imposes a number of requirements on service development, it also offers latitude for variation.

### **METHODS USED:**

CO-DESIGN  
OBSERVATION, SHADOWING  
ITERATIVE DESIGN PROCESS  
CONTEXT MAPPING  
EMPATHIC DESIGN  
EXPERIENCE PROTOTYPING  
CUSTOMER JOURNEY  
SERVICE TOUCHPOINTS  
STORYCRAFTING  
PROTOTYPE

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## NEW SERVICE MODELS AND NEW SERVICE PLACES IN TIMES OF CRISIS: How citizens' activism is changing the way we design services.

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### ABSTRACT

In this paper we discuss how citizens' activism is changing the way we design services, introducing new *service models and places*, and therefore, a new role for service designers.

The reference framework is '*the bright side of the crisis*', a scenario characterized by a significant wave of bottom-up activism, in which citizens are starting to design and produce a new generation of collaborative services, in order to respond to the deficit of services in our cities.

As service designers we are particularly interested in such phenomena and in the transformation of bottom-up activities in actual services, using co-design and community centred design. In this scenario, one significant example is "Creative Citizens", a project generated within the design doctoral programme of Politecnico di Milano. Building upon this applied-research activity, we wish to better define the new *service models* arising in this scenario and, consequently, the related *service places* emerging as points of connection among citizens, designers, stakeholders and institutions.

Finally, looking attentively at Creative Citizens' results, we wish to focus more on the role of designers in shaping this social learning process: they are more than facilitators because they are able to inspire and lead a community.

### KEYWORDS

Service design. Service models. Service places. Social innovation. Design activism.

## 1. THE CONTEXT: 'THE BRIGHT SIDE OF CRISIS'.

The crisis that has unfolded since 2008 is not merely economic, it is structural and multidimensional (Castells, Caraça & Cardoso, 2012).

Looking attentively at the complexity of the current crisis we can detect the emergence of alternative practices exploring new and sustainable ways of living.

This is the 'the bright side of the crisis': a renewed activism on the part of citizens, a variety of Creative Communities involved in sustainable social innovation, "people who cooperatively invent, enhance and manage innovative solutions for new ways of living" (Meroni, 2007, p.30).

In these times of crisis, confronted with a lack of services inside our cities, what is happening is that local communities are seeking to solve the problem from the bottom up, changing what is already there without waiting for the arrival of a bigger, top-down intervention.

Phenomena such as Sharing Economy or Collaborative Consumption (Botsman & Rogers, 2011) are connected to this kind of activism and they are growing extremely rapidly. They have taken a more definite shape in recent years, showing how crisis can also be a driver of behavioural change, just because many people have found less costly solutions to their problems through new forms of sharing and self-production.

Creative Communities represent also a response to the crisis of governments and their loss of connection with citizens.

Confronted with the crisis of the welfare state and of the public sector, many citizens have started engaging in participation movements, in order to change the power dynamics and to be more involved in the decision making process. The Tepsie research (2012) is currently exploring this phenomenon and has identified two kinds of engagement: public participation, meaning a form of individual engagement within the institutions of democracy, and social participation, which is more related to civic engagement in local communities and associations.

Hence, we can describe the 'bright side of the crisis' as a scenario in which desires meet needs and problems become



opportunities for doing things in unprecedented ways, generating original cases of social innovation.

We don't know if these cases are only temporary solutions, but, trying to envision possible developments, they can lay the foundations for new socio-economic models, and this represents a call for research.

As service designers focusing on social innovation we are particularly interested in exploring the development of these transitory and informal solutions in actual services. We are also interested in understanding what kind of role designers can play in this emerging area.

Currently, within service design research, and looking at the work of our group Polimi DESIS Lab, there are several projects exploring this field, especially working with the most active social communities.

By using a set of participatory design techniques and an approach known as community centred design (Meroni & Manzini, 2012), service designers are now researching this area, collaborating with citizens for developing prototypes of new and sustainable ways of living.

## 2. THE EXPERIMENTATION OF CREATIVE CITIZENS

In this paper we particularly wish to focus on a specific case of applied research in the field of service design and social innovation, "Creative Citizens" (Cittadini Creativi). This is a project generated within the design doctoral programme of Daniela Selloni at Politecnico di Milano, under the auspices of the Polimi DESIS Lab group.



figure 1 Creative Citizens - presentation kit

The Creative Citizens experiment occurred in Milan, within a community of residents located in a particular neighbourhood (Zone 4).

It took place in a local farmhouse, the Cascina Cuccagna, which represents a symbol of Milanese activism. Thanks to a bottom-up initiative, the Cascina has been revived: now it is a green oasis in the centre of the city and a real piece of countryside in an urban area.

Cascina Cuccagna aims to become a permanent laboratory for



**figure 2** Creative Citizens - generative session



**figure 3** Creative Citizens - generative session



**figure 4** Creative Citizens - warm-up session



civic participation and a new public space that will welcome and support the creativity of individuals, groups and associations by offering spaces, equipment and opportunities for collaboration. Currently, the farmhouse is undergoing a transformation and is organising residency opportunities for original projects with the same mission.

Creative Citizens responded to the call for the assignment of temporary spaces in the Cascina, presenting a programme focusing on participatory design between designers and local communities by using the tools of service design research. The project is endorsed by the Zone 4 Unit of Local Government, in direct association with the Municipality of Milan.

An ongoing experiment involving a community of thirty citizens with weekly meetings began in February 2013 and continued until the end of June 2013.

Creative Citizens brought the expertise of researchers to the service of ordinary people, creating a laboratory of solutions for daily life, improving existing services and designing new ones, acting as a semi-public office for service design and connecting citizens with designers, stakeholders and institutions. In other words, creating a good environment for co-designing social innovation.

The project consisted of a series of co-design sessions dealing with four different service areas: sharing networks, bureaucratic advice, food systems and cultural activities, all of which were connected to simple daily tasks and to existing services and places, such as time banks, purchasing groups, local shops, museums, markets and fairs.

In each session, there was a temporary set design to simulate service situations: it was a simple path of creative participation, precisely because everyone was able to become a designer of their daily life, at least for a few months, while having fun at the same time.

The four service areas were organized in four cycles, each of them consisting of three creative sessions, which can be seen as the three steps of a progressive path.

The initial meeting was a *warm up session*, to familiarize



figure 6 Creative Citizens - public exhibition



figure 7 Creative Citizens - public exhibition



figure 8 Creative Citizens - exhibition to the Municipality

participants with the topic by presenting good practices from all over the world. It aimed to inspire people and bring visions of a possible daily life. Participants selected the most promising elements of the presented cases, to be combined in the second session, in order to create as advanced a service concept as possible. This second meeting was a *generative session*, a sort of collective brainstorming bringing together citizens' desires and good practice insights. In the third session, the objective was to move from an ideal service to a real one, identifying the resources that could be involved in the development of the service. It was a real *prototyping session*, using physical mock-ups to shape a service truly suitable for the area in question i.e. Zone 4.

In this last session, strategic players were invited: local associations and committees, representatives of institutions, and professional advisors...all already active in the neighbourhood, in order to join forces and produce synergy, receive encouragement and draw inspiration from existing activities. This support is provided not only on the 'professional' side but also on the emotional side, because establishing connections between initiatives is the easiest way to activate a mutual process of teaching and learning; sharing skills, platforms and places.

The following table offers an overview of the different co-design experiments within the four thematic cycles framework and briefly presents the results. The methodology used within the experiments is a set of combined participatory techniques, including co-design and community-centred design as already discussed. The research context is informal and thus quite different from the academic one. It requires a specific adaptation of methods and tools, making them more attractive and easily understandable.

Thematic Cycle 1	Services for exchanging goods and skills
1.Warm-up session	Exploration of existing micro-economies created by local communities in the field of exchange, rental and sale of goods, tasks and skills.
2.Generative session	Combination of previous insights and concept definitions, setting up service elements: services offered, technologies and tools, interactions, transaction typologies.
3.Prototyping session	Two different services are defined by using two kinds of prototypes: a "fake" bookcase to exchange objects and a sort of bulletin board to exchange tasks and skills.
<b>Results:</b>	<b>Augmented Time Bank:</b> a system to exchange skills and small tasks, within both condominium blocks and the neighbourhood, starting from Cuccagna Time Bank. <b>Objects Library:</b> a physical and digital space for bartering, borrowing, gifting, and renting goods in the neighbourhood.
Thematic Cycle 2	Legal and bureaucratic services
1.Warm-up session	Conversation with Rossella Mileo lawyer, founder of a Milanese Legal Desk. Investigation of existing systems of bureaucratic advice, both digital and face-to-face.
2.Generative session	Combination of previous insights and concept definitions, setting up service elements: services offered, technologies and tools, interactions, transaction typologies.
3.Prototyping session	A multi-service advice desk is defined by using two main prototypes: a "fake" front office showing the offering; a scale model of the physical office and its service areas.
<b>Results:</b>	<b>Citizen's Desk:</b> a service for orientation and assistance with bureaucracy, in various domains: legal, fiscal and architectural/building advice.
Thematic cycle 3	Food services
1.Warm-up session	Overview on food-related services and events, presentation of the case studies in two main clusters: shopping and eating.
2.Generative session	Combination of previous insights and concept definitions, setting up service elements: services offered, technologies and tools, interactions, transaction typologies.
3.Prototyping session	Two different food networks are defined by using these prototypes: a paper-cut laptop for testing a digital platform and a map of Milan to discuss possible logistic paths.
<b>Results:</b>	<b>Facecook:</b> a neighbourhood food network connecting restaurants, markets, shops and local residents. <b>Local Distribution System:</b> an alternative distribution network to connect Zone 4 with the Agricultural Park South Milan area, based on the principles of disintermediation and participated logistics.
Thematic cycle 4	Cultural services
1.Warm-up session	Investigation of good practices from the cultural field, divided into three main clusters: zero mile tourism, public art, local initiatives.
2.Generative session	Combination of previous insights and concept definitions, setting up service elements: services offered, technologies and tools, interactions, transaction typologies.
3.Prototyping session	A service of zero mile tourism is defined by using two prototypes: a travel agency board mock up, offering unconventional urban tours, and an interactive Zone 4 map.
<b>Results:</b>	<b>Zona 4 Ciceros:</b> places in Zone 4 adopted and explained by a citizen-guide, organizing unconventional tours to discover hidden or forgotten places.

**table 1** brief overview of Creative Citizens' co-design experiments and results

For each session we designed tools with three main purposes:

- *inspiring tools*, to spark off or reveal unexpected ways of doing things (good practices boards, suggestion cards, video-stories);





figure 9 Collection of co-design tools



figure 10 Suggestion Cards

- *framing tools*, to elaborate a shared way of doing a specific thing (system maps, customer journey maps, front office and back office displays);
- *implementing tools*, to introduce a model into a local context, involving real players (service mock ups, localization maps, role games and stakeholders maps).

The final result of Creative Citizens is a collection of six everyday services co-designed with the active participation of local people. Each service is now at a different stage of development, depending on the opportunities found in the neighbourhood and in the network of institutions and stakeholders.

In summary, it is possible to identify three possible progressions for the generated services:

- to envisage an intersection with the public sector (this is the case of the Citizens' Desk);
- to foster the birth of original service start-ups (this is the case of the Object Library);
- to join existing services provided within the Cascina Cuccagna (this is the case of the Augmented Time Bank).

### 3. NEW SERVICE MODELS: COLLABORATIVE AND NETWORKED SERVICES

The services originated within Creative Citizens call for a new kind of service model, building upon the definition of collaborative services: "services where the end-users are actively involved and assume the role of service co-designers and co-producers" (Manzini & Jégou, 2008, p.32). The end-users are the same citizens who are participating in this new wave of bottom-up activism. Their contribution may cross all stages of the service, from the generation of ideas to actual realization, that's why they are real "service thinkers and makers" (Selloni, 2013).

A new service model is emerging, in which the distinction between the traditional provider and the user is blurred.

This model goes beyond the one-to-one framework to a new one including wider and multiple interactions, and so, from a dualistic

model to a plural and networked one, strictly connected to communities and places.

Our intention is to outline an explorative definition of this new service model, starting from the IHIP scheme proposed by Meroni and Sangiorgi (2011), in which they analyze the four service characteristics: intangibility, inseparability, heterogeneity, perishability.

By intangibility, we mean that services are not physical goods: they are immaterial and for this reason it is necessary to design touch points and concrete evidence. This is even more important if we deal with the activities of 'service thinking and making' developed by citizens: to use interfaces, visualizations and prototypes is crucial to empathize with the community and create an 'object' for conversation at the co-design table. This new service model indeed requires more representation and materialization than the traditional one.

By inseparability we mean that services generally need the user to be present during the activity. Starting from the assumption that "design for services conceive users as a resource rather than a burden or a problem" (Meroni & Sangiorgi, 2011, p. 19), the users' presence is crucial not only in the delivery phase but also before, in the design phase. In Creative Citizens' project we noticed how co-design was transforming radically the resulting service model, and how the hyper localism of the experimentation influenced the co-production phase. Similarly to the co-creation model suggested by Cottam and Leadbeater (2004) this new service model presupposes the participation of the users in every stage, and the use of distributed resources, both physical and virtual, connected to a specific community in a specific place.

Speaking of heterogeneity, we mean that services are variable, depending on several factors such as time, space and the people involved. Every service situation is different from another, which is why Maffei and Sangiorgi (2006) talk about "situated actions", influenced by the socio-cultural and organizational context. This was even more evident in the experience of Creative Citizens: the context is crucial and it is not possible to divide it from its related service interactions.

The scheme about the service encounter, conceived by Klaus (1985) shows on one side the service provider and its organizational environment, and on the other the user and his/her socio-cultural context. In between there is the service area. This is not applicable to the described activities of 'service thinking and making', in which the two contexts almost coincide: a group of citizens/users covers many roles at the same time, they are service-provider, manager, launcher, advisor, beneficiary...there is a dense network of relations, roles can be exchanged, and new bottom-up expert systems are arising.

Finally, perishability deals with the impossibility for services to be stored and with the difficulty of managing supply and demand. This is also connected with the issues of scaling up and replicating: for achieving these two objectives "service solutions need to consider the interactive nature of services and their local dimensions" (Meroni and Sangiorgi, 2011). The service context represents again a key-factor: looking at the experience of Creative Citizens it is difficult to imagine the same services in another place, nevertheless this is a call for research: it is necessary to shape a collaborative service model to be quite flexible, in which some elements can be replicated and others adapted to new situations.

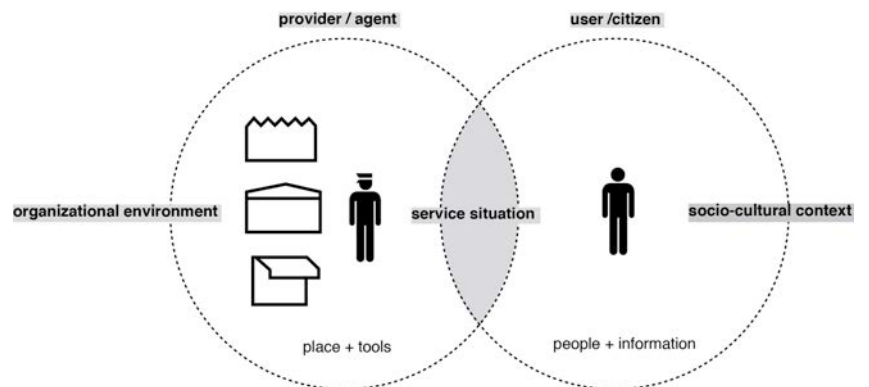
Furthermore, this model should allow the maintenance of the relational and emotional qualities embedded in service making activities, or, at least, contribute to the design of favorable conditions for spontaneous and trustful interactions, recognizing the person behind each individual (Cipolla, 2006).

In table 2 we propose a simplified comparison between the characteristics of the traditional service model and those of the new and emerging one.

In schemes 1 and 2 we show the shift from a traditional service model to a networked and collaborative one, showing how co-design and co-production are contributing in this transformation.

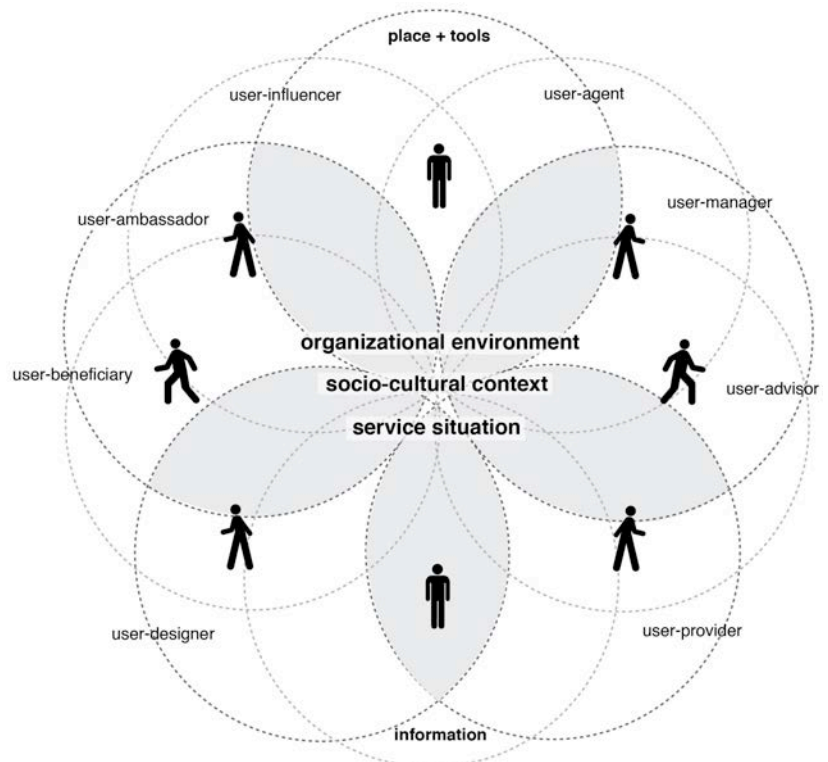
Traditional Services	Collaborative and networked services
bi-directional relation	circular interaction
anonymity	direct knowledge
hierarchical organization	peer to peer / networked organization
delivery	enabling
professionalism	new experts
division between public & private	hybrid area semi-public/ semi-private
web as channel /tool	web as enabler / connector
focus on how	focus on why

**table 2** networked and collaborative services compared to traditional services



**scheme 1** traditional service interaction - based on the service encounter scheme (Klaus, 1985)





**scheme 2** collaborative and networked services

## 4. NEW SERVICE PLACES: A FAB-LAB OF CITY SERVICES

In Creative Citizens project we experimented a 'new service place', aiming at creating a catalyser of initiatives, a dedicated entity to co-design and co-produce services.

Therefore, close to the idea of exploring new service models, there is the intention of investigating a novel format, a reference point for supporting active citizens in the neighbourhood.

To outline the identity of this new service place, a main metaphor emerges: it is a parallel between the self-production of objects - making (Micelli, 2011) - and the self-production of services.

In the Creative Citizens project, people acted as real 'service thinkers and makers' therefore we can define this new service place as a sort of 'fab-lab of city services'.

This place is not only dedicated to the self-production of services, but it also represents a point of connection between ordinary citizens, designers, local stakeholders and institutions. It gathers together existing initiatives and also creates conditions to

establish unprecedented connections among all the actors involved in the service.

Such a place is located in a hybrid area between the market and society, the amateur and the professional, the public and the private sector and between profit and non-profit. This area is a good environment for fostering social innovation: according to Mulgan (2007, p.34) “social innovations are usually new combinations or hybrids of existing elements” and that putting social innovations into effect usually involves cutting across organizational, sectoral or disciplinary boundaries.

In the Creative Citizens project, individuals, communities, local stakeholders and institutions are involved in design activities and this experimentation represents the prototype of a social learning process in which (service) design knowledge is a key-asset. That's why, in such a framework, the role of the designer is not only that of a facilitator, but it is evolving into something different: designers bring a vision to inspire and lead the community, using their professional tools to make things happen. (Fuad Luke, 2009).

As a matter of fact, within our experimentation, designers were actual leaders, able to trigger bottom-up activism and transform it in actual services for the community. We also noticed how design expertise was crucial in building scenarios and bringing visions, in developing solutions linked to these scenarios and in providing specific tools to support and share this process.

In this perspective, a “fab-lab of city services” is the centre of a wide co-design and co-production network, a place for design and making, and, hopefully, a place that is pleasant and generative of a broader social learning process.

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SPRING CUMULUS CONFERENCE  
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## URBAN GARDENS: Design activism and right to public space

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### **ABSTRACT**

An unprecedented rise in urban populations has had a tremendous impact on local economies and municipal governance. In response, a citizen-led proliferation of urban practices has taken root that seeks to reframe and resist socio-spatial dynamics. One such practice is urban gardening. Many scholars have explored the political dimensions of urban gardening, however, there has been less consideration of how the political interplays with the aesthetic or the contributions designers can make. This paper argues that urban gardening is not only a political act but an aesthetic one as well. It posits that as a citizen-led practice, urban gardening reveals and confronts existing power relations and systems of authority in a “designerly” way. In addition, by situating urban gardening within design, this paper establishes a new platform of engagement for designers, by considering a more inclusive interpretation of what constitutes design practice.

### **KEYWORDS**

Urban Gardening; Urban Design Activism; Place-making

## INTRODUCTION

Urbanisation continues to transform cities at an accelerated pace (Zardini, 2009), with fifty per cent of the world's population currently living in urban environments and a projected increase to seventy-five per cent by 2050 (Burdett & Sudjic, 2007; Zardini 2009). This unprecedented rise in urban populations has had a tremendous impact on local economies and municipal governance, "shifting policy-focus away from regulatory and distributive considerations towards the promotion of economic growth and competitiveness" (Swyngedouw, 2011, 16). With respect to land use, this restructuring can be understood in neoliberal terms, where urban redevelopment and gentrification efforts result in hegemonic spatial policies and practices that alienate marginalised communities (Kipfer & Keil, 2002; Sutton & Kemp, 2011; Zukin, 1995), create socio-economic barriers, and increase social tension (Zardini, 2009). In response, a citizen-led proliferation of urban practices has taken root (Bialski, et. al, 2013) that seeks to reframe and resist socio-spatial dynamics. Grounded in various aspects of the urban experience, these practices have the power to "reinvent our daily lives and reoccupy urban space with new issues" (Zardini, 2009, 16), creating a new form of urban politics and grassroots deliberativeness (Hou & Rios, 2003, 20). One such practice is urban gardening.

As grassroots initiatives, community gardens serve as "catalysts for building social capital and social cohesion by establishing networks that enable collective action" (Fernandez & Burch, 2003, p.3). However, while many urban gardening programs are well supported, their existence is tenuous and subject to many land disputes between gardening communities and local governments, who seek "viable economic alternatives" for land use (Knigge, 2006; Saed, 2002). Lyons et al. (2013) argue that gardening challenges political, ecological and economic boundaries and re-imagines the city as a food-producing place. By identifying the ways in which people actively resist the enclosure of urban spaces through urban gardening practices, their findings position gardening firmly as a political practice that

subverts the political and social boundaries about acceptable and unacceptable uses of public space. While many scholars from Cultural Geography and Environmental Studies have explored the political dimensions of urban gardening (Ralson, 2011), there has been less consideration of how the political interplays with the aesthetic or the contributions designers can make.

This paper argues that urban gardening is not only a political act but an aesthetic one as well. It posits that as a citizen-led practice, urban gardening reveals and confronts existing power relations and systems of authority in a “designerly” way (Markussen, 2013). In addition, by situating urban gardening within design, this paper establishes a new platform of engagement for designers, by considering a more inclusive interpretation of what constitutes design practice. This paper begins by presenting Markussen’s (2013) framework of disruptive aesthetics of design activism in order to define citizen-led design activism, followed by examples of how Markussen’s framework could be specifically applied to urban gardening. Finally, this paper discusses how designers can help advocate for community place-making, shifting their practices and focus toward purpose-driven (Sanders & Stappers, 2008) engagement platforms.

## **CITIZEN-LED DESIGN ACTIVISM**

Over the past decade, design activism has been a topic of growing interest - its role generally defined as promoting social change, raising awareness about values, or questioning the constraints of mass production and its impact on consumers (Markussen, 2013). In this context, design activism is not restricted to a single discipline of design but includes areas such as product design, fashion design, interaction design, new media, urban design, architecture, among others (Markussen, 2013, p.38). In addition to the interdisciplinary breadth of design activism within design, there is a growing movement of citizen-led practices that shape the urban experience in a “designerly” way. Borrowing Markussen’s (2013) disruptive aesthetics of design activism conceptual framework, the following section



**Figure 1** Example of a “yarn bomb”

discusses these practices and provides examples of how his framework can be applied to urban gardening projects.

Identifying a “theoretical blindspot” in the research literature, Markussen (2013) argues that design activism must be situated within its own framework, instead of one based on sociological or political theory. He suggests that the notion of disruptive aesthetics embraces two key elements of design activism: the political potential to disrupt or subvert existing systems of power and authority, “thereby raising critical awareness of ways of living, working and consuming” (Markussen, 2013, p.39); and the aesthetic potential for opening up relations between people’s behaviour and their feelings about their behaviour.



**Figure 2** Mini Library by John Locke. From the project *Department of Urban Betterment*.

Embracing both the political and the aesthetic, Markussen (2013) proposes a new and alternative framework, where “action concepts” are grounded in the urban experience (2013). Drawing on the work of Rancière (2004, in Markussen, 2013), he defines these actions as interventions, where heterogeneous subjects and objects are introduced into the urban field of perception, thereby disrupting socially and culturally entrenched forms of belonging in and inhabiting. See Figures 1 and 2.

For this author, design activism does not manifest itself in physical confrontations such as protests, strikes, or other political acts. “Instead, it lends its power of resistance by being precisely a designerly way of intervening in people’s lives” (Markussen, 2013, p.43), altering the conditions for the urban experience and actions in daily life. In this sense, design activism is understood as having an aesthetic dimension as well. Using Markussen’s disruptive aesthetics of design activism framework, the next section will present examples of urban gardening projects, suggesting that these projects function as aesthetic interventions.

## RON FINLEY

Concerned with the impact of food desertification on his community in South Central Los Angeles, Guerrilla Gardener Ron Finley planted a one hundred by ten foot garden on a city-owned vacant lot adjacent to his property. His intention was to





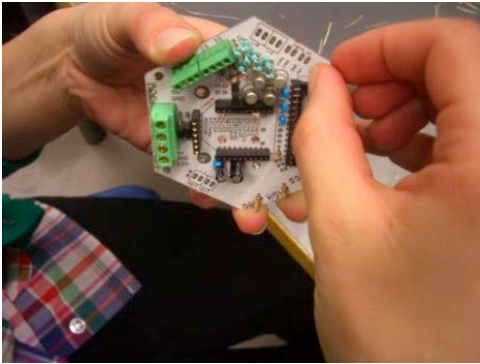
**Figure 3** Ron Finley with a volunteer tending to an urban farm located in an disused public swimming pool

provide people who otherwise had no access to fresh food with a means to feed their families. Within days, his neighbours began harvesting food from the garden, while other members of the community began to participate by planting gardens on nearby vacant lots. With the help of volunteers, the project has expanded and flourished into an organisation called LA Green Grounds (Tortilla, 2013). See Figure 3.

Defining urban farming as a tool for transformation and an agent of change, Finley argues that gardening is disruptive, as “manufactured realities” are challenged and replaced by new ones (04:57). In this sense, “manufactured realities” are analogous to what Markussen describes as established power structures or systems of authority; whereas challenging and replacing these realities form the central notion for understanding the effect of design activism in its “attempt to disrupt existing paradigms of shared meaning, values and purpose to replace them with new ones.” (Markussen, 2013, p.41). Finley’s project meets both the political and aesthetic conditions of Markussen’s disruptive aesthetics framework, where the “intimate interweaving between aesthetics and the political” provide an answer to the activist nature of design activism (Markussen, 2013, p.39). By challenging food production and distribution systems, Finley’s work disrupts the systems of power and control that dominate over individuals and families in his community. Through the act of gardening, LA Green Grounds can be read as a form of design activism, as it confronts authority through an unsettling of power relations that creates spaces and enables “new processes of community and identity making” (Markussen, 2013, 49), re-affirming our understanding of urban gardens, as both physical spaces and expressions of social relations (Hou & Rios, 2003).

### **RE:FARM THE CITY**

Founded by designer Hernani Dias, re:farm the city develops open source software and hardware, such as drip irrigators and temperature sensors, providing people with the tools to easily create, manage, and visualise their urban farms. A wiki also promotes an environment for active learning and sharing for the online community (re:farm the city, 2013). Currently located in



**Figure 4** Arduino workshop attendee working on circuit board in Beijing



**Figure 5** Arduino workshop led by re:farm the city in Beijing

thirteen cities in North America, South America, Europe, and Asia, organisers provide arduino workshops to students, who learn to build their own customised circuit boards that correspond to the environmental profile of their city (See Figures 4 and 5). The project also connects participants to their larger physical environment, where they learn to understand their city's weather profile and grow foods that thrive in their respective local settings (re:farm the city, 2013).

For Dias, the most important aspect of re:farm the city is providing free access to tools and knowledge to food insecure people. His collective is among the first of its kind to provide affordable tools and techniques, specific to urban farming, through direct access to technology. re:farm the city, by the very nature of its urban context, is a direct intervention into urban space (Markussen, 2013). Its disruptive character of dissent lies in the “subtle way it cuts across and exposes hierarchies” (2013). In addition, the shared experiences of re:farm the city's network invite active engagement and interaction, while offering new ways of inhabiting urban space (Markussen, 2013). Finally, Dias' gardening approach, advocates social change by addressing the urban condition itself (Markussen, 2013, p.4) through both the material and the technological. By democratising technology through knowledge-sharing and low-cost access to software and hardware, this project plays an active role in by reinserting farming into the urban imagination (Twilley, 2013) and raising critical awareness of how we live (Markussen, 2013). In this respect, re:farm the city can be situated within Markussen's framework of disruptive aesthetics.

Both Ron Finley's LA Grounds and re:farm the city are examples of citizen-led design activism as they disrupt, subvert, or challenge existing systems of authority in their own way. This next section presents some reflections on how designers can become involved in shaping their urban environment through urban gardening practices.

## URBAN GARDENING - A PLATFORM FOR DESIGNERS



**Figure 6** Eli Zabar's Greenhouse, New York City



**Figure 7** Detail of a living wall. Centre for Green Cities

There is a growing interest in exploring design opportunities for urban gardening, from simple interventions such as green graffiti to complex systems like rooftop gardens. Urban gardening provides a purposeful way for designers to engage in projects that ultimately lead to the deeper structural changes needed to improve cities (Inam, 2014). By looking beyond the materiality of the built environment, designers have an opportunity to address the cultural, social and political dimensions of our cities and engage with communities in a more meaningful way. *Carrot City* (Gorgolewski et al., 2011) is a good example of the many ways professional designers can situate their practice within urban gardening.

Based on Viljoen's et al. (2005) Continuous Productive Urban Landscape framework, *Carrot City* presents hundreds of urban gardening projects from around the world, ranging from urban furniture planters to large-scale urban farms. In so doing, Gorgolewski et al. (2011) bring to light the significant contributions professional urban design practice has made to urban agriculture. From the utilitarian to the imaginative, designer professionals are increasingly considering the possible synergies between food production and urban design (Viljoen et al., 2011). See Figures 6-8.

Although *Carrot City* provides many inspiring examples of urban gardening projects, there is still much work to do in making the leap from the urban interventions discussed earlier in this paper and through Markussen's framework, to urban transformation on a larger scale with respect to the right to public space. As Hou & Rios (2003) argue, the "growing practice of community-driven place-making signals a need to re-examine the practice of community planning and design" in the making of the public realm (p.19). The call to implicate designers in the making of place is echoed by Vidler (2001), whose vision of the city calls for a search for design alternatives that rethink the exclusions stemming from out-dated zoning, real estate values, and private ownership. As Mitchell (2003) argues, "the need to continue to



**Figure 8** Planters for olive trees and herbs and seating, Lisbon, Portugal. Designed by Leonel Moura

struggle over and for public space is greater than ever” (p.17).

If the role of design is to sustain, develop, and integrate human beings into “broader ecological and cultural environments” (Buchanan, 1992, p.10), then designers certainly have an activist role to play in shaping their communities. Through activism, designers can continue to provide guidance in tackling both simple and complex problems in various urban contexts (Viljoen & Bohn 2011), from helping communities create urban spaces to advocating for access to public space. To this extent, Inam (2014) considers an expanded role for urban designers. He states that when it comes to the spatial economy of the city, designers are expected to work within the scope of predetermined parameters, such as budget, location and project objectives. The challenge, then, is for urban designers to go beyond their practice and create alternative sets of parameters from which to work in order to have a greater impact on transforming urban environments (Inam, 2014). Designers wield tremendous power with respect to the social, political and economic dimensions of how cities are shaped (Zukin, 1995). At some point, and this differs for everyone, this becomes a moral choice between designing for profit versus designing for public benefit (Inam, 2014), begging the question “what kind of world do we want to live in?” In answering, designers need to decide how they will shape their practice and how meaningful their contributions will be.

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## ON THE CONDITIONS FOR A COLLABORATIVE PRACTICE IN DESIGN – OPEN DESIGN

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### ABSTRACT

Open design appears as one in a row of similar expressions of 'open X' – open access, open data, open knowledge, open hardware – most of which were coined in the early years of this century and modelled after 'open source' in software. They denote a departure from presumably 'closed' practices of dealing with academic publications, data, knowledge, hardware, innovation, and indeed: design; all key areas of the knowledge economy.

What are the principal drivers for this development? Is it merely 'the digital turn' – the shift from material to digital media, which has reduced the copying of design artefacts to a few mouse clicks, while bringing media production to everybody's and anybody's desktop? Or is there a broader underlying current at the core of a societal change that questions the fundamentals which our (Western, industrialised) society is built upon?

This paper traces these questions and relates them to open design. A preliminary conclusion is that open design has not yet achieved the level of maturity needed to develop its full potential in dealing with an increasingly complex and ambiguous social environment that is evolving beyond its industrial past – a contribution that particularly (open) design would be predisposed to make.

### KEYWORDS

Industrial Revolution. Open Design. Collaborative Practice.

## **OPEN DESIGN BETWEEN SHARING AND PROTECTING**

Open design has been described as a participative method that invites users to modify a design; the design process then becomes dynamic and iterative. As a social process, open design evolves from a self-reflective to a collective-reflective practice, which makes use of social artistic practices “focused on enhancing the quality of life of individuals or groups within society, by raising their awareness, educating them, or contributing to their sense of identity. In other words: helping people to improve themselves in their relationship with their surroundings” (Chabot, 2013).

Open design purports to be to design what open source is to software (Abel et al., 2011). Accordingly open design, like free and open source software, has two important facets. On the one hand it is – often primarily and reductionist – discussed in terms of licensing: how can a by default protection of rights be overturned to allow use, study, sharing, and ‘forking’ of designs? On the other hand, more importantly, open design also denotes a strand of practice in the field of design: how can the design process become more collaborative?

## **THE LEGACY OF INDUSTRIAL REVOLUTIONS**

The backdrop for the development of open design is on the one hand the ‘digital turn’ – the computerisation and increasing use of the Internet in so many aspects of daily life, from communication to entertainment, from retail to banking, from relationships to education – which has so profoundly impacted on how people engage in everyday activities. It has created new qualities of interaction, for example by replacing slow but immediate face-to-face relations with instant but mediated transactions, facilitated through a variety of intermediate digital systems.

On the other hand it is a collection of reactions to the industrial revolutions of the 19th and 20th century and critiques of their thrust towards centralization and their rational determinism in

business and economics voiced in such varied disciplines as history of technology, sociology, social psychology, economics, law, management – and indeed also: the arts and design.

The term 'industrial heritage' usually brings to mind images of red brick factory buildings, factory owners' villas, and workers' housing, characteristic of the industrial revolution of the late 18<sup>th</sup> and early 19<sup>th</sup> centuries – and perhaps also the machines, particularly the coal-powered engines and locomotives which were the workhorses of that period. But of course the first industrial revolution was more than just a collection of architectural features: it brought mechanisation, centralised factories, and industrial capitalists; its iconic machine was the steam engine, its social effect was the division between labour and capital.

A second industrial revolution brought automation and later computerisation of manufacturing, as well as scientific management and management consultants; it can also be seen as what James R. Beniger (1986) called a "control revolution". Its iconic machine was the conveyor belt as a tool for rationalising and controlling assembly. Its social effect was the division between white-collar and blue-collar work, and the struggle by managers to gain control over workers, based on a "military thrust toward total control [that] indulged technical enthusiasms while it ratified managerial propensities" (Noble, 1984, 192).

While the technical means of automation and information technology create new options for the design of industrial and working conditions, they do not determine which options are chosen and to what end; technology is always an option.

Moreover, technology creates intrinsically new qualities of experience, but also contingent possibilities as to how the often conflicting demands of social, political and economic interests engage with technology to produce a 'choice' (Zuboff, 1988, 389).

Several authors argue that the paradigm of central control has become obsolete and individually and socially undesirable – individuals insist on self-expression (Zuboff & Maxmin, 2002), capitalism has to become constructive (Haque, 2011), and that what the customer considers 'value,' is decisive (Drucker, 1954). Benkler (2002; Benkler & Nissenbaum, 2006) theorised the peer-production model and collected evidence from science, industry

and other fields to demonstrate that there are collective action practices that are decentralized but do not rely on either the price system or a managerial structure for coordination (Benkler, 2006; Benkler, 2011). Economists have also found that people indeed exhibit social preferences beyond their own material self-interest, a finding at odds with mainstream economists' belief in the hypothesis of self-interest that rules out heterogeneity in the realm of social preferences (Fehr & Fischbacher, 2002, C1). Rifkin's analysis (2011) summarizes these arguments in the prognosis of a shift from hierarchical to lateral power.

All these narratives have a few points in common. They all name the Internet as a driving enabler for people to connect laterally, as peers. They all leave behind technological determinism, understanding that technology in fact offers more choices than those presented by the incumbent powers of past and current industrial societies. And they all paint a picture of a future industrial society different from what we know today – better aligned with individual needs as well as the greater benefit of society at large, more cooperative and less focused on competition, and more laterally structured.

## **FREE AND OPEN-SOURCE SOFTWARE: A MODEL FOR FREEDOMS & PRACTICES**

One model of the successful realization of such a development is to be found in free and open-source software (FOSS) which by now is a given fact as a thriving industry. Almost two thirds of web servers run on Linux, while three quarters of web servers use open-source Apache to respond to browser requests. 70 percent of web browsers are either completely open-source (Firefox) or share large parts of their codebase with open-source products (Google Chrome), and use an open-source layout engine for rendering HTML – Gecko in the case of Firefox, WebKit in the case of Google Chrome and Apple's Safari. Other notable examples include server-side programming languages (such as PHP) and content management systems (Drupal, Joomla, WordPress). Contributors to FOSS are not just loony coders; Benkler notes that “just under 40 percent of firms engaged in software development report spending development

time on developing and contributing to FOSS.”(Benkler, 2013, 221; cf. Lerner & Schankerman, 2010; W3Techs 2011; Schweik & English, 2012).

Free and open-source software is built on two propositions; a legal proposition which obliterates legal defaults of ‘intellectual property’ protection; and a social proposition which creates a practice for peer-to-peer collaboration.

### **THE LEGAL PROPOSITION OF FOSS**

The ‘four freedoms’ described for free and open-source software (Stallmann, 1985; 1992) form a radical counterpoint to the software industry’s narrow end-user license agreements (EULAs). EULAs are based on the assumption – readily confirmed by legislators and judges – that software code is a form of artistic expression, and stipulate that users may only use a copy of the software for defined purposes; they don’t own it and are not allowed to share or copy it, often not even to re-sell it. Free software licenses on the other hand allow users to use the software for any purpose, to study it, copy and spread it (gratis or paid), and also to ‘fork’ it, i.e. to build new derivative software on top of it.

In this sense, free software fundamentally breaks with the scarcity-based business model, effectively separating the code – as the part that is easy to copy, and hence hard to protect – from the whole product of a software package, which also includes packaging, installation, maintenance, documentation, training, configuration and customisation. Similar approaches have been developed in the field of cultural production, with the set of Creative Commons licenses which reverse the content scarcity created artificially by copyright. Yet not all Creative Commons licenses actually make the content freely available according to the spirit of free culture (which would mirror the software freedoms); particularly clauses prohibiting commercial use or derivative works make the corresponding Creative Commons-licensed work actually ‘non-free’.

### **THE SOCIAL PROPOSITION OF FOSS**

A portrait of open-source software which discussed only copyright issues would of course be utterly incomplete. Open-source projects are built on often voluntary contributions and

design decisions are debated within the community. However, there is typically a very small core of maintainers – in small projects, only one – granting access to the community and making final decisions regarding design and the inclusion or rejection of patches, fixes and new features. The ‘four freedoms’ of open-source software are a necessary vehicle for enabling this social practice. If the maintainer would have to negotiate a contract with all other contributors in order to use their contributions, releasing new versions of the software would be extremely problematic.<sup>1</sup> Thus open-source development is more than just a matter of sharing end results; it is a fundamental practice of co-creation and as such well researched<sup>2</sup>. Contrary to common beliefs this practice does not normally include large numbers of people<sup>3</sup>, as the "FLOSS – Free/Libre Open Source Software: Survey and Study project" showed, and in many projects a large part of the development is done by one single contributor (Ghosh et al. 2002). Consequently, gate-keeping and decision-making it is not a democratic endeavour but a process characterized by the "benevolent dictator[s]" – a few contributors who serve as ‘gate keepers’ for accepting code written by others (von Krogh et al. 2003).

## OPEN DESIGN – THE LEGAL PROPOSITION

The legal proposition of open design is not the focus of this paper, as the legal provisions for protecting "intellectual property" in design are much more complex than in software – they include amongst others authors rights, design rights, patents, brands, and trade secrets – and the practices of employing various possible routes of protection are even more diverse, particularly as most often "IP rights" are held not by creative individuals but by producers of design goods or brand owners.

Interestingly, there are branches in design, such as fashion, hairstyles, perfume, magic tricks and fireworks displays that can

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<sup>1</sup> In the traditional software industry, this problem is covered by employment contracts that transfer the rights to any code an employee writes to the employer.

<sup>2</sup> cf. the special issue on Open Source Software of Management Science (Volume 52, Issue 7, July 2006)

<sup>3</sup> Only in large projects of more than 500,000 bytes (about 500 pages) of software source code are 20 and more developers involved.

be considered as "low IP" branches (Raustiala & Sprigman, 2006) – much to the disdain of policy makers as well as the intellectual property lobby (cf. Dutch Ministry of Economic Affairs, 20009, 40; European Commission, 2009). In fashion design, for example, copying a design (or cut) appears to promote rather than deter innovation; as fashion design is subject to rather quick changes (the biannual catwalk season) the industry's preferred unit of protection is the brand rather than the individual design.<sup>4</sup> This approach appears to be maintained in many approaches to opening up design (e.g. NikeiD offering mass customization of shoes).

## OPEN DESIGN AS COLLABORATIVE PRACTICE

Much more relevant to the discussion in open design (as in open source software) is the actual practice of designing and hence situating the designer in the creative design system and/or process.

Collaboration in design, particularly between designers and laypeople, is in itself nothing new. Participatory design started in Scandinavia in the 1970s under the name 'collective resource approach', in the context of industrial democracy (Emery et al., 1969; Ehn, 1990). Gradually, the concept (now known as co-creation (Miyake, 2002)) gained acceptance in the fields of human-machine interaction, mass customisation (Berger & Piller, 2003) – and eventually mainstream business, when Prahalad and Ramaswamy (2004) popularised the term. Co-creation has also been applied in the field of design, where it is aptly termed co-design. Co-design as a design practice means "collective creativity as it is applied across the whole span of a design process from beginning to end" (Sanders & Stappers, 2008, 6). With co-design design is supposed to move "from the design of categories of 'products' to designing for people's purposes" (p. 10). Professional designers will increasingly design systems, which will provide end users with the tools they need in order to be creative (Atkinson, 2011, 30).

There is a growing interest in open design which manifests itself

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<sup>4</sup> Consequently, knock-off (fake, counterfeit) designer products are subject to policing and prosecution.

in student theses and educational programmes at art and design academies (e.g. at Aalto in Helsinki, Finland, WdKA in Rotterdam, The Netherlands, SUPSI in Lugano, Switzerland) and in academic and business conferences (notably the conference on open design held as part of the Barcelona design festival (FadFest) and the Open Knowledge conferences and festivals). There are a few interesting experimental projects such as the (Un)limited Design Contest<sup>5</sup> and Droog's curated Design for Download project for the Salone del Mobile in Milan (2011). However, publicly accessible evidence of widespread reuse or even remix of open designs is to date scarce if not absent. In fringe (or emerging) areas of design, such as FabLabs and the Maker Movement, open source approaches are quite popular – publishing one's designs under an "open license" – while even on this smallest scale there is very little collaborative practice to be found (Wolf et al., forthcoming).

As Hummels (2011, 165) aptly remarks, "open design is based on a libertarian relationship between designers and potential users, and not on a rational one in which the designer is seen as superior." That means that design is destined eventually to move even beyond a model of designer-led participatory co-creation, in which final decisions remain the privilege of the designer – and in doing so also moving beyond practices that were established in open source software. Just as society is expected to become better aligned to individual needs, more laterally structured, so will design – at least, open design – eventually do away with the designer as the guardian of the holy grail of design. As businesses are expected to focus increasingly on the greater benefit of society at large, becoming more cooperative and less fixed on competition, so also design will have to develop new practices which eschew individual perfection but rather foster the achievement of common outcomes – which rise above the lowest common denominators as well as individual limitations. Open design is thus a process for enabling design literacy (strategic vision, tactical competence, operational skills) in everyone (Rijken, 2011, 157).

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<sup>5</sup> The contest was held in the Netherlands, nationally in 2009 and open to international submissions in 2010. It was replicated in France in 2011, and in Austria in 2012-13.



## CONCLUSION

In this essay, I have outlined the legacy of earlier industrial revolutions, and reviewed how observers from various disciplines interpret current signs of change in society as leading to a new industrial revolution. This revolution is supposed to generate lateral rather than hierarchical power relations, as well as businesses that truly serve individual needs as well as the needs of society at large. I have used the example of free and open-source software to illustrate how legal instruments can be used to foster lateral structures – even though the default assumptions of intellectual property, on which legislation is based, are often adversary to the freedoms of open source – and, more importantly, how a complex collaborative practice has evolved in free and open-source software (FOSS).

I examined the roots and the current state of the ‘open’ paradigm in design, and concluded that the discipline is experimenting – if only very cautiously – with this new paradigm.

Design and designers still have a long way to go to, if open design is really to move into the arena of collaborative production as exemplified by free and open-source software development.

There are many lessons that can be learned from the early fundamentalist practitioners of FOSS. Developing software is in many respects quite similar to developing a design – there are strategic directions to be set, tactical choices to be made, operational skills required for fine-tuning. Problems must be identified, solutions must be found, decisions must be made – all of which requires negotiation in a collaborative setting. Experts and novices will have to work together: if people can be taught (and can learn) how to develop software and how to write code, there is no reason why they can’t also learn to develop and execute a design.

However, it would be a mistake to blindly mimic the developments in software. There are also important differences: for example, argumentation in software development is mainly informed by logic, while argumentation in design is mainly informed by artistry. A logical discourse is not the same as an artistic discourse; still, there is room within design to develop this artistic discourse, so that it takes place in a peer-to-peer setting rather than a master-disciple setting. The evolution of this artistic

discourse is at the core of open design: it must develop into a collective-reflective practice which empowers people, especially when designers lose their privileged position of automatically being the sole experts in a crowd of novices.

If open design as a practice is indeed still far from mature, then the question arises: is open design actually desirable? Is it worth the effort? Wouldn't it be more sensible to leave open design to a few eccentrics, or maybe just go on using the 'open' label for a while, as long as it provides an advantage of coolness?

I strongly believe that the changes observed by Zuboff & Maxmin (2002), Haque (2011), Benkler (2006; 2011), Fehr & Fischbacher (2002), and Rifkin (2011) will have a strong impact on society in the 21<sup>st</sup> century. While I do not expect these changes to supersede all incumbent industrial practices, they will certainly add substantial new paradigms (such as collaborative peer production with lateral relations) to an increasingly complex and ambiguous society. Design as a discipline is particularly well positioned to deal with more 'fuzzy' circumstances; it could and should play an important role in helping society and individuals get to grips with this fuzziness.

However, as these new paradigms become increasingly influential, neither an expert-led nor a purely participatory approach will suffice. 'Ordinary' people will expect (and demand) to be accepted as peers, as they follow the categorical imperative of the 21<sup>st</sup> century – "consume less, create more". In this respect, open design has the potential to grow bigger – and more relevant – than what FLOSS managed to achieve: to include in the design processes that shape the ingredients of everyday society all citizens who care for these developments, not only consenting nerds.

It is a noble duty for design and designers, to fully develop this new field of open design into a mature discipline; and I strongly feel that it would be a loss to us all if society were to miss out on the contribution which design can make toward a more cooperative future, for the benefit of individuals as well as for society at large.

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## COMMUNITY ENGAGEMENT WITHIN MUSEUMS: Designing participatory experience of heritage

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### ABSTRACT

The paper is drawn upon the results of the author's doctoral research that investigates the emerging role of cultural institutions, which are increasingly shifting from being provider of content and designer of experience to becoming facilitator of experiences around content. The research regards these issues from the perspective of the design discipline, and, without excluding the technical competencies typical of the exhibit design, underpins a more comprehensive notion of heritage valorization design oriented, in which the designer assumes the strategic role of mediation among the actors involved in the design process.

In its first section, the paper aims at defining the notion of 'participation' within heritage, by presenting diverse participatory models as defined by different authors, and discussing differences and possible synergies between the approaches of design for participation and Participatory Design.

In the following section, the main operative insights drawn upon the study of cases conducted within the research are presented, highlighting the tension between institutional authority and public voices in diverse institutional contexts, and stressing how community engagement, empowerment and development may be pursued through projects of co-creative work within museums.

### KEYWORDS

Museum. Design. Participation. Community engagement

## DEFINING 'PARTICIPATION' WITHIN MUSEUMS

Within the contemporary socio-cultural context, in which – also thanks to the current development of the participatory web, with its fundamental characteristics of interactivity, sharing, and common authorship – the traditional portrait of the public as a passive spectator is inapplicable to the contemporary user, and the changing relation between audiences and cultural institutions increasingly needs to be reconsidered. The paper relies upon the main hypothesis that, although through diverse participatory modalities and design approaches, visitors' active engagement in cultural programs and exhibitions might enhance the experience of heritage and respond to the emerging expectations of contemporary audiences. In fact, the nature of expertise within cultural institutions in recent years has been called into question and museums have been challenged to reflect on their role, consider themselves more as “*contributors*” (Verboom & Arora, 2013), than gatekeeper in the production, preservation and distribution of knowledge.

It is noteworthy not the novelty of the notions of public participation within museums—which is rooted in the last century—rather the fact it is not yet structurally integrated in the contemporary approaches of design practices in museums, although an extensive bibliography is available and several best practices have been developed in recent years.

In order to outline a definition of 'participation' in the heritage domain, may be useful to consider that this notion is much more common referred to practices of citizens' participation in other disciplinary domains, such as architecture, urban planning, and in projects of environmental sustainability, in which the term refer to the concept of informed citizenship and public consultation or imply the involvement of a group of stakeholders in the decision-making process. In his 1969 much-quoted article, which remains a useful analysis of power relations, Arnstein described a ladder of participation composed of eight rungs (Arnstein, 1969):

“*Manipulation*” and “*Therapy*” corresponding to levels of non-participation; “*Informing*” and “*Consultation*” in which citizens have a passive role as a recipient of information; “*Placation*” in which citizens can advise opinions and ideas; “*Partnership*” in



which citizens can negotiate with traditional power holders; and “*Delegated Power*” and “*Citizen Control*” in which citizens have majority or full authority to make decisions. The LITMUS project (InterAct, 2001, p. 6) devised another version of Arnstein’s ladder, identifying five levels of participations related to the evaluation of community projects, and, similarly, Harder et al. (2013, p. 45) defined a “*Participation Framework*” composed of six categories in a scale from non-participation to full partnership. All these levels of citizens’ participation could actually be generalized for multi-disciplinary use, and may constitute a theoretical basis for outlining the approaches of cultural institutions in respect to audience participation.

Within museums, in strongly multicultural contexts participation often is meant to establish a relationship between the museum and the community from which it originated a collection (with an approaches that is close to “*Consultation*” or “*Placation*”). In other cases, especially in Anglo-Saxon contexts, the term refers to the social role of the museum (with an approaches that is close to “*Partnership*” or “*Citizen control*”).

Understanding the types of participatory engagement is the first step in designing participatory projects that best support institutional mission-related goals. Adopting Simon’s definition (2010, p. ii), a participatory cultural institution is “*a place where visitors can create, share, and connect with each other around content.*” The verbs ‘create,’ ‘share,’ and ‘connect’ clearly describe the main possible visitors’ behaviors enabled by participatory experiences of heritage.

Dalsgaard, Dindler, and Eriksson (2008) define three modalities of participation on the basis of the activities performed by visitors: “*(co-)exploration, (co-)construction and (co)contribution*”. Simon’s (2010) categorization is instead based upon visitors’ involvement in the design process and distinguishes between “*contributory*”, “*collaborative*”, and “*co-creative*” projects. It is to be noted that Simon’s contributory projects encompass all the categories proposed by Dalsgaard and al. because they refer to experiences that ask visitors for limited actions in an institutionally controlled context where audience-generated contents are displayed. In collaborative and co-creative projects visitors are instead involved in the co-construction and collection of heritage and in the design process of the cultural program.

Since both in collaborative and co-creative models, participation occurs in the design phase, the adoption of these models produces outcomes that may also be non-participatory. The diverse approaches to participation reflect the level of creative control on contents that the cultural institution assign to participants, ranging from “*curatorial*,” to “*interpretive*,” to “*inventive*” (Brown, Novak-Leonard, & Gilbride, 2011). ‘Watching’, ‘sharing’, ‘commenting’, ‘producing’, and ‘curating’ are the main actions that visitors may perform during their experience of heritage, and broadly reflect the six social technographics groups defined by the Forrester Research (Li, 2007, pp. 4–6): creators/producing, critics/commenting, collectors/curating, joiners/sharing, spectators/watching, inactives/no actions. The diverse roles that participants assume during a participatory experience may thus be defined as a subset of Forrester’s categorization, in a ladder that includes collectors, critics, and creators.

#### **DESIGN FOR PARTICIPATION VS. PARTICIPATORY DESIGN**

In opposition to the traditional institutional curatorship, all the modalities by means of which audience is collaboratively involved in shaping museum products and experience, can be described using the expression “*public curation*” (Satwicz & Morrissey, 2011) that encompasses both those practices in which participation occurs during the experience of heritage and those approaches based on methods of participatory design. While design *for* participation means innovating the ‘product’ (program or exhibition), using participatory design methods means innovating the ‘process’, without necessarily presupposing a participatory experience of heritage. Both approaches are exemplifies of participatory museum practices, but it is needed to reflect upon the question if a participatory design approach is needed in order to design participatory experiences of heritage. In Simon’s view<sup>1</sup> a participatory process is not always needed to produce a platform for participation, even if cultural institutions need to consider how to negotiate the relationship with their participant audiences.

The design discipline has historically dealt with user participation

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<sup>1</sup> <http://museumtwo.blogspot.it/2009/04/participatory-design-vs-design-for.html>

as one of the possible ways to reach a design goal, through the separate traditions of Participatory Design (PD) and User-Centered Design (UCD), and through various schools of Human-Centered Design and Co-Design (Harder et al., 2013, p. 41). At the core of PD is a systematic reflection on how to involve users as full partners in design by means of diverse of principles and practices (e.g. making, telling and enacting, probing, priming, understanding or generating). While traditional UCD research methods were focused primarily on observational research, and traditional market research methods have been focused on what people think (e.g. focus groups, interviews, and questionnaires), the “*say-do-make*” model proposed by Sanders and Dandavate (1999) is focused on what people make.<sup>2</sup>

While in a classical UCD process the researcher served as a translator between the users and the designer, in a Co-Design process the researcher/designer takes on the role of a facilitator, by providing tools for ideation and expression (Rizzo, 2009). Even if not specifically developed for their use within museum audiences, some tools and techniques for Co-design activities have been successfully applied in participatory museum practices both in the preliminary problem exploration and in the subsequent phases of concept generation.

## THE TENSION BETWEEN INSTITUTIONAL AUTHORITY AND PUBLIC VOICES IN DIVERSE CONTEXTS

This paragraph presents some of the results of the study of cases<sup>3</sup> conducted in the context of the author’s doctoral research on which the paper is mainly based, highlighting the tension between institutional authority and public voices. It is to specify that the diverse contexts here described, have been identified

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<sup>2</sup> Sanders proposes the use of “MakeTools” (Sanders & Dandavate, 1999) as a common ground for connecting the thoughts and ideas of people from different disciplines and perspectives. There are different types of “MakeTools” that facilitate the creation of a wide range of artifacts user-generated, and because they are projective, they are particularly good in the generative phase of the design development process.

<sup>3</sup> About ninety participatory cultural projects have been mapped with the main goals of identifying tools and methods currently employed by diverse typologies of cultural institutions in order to enable participatory experience of heritage and understanding how a participatory approach to heritage may affect the visitor experience in terms of creative controls on contents and social engagement.

with the aim of giving a meaningful sample of the diverse attitudes and approach to public participation of cultural institutions, and without the claim of covering the entire spectrum of possible contexts in which participatory projects may be developed.

The selection of cases has been conducted through secondary research and refers to a period of time between the beginning of 2000s and today, considering those participatory projects in which explicit and original users' contributions are recognizable in the collection and experience of cultural contents that must be generally recognized as cultural heritage according to the definition given by the International Council of Museums (2006).

### **ART MUSEUMS**

Data drawn from the study of cases highlight that an approach that is open to visitor contributions is seldom found in the contexts of “*systematic*” or “*orderly*” museums (Hein, 1999) such as traditional artistic galleries in which the authoritativeness of the source is considered essential for validating the interpretation of the contents. In fact, the mission of these museums tends traditionally to pursue self-generated, internal, and academic goals (Skramstad, 1999), as they are more focused on the collection and conservation, than on being responsive of audience expectations. Moreover, many art museums, in pursuing the idea of aesthetic communication, avoid any interpretation of the object beyond the simple identification label (Alexander & Alexander, 2008, p. 189).

Although the study of cases has not taken into consideration the specific realm of participatory art (because they represent a distinct phenomenon of artistic co-creation aimed at the production, rather than at the experience of heritage), those cases in which individuals act as artists in the institutional interpretive framework of an existing institutional collection have been mapped. In fact, because of issues related to authorship, rather than hosting projects aimed at promoting shared learning, art museums may use their collections as the basis for projects that promote social inclusion through creative expression, like the *Center for Creative Connections*<sup>4</sup> at the Dallas Museum of

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<sup>4</sup> <http://www.dm-art.org/CenterforCreativeConnections>

Art.

Art museums appear to be best suited also for the development of projects aimed at the involvement of the community in the co-design of programs and exhibitions, like for example in the projects *Museomix*,<sup>5</sup> *Shh! It's a Secret!*,<sup>6</sup> and *Hack the Museum Camp*.<sup>7</sup> In this kind of approach, participants' voices are discussed and negotiated thanks to continued and sustained in person mediation.

Social media and onsite interactives installations are instead effectively used for enabling participation when participants are requested to express their opinion through discrete actions for which institutional mediation is not needed, such as voting for their favorite artwork to be included in a particular exhibition (e.g. *Top 40*,<sup>8</sup> *Yorkshire's Favourite Paintings*,<sup>9</sup> *Branguli was here*,<sup>10</sup> and *Click! A Crowd-Curated Exhibition*<sup>11</sup>).

### ECOMUSEUMS, CITY MUSEUMS, AND URBAN SPACES

A participatory approach is often adopted in those museums in which the multiple voices of user-created contents can add value to the collections, such as in ecomuseums and city museums. In fact, these institutions, being traditionally acknowledged to have the goal to develop and strengthen a sense of community, need to carefully consider and question the ways by which the community is represented through the museum's collections. Many projects among the mapped cases in these contexts are developed with the goal of promoting shared learning, both through visitors' contribution of objects or stories (e.g. *Coney Island History*,<sup>12</sup> *Foresta nascosta*,<sup>13</sup> *MappaMi*,<sup>14</sup> and *Mare Memoria Viva*<sup>15</sup>), and through their interpretation of museum's collections (e.g. *Publicview*<sup>16</sup>). Ecomuseums and city museums are well suited also for the development of participatory projects

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<sup>5</sup> <http://www.museomix.org>

<sup>6</sup> <http://www.wallacecollection.org/collections/exhibition/82>

<sup>7</sup> <http://www.santacruzmah.org/museumcamp2013>

<sup>8</sup> <http://www.worcestercitymuseums.org.uk/mag/magpex/top40/top40.htm>

<sup>9</sup> <http://www.yorkshiresfavourites.org>

<sup>10</sup> <http://www.brangulivaseraqui.com>

<sup>11</sup> <http://www.brooklynmuseum.org/exhibitions/click>

<sup>12</sup> <http://www.coneyislandhistory.org>

<sup>13</sup> <http://www.forestanascosta.net>

<sup>14</sup> <http://mappa-mi.eumm-nord.it>

<sup>15</sup> <http://www.progettomemoriaviva.net>

<sup>16</sup> <http://www.publicview.org.uk>

aimed at promoting co-creative work among participants in activities of participatory design (e.g. *Storie Plurali*<sup>17</sup>).

The analyzed cases of participative urban storytelling often reflect the conceptual architecture of the “*urban database documentary*” (Shapins, 2011), and, in this sense, community maps, while being successful visual tools for the representation of multiple citizens’ voices, may also constitute an effective metaphor of an inclusive approach that enables people to construct their own representations of reality.

### **HISTORY MUSEUMS AND MEMORIALS**

The study of cases reveals that history museums and memorials are best suited for participatory projects that involve the critical interpretation of objects through storytelling (e.g. *New York Divided*<sup>18</sup>), and the crowdsourced collecting of objects and stories for co-constructing the institutional collections (e.g. *Open house*,<sup>19</sup> *Sweet & Sour*,<sup>20</sup> and *Children Lodz Ghetto*<sup>21</sup>).

Because of their social content, history museums and memorials are also good places for community dialogue through the use of the institutional collections as educational tools rather than protected repositories of objects. However, while promoting multiple perspectives, history museums should have an approach strongly concerned about accuracy and authenticity in order to avoid visitors’ perspectives that reflect offensive views toward other people’s backgrounds (Simon, 2010).

Consequently, validating and moderating visitors’ contributions is often the major concern in the context of history museums in order to balance multi-vocal content with a comprehensive narrative.

### **SCIENCE AND TECHNOLOGY MUSEUMS AND CENTERS**

Although their long history of interactive exhibitions would suggest science and technology museums as naturally suited for participatory projects, in this contexts, educational experiences are mostly pursued through interactive activities rather than

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<sup>17</sup> <http://bit.ly/1aMBLs0>

<sup>18</sup> <http://www.nydivided.org/AboutExhibit>

<sup>19</sup> <http://www.mnhs.org/exhibits/openhouse/exhibit.htm>

<sup>20</sup> <http://americanhistory.si.edu/exhibitions/artifact-walls-sweet-sour>

<sup>21</sup> <http://www.ushmm.org/online/lodzchildren>

participatory engagement,<sup>22</sup> as scientific and technological knowledge is not open to visitor reinterpretation, but need to be validated. Among the analyzed cases, the exhibition *The great fat debate*<sup>23</sup> and the prototype *Hydroscope* (Dindler et al. 2007; Dalsgaard, Dindler, and Eriksson 2008) constitute two exceptions: the first because promotes the discussion of a controversial theme through an interactive installation, and the latter because promotes shared learning through an activity that requires visitors to highly engage with each other in order to understand the proposed concepts.

## THE CHANGING RELATIONSHIP BETWEEN THE MUSEUM AND ITS COMMUNITIES

The opportunity for audience to actively participate in the co-creation of heritage experiences entails a rearrangement of the relationship between the museums and its communities. Community engagement, as well as being a necessary component of the development of participatory activities, may also be a strategy for developing sustainable partnerships with community groups and further embedding the cultural institution in the community. In fact, the sharing of experience, knowledge, and expertise, on the one hand may support the community, and on the other hand may renew the relevance of the heritage organization. Through different types of activities that reflect diverse levels of participation, cultural institutions can help to develop important social attitudes in community groups, like empowerment, ownership, involvement, and citizenship. At the same time, through these activities, cultural institutions can convey audiences' voices in helping the development of "audience-responsive" (May, 2002, p. 33) programs and exhibitions.

In fact, by incorporating what is learned from audience research,

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<sup>22</sup> The terms participation and interaction are often used interchangeably within museums even though they have different implications on the visitor's experience. Interaction implies reciprocity: the user performs an action and something happens in reply to the visitor's action, mechanically, digitally, or kinesthetically.<sup>22</sup> An exhibition is instead participatory if visitors are invited to interact adding personally generated contents that may even become part of the exhibition itself (McLean, 1993, p. 93).

<sup>23</sup> [http://www.chemforlife.org/virtual\\_gallery/fat\\_debate/default.htm](http://www.chemforlife.org/virtual_gallery/fat_debate/default.htm)

museums' professionals can go beyond the dichotomy "*research-based*" and "*market-driven*," and rather create activities that link the curatorial research and the institutional collection with the visitors' interests and expectation (May, 2002, p. 33). When the partnership with communities reaches this goal, the dichotomy user-created and curated content tends to dissolve around the "*community-generated content*" (Salgado, Saad-Sulonen, & Díaz, 2009) produced collectively by visitors, staff and external researchers. For example, the *Creative Community Committee*<sup>24</sup> may be regarded as a model for museums that need practical tools to identifying the needs of their communities and better understand who is and is not represented in the museum.

Participatory approaches to collecting and programming with diverse communities, and initiatives targeted at audience development of under-represented communities are among the strategies for meeting the goal of social inclusion (Sandell, 2003, p. 57) through projects both focused on interpretation, and on the co-creation of an institutional program.

There are also examples of project of community engagement in which mediated communication supplements face-to-face interaction thanks to online social platforms, like the museum blog *Dulwich on View*,<sup>25</sup> run by volunteers of the local community that seems effectively reflect some of the "*Seven Principles for Cultivating Communities of Practice*" defined by Wenger, McDermott, and Snyder (2002).

## CONCLUSION

Summarizing the common patterns that can be drawn upon the examples presented in the diverse context, it can be said that when dealing with participation, museums professionals should question and negotiate the presentation of highly individualized perspectives with collective identities, acting more and more as enabler and facilitators rather than figures of authority (Hooper-Greenhill, 2000, p. 139; Witcomb, 2007, p. 35).

It is thus to avoid the misconception that encouraging public

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<sup>24</sup> <http://museumtwo.blogspot.com/2012/03/community-driven-approach-to-program.html>

<sup>25</sup> <http://dulwichonview.org.uk>



participation may be destructive to the museum's role as a reliable source of information (Spock, 2009, p. 10), and rather focusing on the modes by which interpretation in museums is constructed through conversation between mediators and participants.

Moreover, interviews to curators and designers – made with the goal of gaining operative insights into the modalities by which the design discipline may contribute to the plan and implementation of participatory experience of heritage – highlight that when dealing with participatory programs, the role of the design discipline become crucial in effectively communicating the exhibition content to the museum visitors who, often not knowing, are part of the exhibition medium. Both projects designed for participation – foreseeing audience active engagement as the final outcome of the program or exhibition – and projects bases on participatory design practices – which have the goal to involve participants throughout the design processes – might be effectively supported by the design discipline intended in its more strategic role that underlies the notion of heritage valorization design oriented (Lupo, 2009), in which the designer acts as a mediator among the actors involved, by focalizing heritage interpretation through its legitimation by the community.

A user-centered design methodology – widely explored within the discipline of interaction design – is thus an effective design strategy also if applied to museum's exhibitions designed for participation, in which the design process must include key phases of prototyping with visitors.

Relying on these findings, the research proposes a general design framework that considers recursive stages of evaluation with visitors as the essential components of the design process in order to manage participation over the long term. A pilot temporary exhibit was designed in the summer 2012 at the MAH- Santa Cruz Museum of Art and History, under the direction of Museums' executive director Nina Simon, with the goal of verifying if evaluation proved to be effective in supporting the design process of a participatory exhibit, while achieving the specific institutional project's goals set by the institution.

Research limit concerns the application of the proposed framework to the development of participatory projects in those institutional contexts not so committed to participation as the

MAH. Future works foresee thus the application of participatory models of heritage experience in those institutional contexts that are apparently less suitable for promoting programs of audience engagement – as for example those museums that, mostly due to their history and to the nature of their collections, still adopt a linear model of transmission of knowledge – but which, as secondary research suggested, could more benefit from a participatory approach.

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## THE DESIGNER AS RESPONSIBLE CITIZEN: An/aesth/ethics

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### ABSTRACT

Design is often thought of as an activity seeking to change existing situations into preferred ones, which might suggest that it is ideally situated as a tool for responsible and active socially engaged citizenship. However designers often inhabit a conflicted ethical space, expressing a desire for responsible citizenship while often behaving in ways they themselves acknowledge do not live up to this standard. Understanding of the nature of these phenomena is of vital importance to attempts to support the socially responsible citizenship of designers. This paper briefly touches on some coping-strategies used by those caught in ethical conflict, before proposing a further suggestion of specific relevance to design, a concept of an/aesth/ethics: by which we *anaesthetise* ourselves to ethical pain by *aestheticising* ethics. This paper presents the case that there is hope for genuinely ethical design in an increasingly aestheticised world by drawing on Wolfgang Iser's suggestion that the root of ethics emerges from within the aesthetic itself. Design, which for so long has been a principal contributor to an/aestheticisation, contains within itself – precisely due its aesthetic nature – the potential to return feeling to a society which finds itself constantly numbed to true ethical being.

### KEYWORDS

Aesthetic. Anaesthetic. Ethics. Peter Sloterdijk. Wolfgang Iser. Zygmunt Bauman.

## THE DESIGNER AS RESPONSIBLE CITIZEN: AN/AESTH/ETHICS

Design writers often quote Herbert Simon's (1996) definition of design as an activity which “seeks to change existing situations into preferred ones” (p.111). To conceive of design thus, in terms of change towards preference, would seem to suggest a potential capability of design as being an ideal tool for responsible and active socially engaged citizenship: design capable of being a stimulus provoking society to move itself from undesirable existing states towards preferred potential ones. Design literature and history are crammed full of instances testifying to belief in the potential of this capability in what Matthew Soar (2002) has referred to as “periodical widespread crises of conscience”(p.34) within the field: uprisings of social concern which have spurred designers to action, exposing a wide-spread belief that design can be a foundationally socially responsible activity.

In a small scale interview study recently carried out among a range of practising visual communication designers in Scotland, the author observed this theme being regularly expressed among participants at all levels, albeit in a variety of forms. Statements emerging in discussions responding to the stimulus of what “good” design might be, range from the cautious, for example: “Now, you know, design isn't a saviour really of anything so it's not going to sort out social issues or anything like that, but it can help.” To more fundamental expressions tying design's very identity to an expectation of social impact:

*That's for me where design lives. Yes form and function, but [...] for me that's the bare minimum it should do. It really should be helping the people it's supposed to help. [...] Not: does it look great? Not: has it won awards? Is it actually improving the lives of the people it's serving. [...] And yeah if it's not doing that then I dunno what it is.*

What is particularly interesting in these designers' narratives however, is the constant presence of conflict, paradox and ambiguity in relation to this expressed underlying belief in the social role of design. This same participant who passionately expressed his belief that design must “help” people in order to be considered design at all, later made this statement:

*And when I say helping people I also mean just providing stuff that people want to buy, cause that's I suppose nowadays people buy stuff to aspire to a lifestyle ideal that they have in their head I suppose that's helping them as well in that.*

For this individual the ethical imperative to “help” people is fulfilled by “providing stuff that people want to buy”. However another interviewee “Frank”, when asked the question “What do you think the role of design is in society?” gave this response:

*In society? There's probably two parts to that, one of which is good and one is bad. The good one is obviously it should in theory make life easier for people. Not just graphic design, product design, everything. [...] The downside to our role in society is that we're obviously ultimately trying to sell shit to people that they don't actually need.*

What one designer sees as the “bad” side of design, another identifies as an ethical responsibility. Even when “good” and “bad” are recognised, it is often not a simple choice between the two. While Frank recognises the “bad”, he goes on to describe cases in which he has violated his personal morals, such as packaging children's food which he knew was “absolutely shocking” in such a way as to appear healthy, and talking of the most enjoyable “wildly creative” work being for cigarette companies even though he detests smoking and “the damage it does”.

These examples serve here only to illustrate something of the conflict present in our understandings of what socially responsible citizenship means for the practising visual communication designer. How are socially responsible designers to know what social responsibility actually is, and how do we find ways of justifying, coping with, and finding resolution in conflicting and compromised ethical situations? Sociologist Zygmunt Bauman (1993) articulates the nature of the conundrum well:

*The once unitary and indivisible 'right way' begins to split into 'economically sensible', 'aesthetically pleasing', 'morally proper'. Actions may be right in one sense, wrong in another. Which action ought to be measured by what criteria? And if a number of criteria apply, which is to be given priority?’ (Bauman, 1993. p.5)*

Of course this is not a quandary specific to design, but one

present in the ethical consideration of all human activity. Serious attempts to support the socially responsible citizenship of designers must wrestle with these issues at the levels of both general activity and that which is more specific to the nature of design.

Beginning with the general, Bauman (1993) in his work on postmodern ethics brings to our attention some concepts which are relevant to the issue at hand. The first of these is the “floating” of responsibility in a society which has invested a lot of effort throughout recent history in the radical division of labour. As all tasks in society become reliant on the involvement of a multitude of others for their undertaking and completion, it becomes virtually impossible for any individual to claim or be accused of sole ownership, authorship or responsibility for any action. In this environment, the actions of the individual are no longer accorded a difference-making significance, for either good or bad. Bauman describes how:

*the guilt is spread so thinly that even a most zealous and sincere self-scrutiny or repentance of any of the 'partial actors' will change little, if at all, in the final state of affairs. For many of us, quite naturally, this futility breeds belief in the 'vanity of human efforts' and thus seems to be good enough reason not to engage in self-scrutiny and account-settling at all. (1993. p.19)*

In order to survive the meaninglessness felt in relation to the apparent insignificance of our own individual actions, one coping strategy is simply not to think about it. Not-thinking frees us to act. As Anne-Marie Willis (2013) has noted, it would appear that socially minded designers have in recent history, tended (with the best of intentions) to focus on *how* to achieve “preferred” (Simon, 1996) states, often without stopping to critically consider *who* is doing the preferring, and to what ends. Expanding on this idea of outsourcing thinking, Bauman introduces a further coping strategy, that of the “role-performer”(Bauman, 1993. p.19). It is suggested that in each of the collection of fragmentary social situations which our lives are divided into, we assume a “role”, none of which we identify as being our truly unique and irreplaceable 'self'. This is a defence mechanism which allows us to avoid the meaninglessness of “the vanity of human efforts” while still being able to sidestep the responsibility in our own actions by disavowing those taken while



playing a “role”:

*As individuals we are irreplaceable. We are not, however irreplaceable as players of any of our many roles. [...] Nothing much would change, therefore, if I, this particular role-performer, opted out: another person would promptly fill the gap I left.*

*'Somebody will do it anyway' we console ourselves, and not without reason, when we find the task we have been asked to perform morally suspect or unpalatable (Bauman, 1993. p.19)*

This account resonates closely with German philosopher Peter Sloterdijk's (2001) description of our current *cynicism*. He describes how the essential feature of our modern cynicism is to allow us to continue working no matter what the conditions might be. What is worthwhile noting in Sloterdijk's account is his assertion that we are fully complicit in this, it does not happen to us, but we embrace it as a necessary foundation for our continued existence in this world:

*For cynics are not dumb, and every now and then they certainly see the nothingness to which everything leads. Their psychic (seelisch) apparatus has become elastic enough to incorporate as a survival factor a permanent doubt about their own activities. They know what they are doing, but they do it because, in the short run, the force of circumstances and the instinct for self-preservation are speaking the same language, and they are telling them that it has to be so. Others would do it anyway, perhaps worse. (2001, p.5)*

Sloterdijk (2001) defines the new cynicism as “enlightened false consciousness” which he admits, seems at first to be a paradoxical concept, yet this is what we encounter in day-to-day life:

*To act against better knowledge is today the global situation in the superstructure; it knows itself to be without illusions and yet to have been dragged down by the “power of things.” Thus what is regarded in logic as a paradox and in literature as a joke appears in reality as the actual state of affairs. (Sloterdijk, 2001, p.6)*

These general phenomena: cynical enlightened false consciousness, the floating of responsibility, and the separation of our-roles from our-selves, allow us to regularly, without unbearable pain, and as part of our habitual everyday lives, exist within a state of ethical conflict.

The author would now suggest a further concept in addition to these, a concept which has particular relevance specifically to the area of design: *an/aesth/ethics*. It is suggested that through experiencing the *appearance* and *sensation* of ethicality without the requirement of genuine ethical being, an *aestheticised* ethics effectively gives us permission to fail to act ethically. Put another way, we can provide ourselves with the aesthetic sensation of ethical being without the inconvenience of actually having to *be* ethical.

We give ourselves permission to act against our better judgement, by simulating either the sensation of the emotional rewards connected with upholding ethical standards, or the lack of negative emotional experience associated with ethical shortcomings. Effectively, we *anaesthetise* ourselves to ethical pain through the process of *aestheticising* ethics: an/aestheticisation. An an/aestheticised ethics, in the words of Slavoj Žižek “degrades and demoralises” (2010) the whole ethical concept it appears to support. The price paid for the sensation of ethics, is ethical being itself.

What has this issue of the an/aestheticisation of ethics got to do with design? The simple answer is that design is inescapably implicated in aestheticisation, being necessarily an explicitly aesthetic activity.

Evidently – most obviously here in the urban West, but increasingly globally – our experiences of life are becoming more and more aesthetically mantled and mediated. Clive Dilnot (2009) talks of the expansion of “the artificial” as the context of our lives leading to the unprecedented historical state in which artifice has finally eclipsed nature as the foundation of our lives and become “the horizon and medium of our existence” (p.184). In this progression design plays no mere supporting role, but that of lead actor. Dilnot defines design in this dynamic as “being precisely that which [...] mediates being in relationship to artifice” (Dilnot 2005, p.46).

Design so conceived and observed – due to its central role in creating, shaping and sustaining our perceptions of the world surrounding us – is heavily implicated in the development of the situation of ethical an/aestheticisation. At the very least the sheer ubiquity and pervasiveness of design in constituting our sensory and perceptual experience of our social environment denies it

the luxury of claiming non-involvement. Design's active and purposeful agency in aesthetically mediating our experience of environments, positively implicates it as playing an active role in the constructing and sustaining of this phenomenon.

Is design necessarily fated to create and sustain conditions of an/aestheticisation? This brings to mind accounts of total aestheticisation such as those of Guy Debord (1994) in *The Society of the Spectacle* and Jean Baudrillard (1994) in positing the Hyperreal Simulacra. Such accounts would give the impression of a largely pessimistic outlook for ethical aesthetics by inferring that, as it is the aesthetic which creates and sustains the an/aestheticised condition, aesthetics cannot now behave in any other way than to dig us deeper into this state. Are aesthetics, including those aesthetic elements inherent within design, therefore a lost ethical cause? German philosopher of aesthetics Wolfgang Iser (1997) offers a more hopeful perspective in his search for an "aesthet/hics"(p.60): that is, the possibility that there are ethics inherent within and emerging from aesthetics.

Iser makes the assertion that all understanding is in fact aesthetically based, drawing our attention to the philosophical trajectory from Kant's assertion of the fundamentally aesthetic foundation of knowledge in a priori intuition of space and time (Iser 1997, p.20), to Nietzsche's description of our conception of reality as a complex construction of delicate spiders' webs built on an unstable foundation of running water(p.21). The path is then traced on through a trail of major thinkers, some known for their questioning of the foundations of knowledge (Feyerabend, Rorty), and others whose names are perhaps less expected (Neurath, Quine, Popper etc.) but who each in their own way acknowledge the ultimately aesthetic foundation of truth, knowledge and reality leading to the consensus which Iser summarises, that: "Reality is not a fixed given quantity, independent of cognition, but the object of a construction" (p.23) and that this "epistemological aestheticization" (p.20) – which is to say the recognition that ultimately the foundations of all thought are in some way aesthetic – is in fact the legacy of modernity developed over the last two hundred years.

In the context of this acknowledgement of epistemological aestheticization, the discovery of the very foundations of ethics

within aesthetics is less surprising. Welsch identifies two fundamentally aesthetic ethical imperatives. The first is the *vital imperative* in which aesthetic sensibility serves the primary ethical goal of the preservation of life. This first foundational ethical imperative emerges with and through aesthetics as raw aesthetic perception and sensation (*aisthesis*) initially serve us to identify distinctions between those objects and situations beneficial or detrimental to our survival. Therefore Welsch classifies it the first *aesthet/hic* imperative.

The second *aesthet/hic* imperative which Welsch advances is the *elevatory* aesthetic imperative: that which requires us to rise above raw sensory *aisthesis* to a higher level of perception in which aesthetic sensibility serves not only the vital functions of survival but of judgement, reflection, communication and pleasure perceived autonomously from vital concerns and often prioritised and privileged over them. This is elevatory in two senses, firstly that such perceiving must take place in a state of reflection “raised above” the immediate pleasure/pain concerns of survival, but secondly and most importantly, because it is this ability to rise above vital concerns in which, Welsch suggests, is found the “anthropological difference” (1997, p.64): that which sets us apart from other living creatures giving us our foundational identity as *humans*. Drawing the argument right back to Aristotle's suggestion that what makes humans distinct from animals is their ability to recognise not just useful and harmful, but also the “higher predicates”(1997, p.64) – like better and worse, just and unjust, beautiful and ugly, harmonic and discordant: distinctions whose recognition requires abilities of reflection and communication – we can define ethical being as something inherently, essentially and radically human, thus rediscovering a primary root of ethics in a foundationally human *aesthetic* imperative.

What impact does this insight have on the question of an/aestheticisation? Building on this aesthetic foundation for ethics, Welsch argues that aesthetics actually contains within itself the capabilities to combat an/aestheticisation. If the aesthetic, which has been implicated in the anaesthetising of ethics is, at its very root, fundamentally ethical, then surely it also contains within itself potentials to equally promote sensation, perception and reflection on issues of ethics leading to a more

rather than less ethically sensitive society.

Welsch calls for the development of a “genuinely aestheticized culture”(1997, p.25) built not on empty structural morality but on radically ethical being. How could this be achieved? Welsch draws on the basic aesthetic law that in all sensitivity, there is exclusion. To pay attention to some-thing necessarily means shutting out certain others. Welsch suggests that aesthetic strategies are perfectly placed to encourage awareness of these exclusions. A shift in the gear of aesthetic production from embellishment, enhancement and experience, to a “blind-spot culture”(Welsch, 1997, p.25), a more reflective mode, which draws attention to that which we do not notice, would foreground the objects of our inattentions therefore creating an atmosphere of much greater sensitivity to differences, exclusions, oppressions and intolerances.

The pluralistic nature of the aesthetic in which difference is accepted and celebrated as the fundamental requirement for perception, makes the aesthetic perfectly suited to this task (Welsch, 1997, p.26). In illustration of this, Welsch gives the example of tolerance.

A person who has perfectly internalised the principles of tolerance would still be able to practice the most extreme injustices, and with the clearest of consciences, were he to lack the aesthetic sensibility to recognise the differences between himself and his fellow man, which are to be tolerated. The moral code of tolerance – the an/aestheticised surface – is subscribed to, but the truly ethical act of being tolerant of difference slips by unnoticed as the difference itself is not attended to. The ethical challenge in this case is to create an aesthetic intervention which draws attention to this blind-spot thus disrupting the an/aestheticisation.

This possibility offers hope that design is not fated to an/aestheticise but does in fact hold within itself the potential to realise its desires to be truly responsible, if only it would renegotiate the terms of its aesthet/hic nature.

How can such a blind-spot culture be encouraged? What could practical ethical aesthetic strategies to subvert an/aestheticisation and encourage genuine aestheticisation be for design, which for so long has been a principal contributor to an/aestheticisation? These questions pose difficult yet not

insurmountable challenges in the pursuit of an ethical design practice leading to social responsibility. Thinking deeply about design: what it is and what its capabilities are; how it constitutes our reality while also holding the keys to potentiality in constantly re-constituting this same, is the first and vital step. As Dilnot (2009) has written:

*design is the discovery of what the artificial can be for us. Since the artificial is also today the frame of our possibilities as human beings, to discover what the artificial can be for us is to discover what our possibility can be and hence (here its third dimension) it is also a discovery of what possibility can be. (p.84)*

We must find hope in the possibility that design, precisely due its aesthetic nature, has the potential to be used to return feeling to a society which finds itself constantly numbed to true ethical being.

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# TOWARDS A FUNCTIONAL CATEGORIZATION OF COLLABORATIVE SOCIAL INNOVATION NETWORKS

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## **ABSTRACT**

This research presents a new categorization of collaborative social innovation networks based on the functionality that these networks deliver. An analysis was made based on 500+ cases of various innovation networks that were selected from existing examples worldwide. This database has been used to identify organizational, methodological and functional properties of different collaboration initiatives, and to create a new clustering in seven functional categories: create, facilitate, stimulate, efficiate, educate, associate and corporate.

The research was initiated by plans to implement Creative Cooperative Blokhuispoort, a project that is part of the city of Leeuwarden recently endorsed plans to become the Cultural Capital of Europe in 2018. The aim of this paper is to support this initiative, and similar ones, by determining how various types of collaborative social innovation networks can be classified in a systematic manner. For this purpose, the formation and analysis of a case database will be described, which has helped to come up with a new classification in seven categories - including various subcategories. Each of these categories will be explained by a short description and practical examples.

## **KEYWORDS**

Social innovation. Innovation networks. Creative clusters. Categorization. Collaborative design

## **1 INTRODUCTION – THE RISE OF COLLABORATIVE INNOVATION NETWORKS**

The emergence of creative and collaborative networks is increasingly important for the realization of design-driven social innovation. Design-driven social innovation describes initiatives that aim at solving societal issues through identifying new bonds between existing elements, or creating design-based solutions from scratch that provide a social impact. This development is forcing creative industry to find new forms and methods of collaborative design such as local hubs, online challenge platforms or innovation incubators. The importance of collaborative innovation networks is increasing for social innovators and designers (Arranz & Fdez de Arroyabe, 2012). Collaborative networks are the important tools of implementing new ideas into local development strategies because their affectivity grows proportionally with the ability to discover, facilitate and sustain innovations within the society (Rutten & Boekema, 2007). However, it is not always clear what exactly is meant when issues like co-creation, crowd sourcing or innovation networks are being discussed. Apparently, various types of collaborative innovation initiatives may have very different goals and functionalities.

This research was initiated by initiatives to form Creative Cooperatives as part of the city of Leeuwarden recently endorsed plans to become the Cultural Capital of Europe in 2018. These collaborative initiative in the Northern part of Netherlands aim to stimulate the productivity of local creative entrepreneurs by linking them to each other and to various stakeholders from industry, government and societal organizations. The start of this Creative Cooperatives may be interpreted as a response to a socially threatened life-style, and an effort to define more communicative patterns of creation. The ambition is that in these cooperative communities, questions and answers are matched and with new working methods the cooperatives inspire the innovation challenges in the old economy with the creativity from the new economy (Stichting

Kulturele Haadstêd Leeuwarden-Ljouwert 2018, 2013).

However, how exactly these initiative should be functioning still needs to be determined, which formed the starting point to create an overview of different examples of innovation networks worldwide, in order to understand the dynamics behind these organizations. During this process, the functional variety of collected cases showed that there is a need for a clear classification of social innovation networks. This classification may in time help to support the effectiveness of future initiatives in this field.

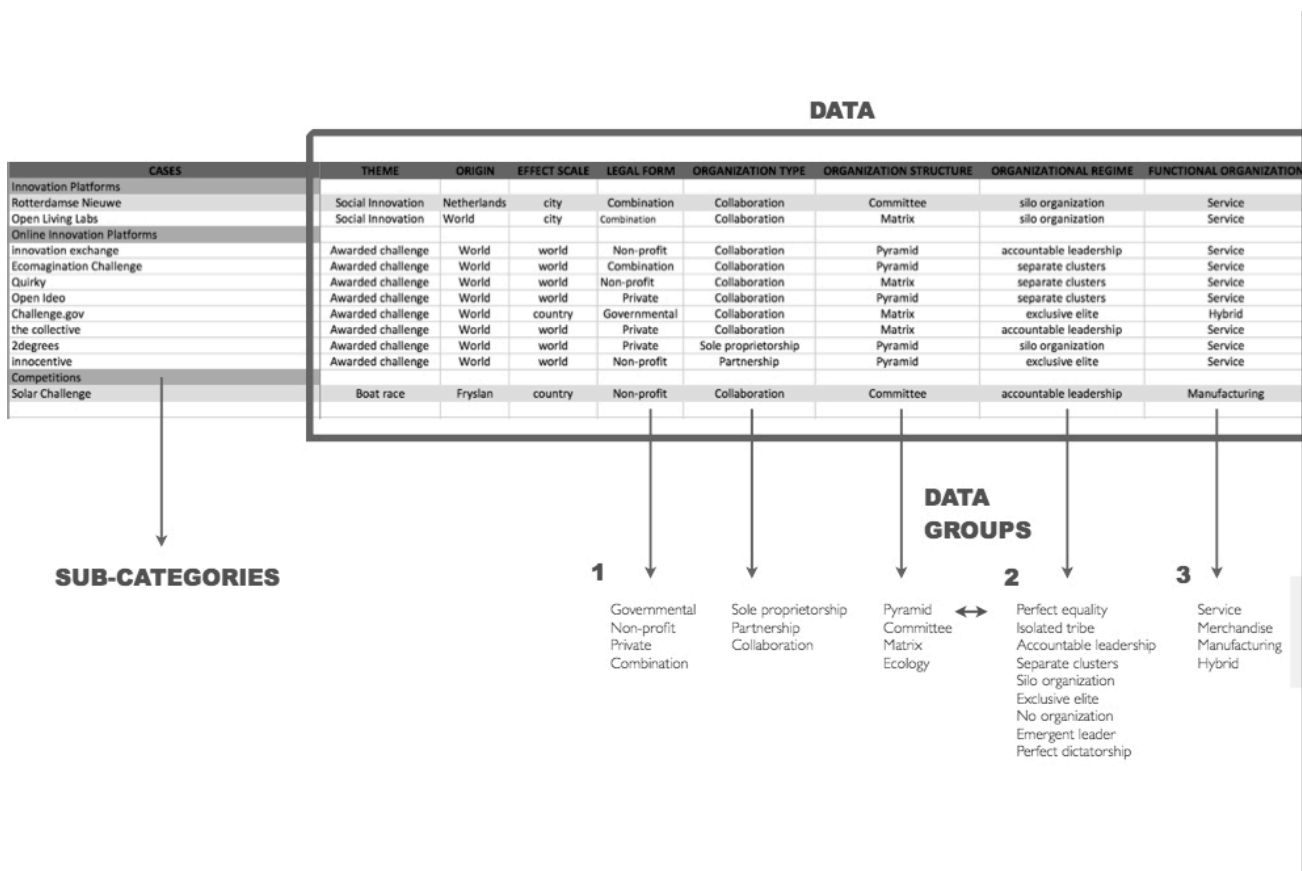


Figure 1 A screenshot from the first version of the database

## 2 BRIEF DESCRIPTION OF EXISTING CATEGORIZATION METHODS

Currently, there are various emerging typologies that can be identified as (social) innovation networks. These typologies have different properties and this diversity brings along a need for a classification strategy that enables comparison between different network types and links them through a parametric system of relations. There have been various attempts of categorizing innovation in general. This section briefly explores existing studies that have done in the field of classifying innovation based on the literature study done by Miller & Miller, who explain the existing categorization in a comprehensive way. (2010)

### . Eight categories:

Johnson & Jones (1957): *reformulated / new parts /  
rem merchandising / new improvements/ new products / new user /  
new markets / new customers*

### . Five categories:

Freeman (1994): *systematic / major / minor / incremental /  
unrecorded*

### . Tetra categorization:

Henderson & Clark (1990): *incremental / modular / architectural /  
radical*

Abernathy & Clark (1985): *niche creation / architectural / regular /  
revolutionary*

Moriarty & Kosnik (1990): *incremental/evolutionary  
market/evolutionary technical/radical*

Chandy & Tellis (2000): *incremental / market breakthrough /  
technological breakthrough / radical*

Tidd (1988): *incremental / architectural / fusion / breakthrough*

### . Triadic categorization:

Kleinschmidt & Cooper (1991): *low innovativeness / moderate  
innovativeness / high innovativeness*

Wheelwright & Clark (1992): *incremental / new generation /  
radically new*

### . Dichotomous categorization:

Anderson & Tushman (1990) / Robertson (1967): *discontinuous /  
continuous*

Grossman (1970): *instrumental / ultimate*

Normann (1971): *variations / reorientations*

Madique & Zirger (1984): *true / adoption*

Yoon & Lilien (1985): *original / reformulated*

Rothwell & Gardiner (1988): *innovations / reinnovations*

Meyers & Tucker (1989): *radical / routine*

Utterback (1996): *evolutionary / revolutionary*

Christensen (1997): *sustaining / disruptive*

Schmidt & Calantone (1998) / Song & Montoya-Weiss (1998):  
*really new / incremental*

Rice et al. (1998): *breakthrough / incremental*

Balachandra & Friar (1997) / Freeman (1994) / Atuahene-Gima  
(1995) / Kessler & Chakrabarti (1999) / Lee & Na (1994) /

Schumpeter (1934) / Stoubaugh (1988): *radical / incremental*

Although these categorization approaches are very valuable in itself, they are not sufficient for the purpose of this paper, which is mainly focused on finding a systematic clustering that is based on the functional properties of networks that can be seen as enablers and triggers of social innovation, especially from a bottom-up perspective. Therefore, an effort was made to come up with a new categorization of collaborative innovation networks.

### 3 AN INVENTORY OF COLLABORATIVE INNOVATION NETWORKS

During this research, a large amount of design-driven social innovation networks were collected to understand organizational properties and methodological aspects of remarkable projects worldwide. A series of selected projects were investigated from multiple directions in order to detect a pattern that could be used for creating guidelines or typologies for future initiatives. The analysis on this dataset, which includes 500+ cases, resulted with a new categorization method of social innovation networks.

The inventory was formed through an analysis of currently active creative networks and a series of interviews with international experts in the field of collaborative innovation. The case collection began by identifying relevant cases between regional

examples in the North of the Netherlands. In the next phase, the scale of the examples expanded by covering the whole country, Europe and the world respectively. In this way, the list can accommodate as many different organization types as possible, while having a manageable size at the same time.

After selecting the 500 cases to study on, detailed information was collected for each case that can be summarized in five fundamental groups practical, organizational, structural properties, used methods and tools design involvement. However, some of this information was only meaningful when there is a comparison between all cases. In order to carry out a systematic study on the cases, an effort was made to group the cases based on their functional similarities. This grouping started by identifying common points of different initiatives and evolved into its current state of seven categories of social innovation networks. This categorization does not only mean clustering various groups of data but also objectively analyzing and evaluating datasets, in order to gain a holistic vision about the complete system. The research aims to reach a categorization that describes the role of each attempt within a sustainable chain based on several parameters. These empirically defined seven categories appeared to cover the complete database. The next phase of the research concentrated on finding ways to use the database in a beneficial way and testing the various categories on a local scale by running pilot projects with Blokhuispoort Creative Cooperatives.

## **4 ANALYSIS OF THE CASES**

During the random collection of the cases in the database through interviews, the problem was explained in a structural way to the interviewees. In the guidance of carefully picked examples that were collected from governmental reports and contemporary literature, they were asked to name relevant practices they are familiar with. All participants appeared to have a clear about which cases would be relevant for the purpose of this study. This database will be published online later on.

While working with a complex dataset with 500 cases, it is

important to prioritize the information. In this case nearly half of the data defines quantitative or informal information such as budget, year of foundation or contact person, which is not expected to have influence on future projects, thus not considered as a priority. On the other hand, the research also covers information over organizational structure, used tools and design involvement, translated into numeric data.

In this database, in addition to origin related grouping as Dutch, European and worldwide projects, 'design involvement' was also considered as a parameter. British Design Council's design cycle with four stages (discover, define, develop, deliver) was used as a reference at this point. This is more or less similar to the cycle described by Joore (2010), in which the four stages are named (reflection, analysis, synthesis, experience). By placing the cases in this cycle, it was possible to understand to which design stage a certain category would fit. This placement enabled a function-based categorization (in terms of a first hypothetical model) that directly relates the role of the designer to the project. Therefore the design involvement can be considered as a parameter.

While looking for relevant parameters, at first, a preliminary functional description was defined for each case that clarified the purpose of the network in a few words. Next, the clustering was worked out to a complimentary system with seven categories and their sub-categories.

## 5 A PRELIMINARY CATEGORIZATION OF COLLABORATIVE INNOVATION NETWORKS

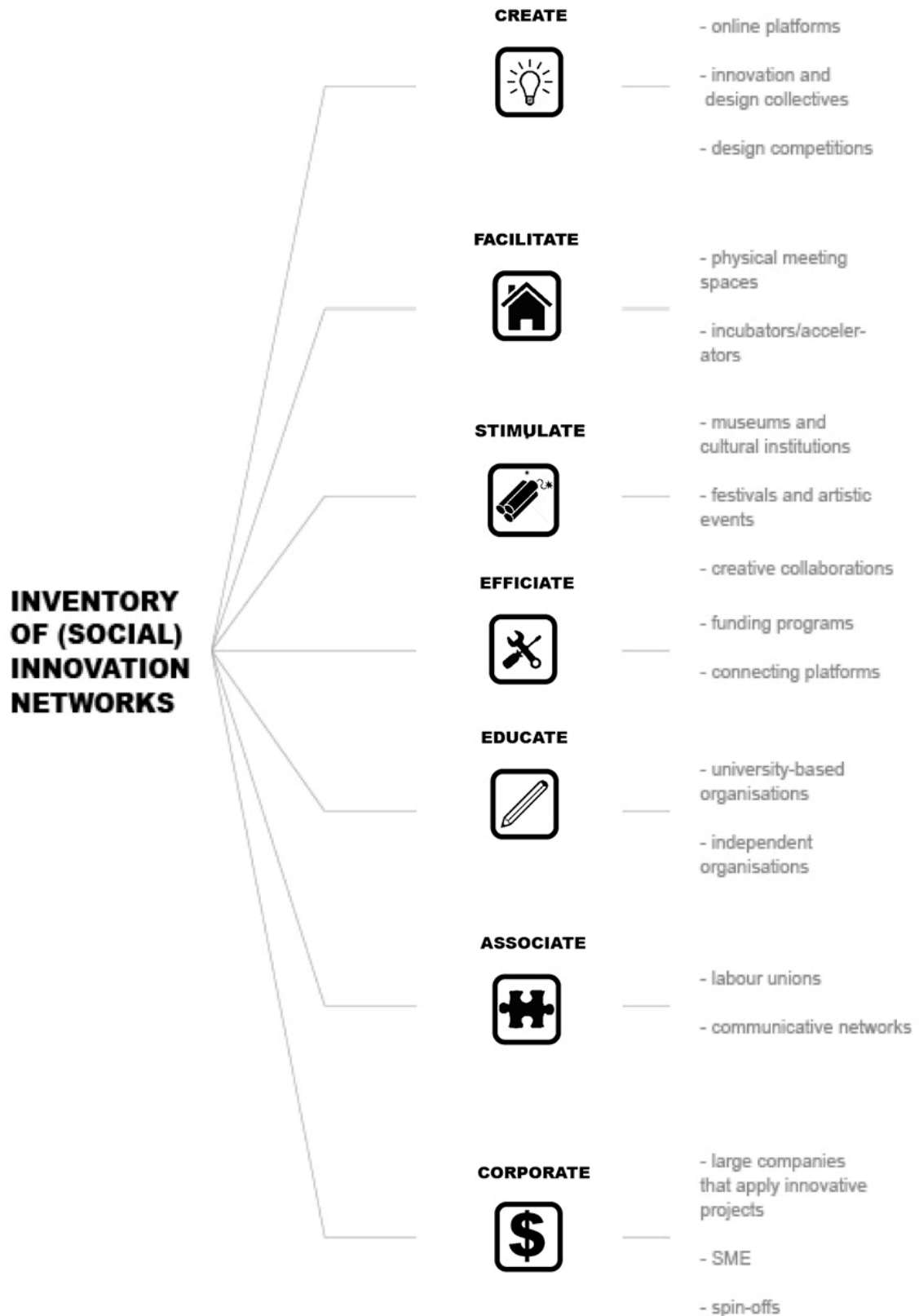
- 1- **Create:** Organizations that gather innovative ideas directly through co-creation or crowdsourcing.
- 2- **Facilitate:** Spaces or organization that provide a platform for creative activities.
- 3- **Stimulate:** Inspiring organizations or activities that lead individuals towards innovation.

- 4- **Efficiate**: Networks that help innovators to reach correct tools they need and work more effectively.
- 5- **Educate**: Organization that prepare a research based ground for innovation and its integration.
- 6- **Associate**: Networking platforms that bring people together and enable communication between disciplines.
- 7- **Corporate**: Entrepreneurial initiatives that innovate socially beneficial products or services.



**Figure 2** Seven categories of social innovation networks





**Figure 3** Categories and sub-categories

## **CATEGORY 1: CREATE**

The concept of crowdsourcing was no stranger to design world. It is especially used in forms of design competitions in disciplines like architecture, product design, fashion design and graphical design. However, gathering ideas from a large group of intenders became a part of other fields that are not directly connected to design. Especially innovative firms, who are in constant need of new solutions, started using this method effectively. A large part of this competitive idea generation happens through online platforms that accommodate 'challenges' but there are also offline groups who are aiming at the same target. Some of these offline versions are also non-competitive. Therefore the first category of this inventory covers organizations that are directly aimed at finding solutions through technology, design or planning and have an impact on society by using creativity as a tool. Online or offline, competitive or not, all forms receive a question from external parties and create a solution. Although the result is achieved through following similar paths in all cases, there are two linked differences between these groups that helped three preliminary sub-categories to emerge.

### **- online platforms**

Challenge.gov: This online platform aims to enable partnership between government and public to find solutions to mostly technical challenges. Regardless of the topic and technical detail level, government related organizations regularly post awarded challenges on this website. Some of the challenges are open to everyone while the others specify the group of competitors, for instance by inviting undergrad students only. The registered users are expected to submit their solutions for challenges they pick. A jury that is defined by the organization itself selects the best entry and this awarded solution is expected to be applied afterwards. [www.challenge.gov](http://www.challenge.gov)

### **- innovation and design collectives**

R'damse Nieuwe: This Rotterdam based group aims to bring active citizens together to make their city more attractive. The group meets regularly to work on pre-defined projects but there is an online platform as well. In this hybrid system, the group has a list of pre-defined themes and they receive projects to work on

from external parties. As a result, the community delivers concrete solutions or advisory reports that are socially/physically/environmentally beneficial for the city of Rotterdam. [www.rdamsenieuwe.nl](http://www.rdamsenieuwe.nl)

#### **- design competitions**

Solar Challenge: Solar Challenge is a Netherlands based race for solar-powered boats. The race stimulates technically oriented students to work with the theme of solar energy and at the same time contribute in the naval culture of the area. Participating groups are expected to design, build and sail the boat along a traditional route that passes through eleven Dutch cities. Innovative solutions that came out of this annual competition has given the organization an international reputation. Similar competitions for environmentally conscious technical innovations are organized in other design disciplines as well, such as the Solar Decathlon of architecture students.

[www.dongenergysolarchallenge.nl](http://www.dongenergysolarchallenge.nl)

### **CATEGORY 2: FACILITATE**

Since innovation has overflowed from large companies, there is a rising need for physical spaces that bring initiators together and facilitate the idea generation process. In Europe, especially in the Netherlands old industrial buildings are being transformed into collaborative spaces that serve to creative industry. Some of these spaces only provide an affordable shelter function with adequate technical facilities while there are also others providing professional help for problems that might come up on the way to success. In this case, the facility functions as an incubator for new ideas and business start-ups as well. The category 'facilitate' identifies these generic spaces or their initiators that contribute in innovation through the service they offer. It is possible to define two sub-categories here that are explained below with an example from the database:

#### **- physical meeting spaces**

Seats2Meet: Functioning in six different countries, Seats2Meet facilitates a dynamic environment for creative individuals to work together, meet each other and to share knowledge. It is an environment where people can use their expertise and enthusiasm to add value to a greater good. The concept focuses

on connecting the users virtually and physically at the same time. There are meeting spaces for groups of different sizes, as well as individual working stations. With a small membership fee, it is possible to access these hubs and use every offered service for free. [www.seats2meet.com](http://www.seats2meet.com)

#### **- incubators/accelerators**

Yes! Delft: This Delft based organization helps young entrepreneurs with concrete ideas to realize their innovative ideas in many ways. Apart from offering physical space to work in, the organization also provides networking opportunities, trainings and inspiration. Yes! Delft works together with Delft University of Technology but there are various organization worldwide that are not connected to academia, such as Technolab of Istanbul, a private foundation that helps innovators of the future to grow their own firms from scratch.

[www.yesdelft.nl](http://www.yesdelft.nl)

### **CATEGORY 3: STIMULATE**

Feeding innovation is an important because it is not possible to sustain the rest of the cycle unless the society is sourced with inspiration. Art and culture are two important elements that enable this inspiration and indirectly trigger the innovation process. This stimulation can happen in form of fairs or events that s specially designed for this purpose or serve as a hidden effect of a music festival. Regardless of the difference in directness, 'stimulate' category focuses on organizations that lead people towards innovation by inspiring them one way or another. It is possible to say that a region without a strong cultural background is not expected to develop a sustainable innovation environment that is beneficial for the society.

The database does not cover every museum or music festival on earth, but only focuses on entities that contribute in the cultural development of their target group by implementing new ideas or processing old ideas in an innovative way. The stimulate category can be seen as a combination of three sub-categories:

#### **- museums and cultural institutions**

Chicago Museum of Science and Industry: Unlike a regular technical museum that only exhibits the development of local science, Chicago's science museum lets the visitor be a part of

the innovation experience. The museum owns a fab lab where especially kids can play with new materials and fabrication technologies under guidance of experts. [www.msichicago.org](http://www.msichicago.org)

#### **- festivals and artistic events**

In to the great wide open: ITGWO is a small-scale festival that takes place on a Dutch island and combines stage performances with art and design. The festival aims at being environmentally harmless to the island; therefore every year the organization implements new energy solutions such as smart grids between stages or re-using grey water. For this reason, the organization works together with universities and laboratories.

[www.intothegreatwideopen.nl](http://www.intothegreatwideopen.nl)

#### **- creative collaborations**

TILLT: Swedish initiative that brings creative minds of artists together with various field of business. The aim of such collaboration is to cross-fertilize the competences of the two worlds: the world of the arts and the world of the organization. On one side TILLT focuses on processes of human growth and artistic competence as a tool to stimulate creativity, innovation, human development, and more. On the other side, TILLT works for increasing the field of work for artists where new art can be born and new artistic methods can be developed. [www.tillt.se](http://www.tillt.se)

### **CATEGORY 4: EFFICIATE**

The cycle of design-driven innovation mostly struggles on the second half of the process, which covers development, and delivery of project results. Efficiate category concentrates on initiatives that are offering services for this issue. One of trending business types that are similar to incubation facilities are matchmaking organizations that help artists and designers to reach potential customers. The organization is not directly involved in the process but makes the design cycle more effective through establishing correct connections. Most of the time this happens through an online platform. Another type that is subject to this category is organizations that help the innovators financially. This category has two main sub-categories for now:

#### **- funding programs**

Stimuleringsfonds voor Creatieve Industrie: This Dutch funding program serves designers and artists who need financial support to realise their project. Each year the organization announces a total budget and priority topics. Participants are expected to submit their ideas together with a budget plan to be able to receive grants. The aim of the organization is to expand the reputation of Dutch design internationally and support young creative on their independent projects. [www.stimuleringsfonds.nl](http://www.stimuleringsfonds.nl)

#### **- connecting platforms**

House of Design: This is a Groningen based platform that helps designers and artists to find customers for their products or pieces. This matchmaking platform aims to connect correct customer with correct designer, therefore it is possible to say that it functions as an agency of artists and designers. [www.houseofdesign.nl](http://www.houseofdesign.nl)

### **CATEGORY 5: EDUCATE**

Innovation requires research and a continuously updated vision of the status quo. Educational institutes are the main source of this knowledge. A respected amount of innovation comes directly out of universities and this creates an unbreakable bond between academia and innovation worldwide. This category covers every research-based initiative that studies on innovation that has various forms including universities, academies, research institutes, and laboratories within this group. Next to these academic organizations there are also independent units such as labs or research centers who are not directly connected to an educational institute. The difference between origins divides this category into two main sub-categories:

#### **- university-based organisations**

VEIL Melbourne: Victorian Eco Innovation Lab at University of Melbourne aims to identify and promote social, technical and organizational innovations that could be a part of a sustainable future. Next to performing academic research on innovation, the group also develops concepts in collaboration with others and organizes events that promotes the results of their studies to the whole world. <http://www.ecoinnovationlab.com>

### **- independent organisations**

UNESCO Institute for Water Education: is a research center that has multiple locations worldwide. Although the main purpose of the institute is education, next to MSc and PhD programs that are offered, networking opportunities for the water sector, advisory services for ministries and other governmental organizations are also included in the spectrum.

[www.unesco-ihe.org](http://www.unesco-ihe.org)

### **CATEGORY 6: ASSOCIATE**

There are also groups belonging to innovation world who are not actively coming together to design or develop but they form a network of expertise together. Labor groups, international communities, federations can be major examples of this category. These organizations prepare a ground for communication by regularly organizing events where members share experiences or educate each other. Innovation cannot make a difference unless it communicates correctly with relevant disciplines and public. Associate category also enables the flow of knowledge between necessary people and fields. Although most of these type of organization bring individuals of same professional title together, there are also examples who are concerned with a certain field of interest which makes it possible to see this category in two sub-categories:

#### **- labour unions**

EFAP: European Forum for Architectural Policies organises events to share knowledge and experiences with professionals who work on creating a sustainable future for cities by adapting architectural policies. The forum functions as a platform that leads to new collaborations, inspirations and innovation in its field. <http://www.efap2013.it>

#### **- communicative networks**

DESIS: Design for Social Innovation towards Sustainability is a network of design labs, schools, universities who are actively involved in promoting a sustainable change. Initiated by United Nations, DESIS also brings its partners together with various non-academic stakeholders for providing a ground for co-creation. <http://www.desis-network.org>

## **CATEGORY 7: CORPORATE**

Corporate category involves all kinds of businesses that form a respectful part of innovation environment worldwide. The only selection criterion to this category is the purpose of innovation that is defined by the firm. Pure product innovation or technological innovation that is targeted towards financial profit is not taken into account unless it has a certain societal impact or has achieved through socially beneficial ideas. In this category, next to fresh entrepreneurs and large companies that have turned their faces towards innovation, spin-offs that originate from traditionally structured companies are taken into account as well. This category will look at businesses in three different scales:

### **- large companies that apply innovative projects**

Lays / Smaakmakers (NL): Lays potato chips organized a crowdsourcing campaign where customers were asked to develop new tastes for Lays crisps. The finalists were made available for the market and at the end most popular product won the first prize. This campaign was applied in several countries.

<http://www.lays.nl/smaakmakers/>

### **- SME**

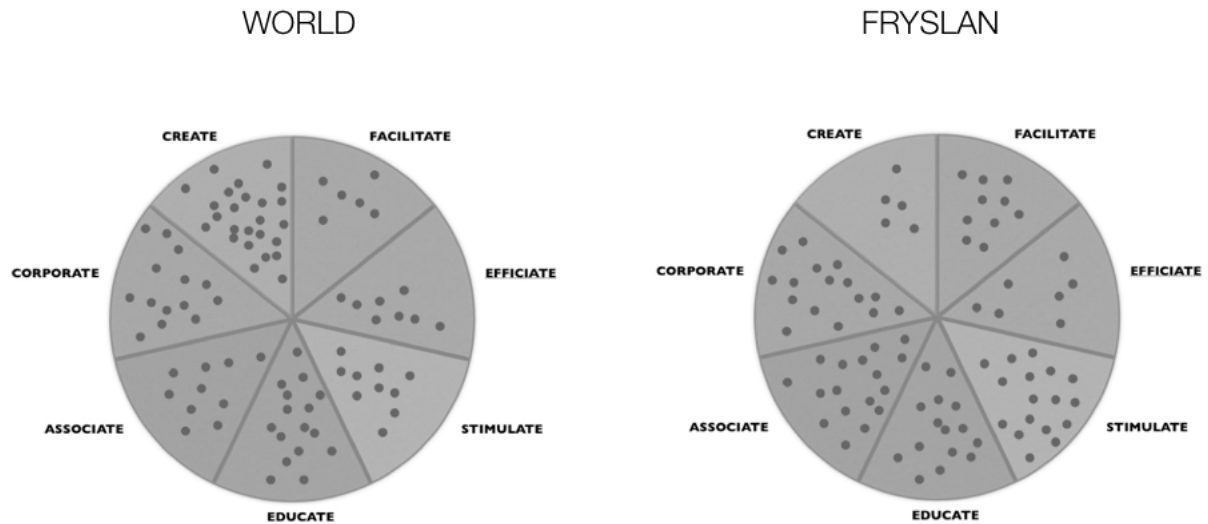
Plakkies: Originating from the graduation project of TU Delft student, Plakkies are basic plastic flip-flops made of car tires coming from South Africa where car tires are dumped massively and illegally. The project is socially and environmentally responsible at the same time. Colorful patterns on the soles are created by orphans of South African villagers and all profit that is earned from these products go to these orphans as well.

<http://www.tudelft.nl/en/current/dossiers/archive/plakkies/>

### **- spin-offs**

Shapeways: This 3D printing company is originally a Phillips spin-off, initiated by a group of engineers and designers who were willing to explore this new technology further. The company applies the latest technologies in 3D printing but at the same they have developed an interesting online shop where designers can put up their own designers for sale. This interesting business model is beneficial for young designers and their connection with this new technology. <http://www.shapeways.com>





**Figure 4** Distribution of cases per category

## 6 CONCLUSION

In recent years, creative industry became less individualistic with the emergence of collaborative initiatives and social innovation networks. Design-driven innovation is now strongly dependent on the functioning of these creative networks within the system. However, there appear to be a large amount of different types of networks, each with their own unique functionality. Therefore, it is not possible to define a single structure for these collaborative social networks. In this paper, a first effort was presented that aims at clustering various collaborative social innovation networks in a systematic manner. The proposed grouping of 7 categories – and their various sub-categories - appears to be a useful first attempt to support the discussion in this field. Future research will have to determine if and how this typology may be used to advance practical initiatives. The authors will among others work with local Dutch initiatives like the Blokhuispoort

Creative Cooperation, to find out if and how the findings of this research can be applied to increase the effectiveness of these promising initiatives.

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# CROWDSOURCING AND CROWDFUNDING IN DESIGN: When the user is the stakeholder

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## ABSTRACT

The 'Crowd' refers to large and dispersed individuals who act as stakeholders with small donations for projects. Crowdfunding is becoming a new occurrence for financing entrepreneurial projects while incentivizing contribution by offering non-pecuniary rewards in exchange for financial support, usually in the form of product preorders. Crowdsourcing refers to the mobilization of members of the general public to voluntarily perform tasks such as problem solving, evaluation, or creative thinking.

This paper investigates the convergence of crowdsourcing with collaborative and co-design processes between designers and crowds. The research focuses on how self-selected user-stakeholders are enabled to participate in the development of projects by leveraging both their finances and collective intelligence. Here crowdfunding is considered in the context of the contemporary post-industrial phase, where the centralized organization of mass-production is leaving space to new multi-level and networked forms of management. In the post-industrial society, the creative labor is key for the generation of value and innovation in the global competition, but also to democratize production and generate knowledge transfer for collective intelligence extended to the entire society.

The paper discusses the current state of participatory practice in crowdfunding via examples of design projects that have integrated participatory elements into their fundraising campaigns. The results provide a basis of current standards in participatory crowdfunding and point towards future work in understanding, evaluating, and implementing systems that facilitate crowd collaboration.

## KEYWORDS

Crowdfunding, crowdsourcing. Co-design. Post-industrial design. Collective intelligence

## INTRODUCTION

This paper aims to investigate crowd participation in designcentered crowdfunding projects that were successfully funded through Kickstarter, a reward-based crowdfunding platform. This phenomenon intersects with established scholarly literature on the subjects of co-design, crowdsourcing, crowdfunding, collective intelligence, post-industrial design, and participatory cultures. The following review aims to identify and summarize relevant findings from the aforementioned literature in order to inform and contextualize this research.

Crowdfunding is emerging as a way to finance projects through platforms such as Indiegogo or Kickstarter (Kuppuswamy & Bayus, 2013; Mollick, 2013a). After the traditional sources of funding such as venture capital or bank loans, the 'crowd' can become an alternative and the designers are quickly learning to develop project proposals through such platforms (Agrawal et al., 2011; Giudici et al., 2012; Kim & Hann, 2013; Kim & Viswanathan, 2013; Mollick, 2013a).

Crowdfunding platforms like Kickstarter support projects by offering non-pecuniary rewards in exchange for financial support, usually in the form of product preorders (Belleflamme et al., 2013a; Kuppuswamy & Bayus, 2013). It happens that project supporters are paying special attention in the fruition of the concept, and often in the future become users of the proposed product or service, so developing a connection between financing and consumption (Belleflamme et al., 2013a). Crowdfunding platforms have the power to enhance the consumption experience and increase the product's quality (Belleflamme et al., 2013a).

## POST-INDUSTRIAL DESIGN & PARTICIPATORY CULTURES

According to Sanders and Stappers (2008), the development of participatory and co-design approaches has taken decades partially due to opposition from professionals and academics, which the authors assert is due to a widespread belief that most individuals lack creative or innovative potential. While this attitude has been shifting towards "egalitarian idea sharing" due

to the internet, the authors claim that participatory thinking is still many years away from having a significant impact on mainstream, professional design and development (Sanders & Stappers, 2008).

Conversely, peer-to-peer information sharing has surged with the increase in internet usage, reinforcing a non-hierarchical global community that actively nurtures collective knowledge and solves diffused problems (Kleemann et al., 2008). According to Manzini (2013), people can and should be seen as assets whose expertise and collaborative potential can be harnessed to contribute solutions to complex problems via co-design and co-production, as evidenced through the evolving role of designers as facilitators in the post-industrial era.

Post-industrialism emerged in the 1970's as the beginning of a shift from top-down mass production of material goods to the multi-level production and management of immaterial resources, such as networking, coordination, and the production or transfer of knowledge (Imbesi, 2011).

This shift was tied to a dramatic reduction in manufacturing costs (Imbesi, 2011), as well as the transformative effects of globalization, open markets, technological advances, and cultural factors (Imbesi, 2012). Importantly, post-industrialism does not purport to replace or nullify industry, and works in tandem with industrial methods of production, albeit towards different goals (Imbesi, 2011).

In the post-industrial context, innovation and creativity are of critical importance to success in the competitive global marketplace, and creative labor is able to generate significant value in the place of material goods (Imbesi, 2011). Contrary to the mass-production of rigid and singular responses to complex problems, creativity can be leveraged to facilitate the ideation and design of localized solutions to specific situations (Imbesi, 2012).

This has shifted the role of the design profession, away from simply creating or styling products and towards formulating strategic services, systems, and processes through which value can be produced and evaluated in terms of human experiences rather than market success (Imbesi, 2011). To that end,

designers no longer need to be rigidly focused on the final aesthetic results of production, instead flexibly working in an interdisciplinary manner to affect the entire process of conceiving and developing designed solutions to complex human problems (Imbesi, 2011 & 2012).

The dispersion of the means of production through technological advances and the internet has democratized design and production processes on a massive scale, as evidenced by open source and peer-to-peer models (Imbesi, 2011). In this context, designers can act to guide and direct the creative resources of society through networking, participatory practices, and design tools (Imbesi, 2008 & 2011). These developments relate to the notion of design for social innovation and participatory cultures, in which groups of people collaborate to design localized solutions via open sharing of both material and immaterial resources.

#### 2.5.2 Co-Creation & Co-Production

Surowiecki suggests that “[crowds] are all different, but they have in common the ability to act collectively to make decisions and solve problems—even if the people in the groups aren’t always aware that’s what they’re doing” (2005). Lévy discusses this potential with almost utopian optimism, suggesting that the internet “could become the most perfectly integrated medium within a community for problem analysis, group discussion, the development of an awareness of complex processes, collective decision-making, and evaluation” (1997, p. 59). He further clarifies that the goal of such communities would be “to create a fully transparent market for ideas, arguments, projects, initiatives, expertise, and resources, one in which pertinent connections are established as quickly and cheaply as possible” (Lévy 1997, p. 75). This relates to the ideas of empowerment participation and ‘co-creation’, which focus on collective ideation to explore and address open-ended questions, rather than collaboration to simply realize a predetermined solution (Sanders & Simons, 2009; Tufte & Mefalopulos, 2009). Such practices have greater impact on the design process the earlier they are implemented, and are most effective when informing the entirety of a design solution (Imbesi, 2011; Sanders & Simons, 2009). Within these contexts, designers and generative design tools can and should operate as facilitators, applying established design principles and

specialized knowledge to enable stakeholders to effectively co-create and co-produce solutions to complex problems (Imbesi, 2011 & 2012; Sanders & Stappers, 2008).

## **COLLECTIVE INTELLIGENCE AND THE WISDOM OF THE CROWDS**

Collective intelligence refers “to the cognitive capacities of a society, a community or a collection of individuals” (Lévy, 2012). Individuals in the modern world are constantly creating, sharing, and interacting with tremendous volumes of knowledge. This process is characterized by the speed, quantity, and availability of the information involved, and is enabled by information communication technology and tools for filtering this mass of new knowledge (Lévy, 1997).

The average result of a large number of individual assessments tends to have a high degree of accuracy; “[t]he idea of the wisdom of the crowds is not that a group will always give you the right answer but that on average it will consistently come up with a better answer than any individual could provide” (Surowiecki, 2005). While collective or collaborative intelligence does not guarantee perfect results, it has shown through democracy, the scientific community, and free markets to improve upon methods that depend on individual or hierarchical decision-makers, in terms of satisfying the greatest number of people (Lévy, 2012). An average group that meets the criteria for collective intelligence will consistently outperform an average expert (Surowiecki, 2005). While we can observe that a few outstanding individuals are capable of outperforming large and diverse groups, such individuals cannot be easily identified or verified (Surowiecki, 2005). Individual experts have a narrow focus and tend to be overconfident in their own predictions, though no evidence suggests that anything beyond a minimum level of expertise contributes to an expert’s ability to forecast (Surowiecki, 2005). This relates to the previously discussed notion of user innovation in crowdsourcing, where users tended to outperform design professionals in terms of creativity (Poetz & Schreier, 2012), as well as to the idea that crowds’ investment behaviour is comparable to professional investors (Burtch et al.,

2012; Kim & Viswanathan, 2013; Kuppaswamy & Bayus, 2013).

Surowiecki (2005) posits that groups are able to be collectively intelligent through four key conditions: diversity of opinions, individual independence, decentralization, and a method of aggregating the group's output. Lévy (2012) similarly asserts that collective intelligence depends on individuals' creativity and critical thinking skills, in order to avoid standardization and mob mentalities. Fostering diversity is most important for small groups, as large groups are less reliant on individual group members for information (Surowiecki, 2005). Groups that aim to be collectively intelligent should not explicitly seek consensus, "which encourages tepid, lowest-common-denominator solutions which offend no one rather than exciting everyone" (Surowiecki, 2005). When groups are too reliant on a few sources of information or are unduly influenced by vocal individuals such as experts, the group begins to display herding behaviour. Surowiecki refers to this as 'social proof', stating that "[people] assume that if lots of people are doing or believe something, there must be a good reason why" (2005). This is readily apparent in the case of information cascades, in which the effect of prior decisions, made in sequence, influence present and future decisions (Surowiecki, 2005). Fortunately, the more important a decision is to an individual, the less likely such a cascade will have a significant impact on that individual's decision, lessening the effect it has on the group as a whole (Surowiecki, 2005).

## **PARTICIPATORY DESIGN PRACTICE**

Co-design refers broadly to "the creativity of designers and people not trained in design working together in the design development process", and is based in the tradition of participatory design (Sanders & Stappers, 2008). Participatory design practice has been growing and evolving over the past four decades, and while it originally centered on the development of information technology, it has since seeped into other fields of design and development (Sanders, Brandt, & Binder, 2010; Sanders & Stappers, 2008). There has been a similarly gradual shift towards 'participatory development', which utilizes varying



degrees of input from users or 'primary stakeholders' to inform the goals and implementation of development projects (Tufte & Mefalopulos, 2009).

Participatory design practice often revolves around the use of in-person workshops, pre-established toolkits, and direct oversight by designers in order to enable and guide participants in contributing to design processes (Sanders et al., 2010; Sanders & Simons, 2009). Ideally, this relationship between participants and designers is ongoing rather than a singular event, taking the form of iterative meetings that rely on a diversity of perspectives and opinions in order to provide useful output (Sanders et al., 2010). Early research on user participation combined the design expertise of professional designers with the localized expertise of users, enabling users to assist in defining the problem and suggesting potential avenues of design and development (Bødker, 1996). While this broadly resembles the aims and approach of user crowdsourcing, participatory design methods generally involve a much smaller number of participants and rely on in-person workshops and toolkits rather than digital communication technologies (Sanders et al., 2010).

In defining participatory development and participatory communication, Tufte and Mefalopulos (2009) classify four major levels of participatory action, distinguished by the degree of creative control afforded to primary stakeholders:

*Passive participation:* Primary stakeholders are informed about but not actively involved in the design and development process, which is handled by external experts.

*Participation by consultation:* Primary stakeholders provide feedback to specific queries from external experts in order to inform particular aspects of the design and development process, though such feedback does not necessarily have to be implemented into final outcomes

*Participation by collaboration:* Primary stakeholders are involved in exploratory discussion of solutions to problems that have been pre-established by external experts. This requires the active mobilization and involvement of primary stakeholders' creative

capacities.

*Empowerment participation:* Primary stakeholders are able to actively engage in problem definition, initiate action, and contribute towards collective and creative decision-making. This method integrates external experts as facilitators and equal partners in the process.

The authors go on to state that while participation “does not always mean everybody is engaged in every step of the way”, more comprehensive participatory methods lead to progressively better project outcomes (Tufte & Mefalopulos, 2009). They assert that empowerment participation is the most optimal method of stakeholder integration, and that in order to be “genuinely participatory and truly effective, communication should occur among all parties affected, ensuring that all have similar opportunities to influence the outcome of the initiative” (Tufte & Mefalopulos, 2009).

## THE DIGITAL CROWDS

Crowdsourcing, crowdfunding, and collective intelligence have been functionally enabled by the development and rapid dispersion of information communication technologies and the internet (Agrawal et al., 2011; Brabham, 2012; Kleemann et al., 2008). The notion of ‘Web 2.0’ is characterized by an increasingly mobilized and animated user base, and has been facilitated by huge rises in user count and user-generated content (Kleemann et al., 2008; Sanders & Simons, 2009). Social media enables connection with and mobilization of the public, attracting and engaging large and predominantly young audiences (Saxton & Wang, 2013). Additionally, it allows crowdsourcing and crowdfunding initiatives to effectively reach communities outside their geographic area, dramatically increasing their potential number of contributors (Agrawal et al., 2011; Kim & Hann, 2013; Mollick, 2013a & 2013b; Saxton & Wang, 2013). According to Mortati and Villari (2012), the crowdfunding platform Kickstarter is a successful community platform because it provides easy access to willing participants, encourages interdependence between founders and backers, is

adaptable with no clear community hierarchy, and creates resiliency by fostering trust, networks, and norms. Distributed design and production are creating an environment of diffused collaboration amongst huge numbers of individuals, fostering the development of crowds that are representative of their collective intelligence (Mortati & Villari, 2012).

'Connectivity' between people, contexts, and artifacts is critical to the success and resiliency of these communities, and is achieved via common objectives, collaboration, design participation, and collective creativity (Mortati & Villari, 2012). In contrast with crowdsourcing initiatives, these communities are not managed or directed towards specific tasks by a centralized entity, and can operate on a peer-to-peer basis as is the case in open source development or open encyclopedias (Brabham, 2012). It is worth noting that while these communities are often seen as grassroots initiatives, participatory communication can be implemented at local, national, or international levels, regardless of the diversity or number of people involved (Tufte & Mefalopulos, 2009).

## CASE STUDIES

This section looks at case studies of select crowd-funded projects in order to broadly identify the potential of combining crowdsourcing and crowd-funding. The purpose is to highlight a broad range of levels and types of crowd involvement, and as such these projects each display unique participatory elements. In particular, three successfully crowd-funded Kickstarter projects from the platform's Design, Technology, and Video Game categories, are considered as examples of crowdsourcing and crowd participation in a design context. Each of these campaigns followed a reward-based model, in which backers provided financial support in exchange for specific rewards, as determined by the size of their individual monetary contribution. In addition to these standard reward dynamics, each of these cases includes multiple forms of structured and solicited collaboration between project founders and backers.

## **PEBBLE SMARTWATCH**

The Pebble is a watch that was developed by Pebble Technologies and crowdfunded through Kickstarter ("Pebble," 2014). The Pebble's campaign ran from April 11 to May 18 2012 with a combined total of \$10,266,845 USD towards its \$100,000 goal, and is currently the most funded Design project of all time on the platform ("Kickstarter.com," 2014). Financing the project reward-based, incentivizing contributions of \$115 or more with preorders of the Pebble hardware. Two distinct types of non-pecuniary participation were encouraged and utilized by the Pebble's designers. Firstly, while the designers planned to produce the watch in three different colour options, they stated that all backers who had contributed \$125 or more would be able to vote on a fourth colour to be released alongside the others. Secondly, they publicly released a software development kit (SDK), and offered backers the option to purchase early access prototypes of the hardware.

The distribution of voting rights allowed backers who had contributed at least \$125 to select one of twelve colours decided by the Pebble's design team. These colour selections were partially crowdsourced through public suggestions via the website Pinterest, which the developers used to aggregate a list of popular color choices ("Pebble: Update #15," 2012). Voting then took place after the funding period was complete, from July 6 to July 21, and was carried out online via a specific website utilizing backers' personal information for verification ("Pebble: Update #16," 2012). The poll's result was announced on July 24 ("Pebble: Update #17," 2012), and after continued input from backers, a fifth colour was announced in September ("Pebble: Update #19," 2012), this time without a vote.

The option to purchase early access to Pebble prototypes presented a different and more exclusive opportunity for crowd participation. The prototype required a larger donation of \$235USD and was limited to 100 backers, and both it and the open SDK were aimed very specifically to developers rather than casual consumers ( "Pebble" 2014). The purpose of distributing developmental materials in this fashion was to crowdsource the development of software to work with Pebble's hardware

(“Pebble: Update #4,” 2012), enabling and encouraging independent developers to start working prior to the product’s release. Prior to the end of the funding period, developers of applications such as RunKeeper (“Pebble: Update #8,” 2012) and Twine (“Pebble: Update #11,” 2012) were already announcing that they would work to support the Pebble, indicating that developers were interested in working with the SDK right away. Pebble’s developers have since followed this by announcing the Pebble appstore (“Pebble: Update #49,” 2014), a platform that will allow independent developers to share and sell software applications to Pebble users.

## **OCULUS RIFT**

The Oculus Rift is a virtual reality headset developed by Oculus, and financed both independently and through Kickstarter (“Oculus Rift,” 2014). The crowdfunding campaign, which ran from August 1 to September 1 2013, offered Rift hardware prototypes and SDKs in exchange for contributions of at least \$275, and raised \$2,437,429 USD towards its goal of \$250,000. The initial campaign arranged to distribute a total of 7,388 prototypes and began shipping in March 2013 (“Oculus Rift: Update #28,” 2013).

The main purpose of the Rift campaign was to crowdsource the testing of hardware and the creation or adaptation of software to interface with the device (Oculus Rift,” 2014). Each prototype and developer kit gave backers access to centralized technical support and an official Oculus development forum, the purpose of which was to aggregate information related to the project. By providing and testing these development tools well in advance of the Rift’s consumer release, Oculus could gather feedback from enthusiasts and professional developers alike in order to optimize the hardware for both consumer and developer purposes.

While developers could work on new software to suit the Rift’s innovative hardware, Oculus’ crowdfunding campaign emphasized the opportunities afforded for adapting existing software applications (“Oculus Rift,” 2014). Given the tremendous volume of applications that could be compatible with

the Rift, the developers chose to use crowdfunding to externalize both the labor and financial costs of software development and testing. In doing so, Oculus had no direct control over the content or quality of supported software, similar to open-source development, but could focus their resources on integrating developer feedback into the Rift's design. As of January 2014, the consumer version of the Rift remains in development and Oculus provides detailed updates ("Oculus Rift: Updates," 2014), technical and SDK support, and an online community to foster ongoing developer input on the project.

### ***MIGHTY NO. 9***

*Mighty No. 9* is a video game project designed by Comcept USA and funded via Kickstarter from August 31 to October 1 2013, raising \$3,845,170 USD towards its goal of \$900,000 ("Mighty No. 9," 2014). The project was reward-based, and backers who pledged at least \$20 reserved a digital preorder of the game, with larger individual contributions granting access to additional products or exclusive content within the game. The Kickstarter campaign included a number of ways in which backers could contribute towards the design of the final game. Firstly, backers could pledge large financial contributions in exchange for limited opportunities to collaborate with the game's developers on portions of its content. In addition to these limited and financially exclusive rewards, the developers asked the community to decide between nine internally generated designs for a supporting character to be included in the final release of the game.

The project offered 4 distinct and limited collaborative opportunities to backers, all of which were in addition to standard preorders of the game ("Mighty No. 9," 2014). The first option, which required an individual contribution of at least \$500 and was limited to 50 slots, allowed backers to collaborate with Comcept's designers "to come up with a challenge for our own internal in-game achievement system." Comcept stated that "[t]he team will work with you over email to come up with a challenge based on your idea (within reason!) to implement into the final game." The second option, which required a contribution of at least \$1,000 and was limited to 50 slots, would allow the

backer to record “a word, phrase or sound effect . . . to be used in the ending theme as the credits roll,” and Comcept specified that they would contact such backers “via email with detailed instructions on what to record and send back to us.” The third option, which required a contribution of at least \$2,500 and was limited to 50 slots, allowed backers to send Comcept a photo of themselves, which would be “pixelized into a 2D representation by the game’s artists,” and placed “somewhere it will fit naturally into the game.” The fourth option, which required a contribution of at least \$5,000 and was limited to 5 slots, allowed backers to collaborate with Comcept’s design team via video conferences to design an enemy character within the game. During the first meeting, the backer would propose an idea or design to the game’s design team, who would then refine that idea over an unspecified period of time. After this stage there would be a second meeting, during which the design team would show the backer their work, and the backer could respond by suggesting feedback.

In addition to exclusive collaborative opportunities, *Mighty No. 9*’s design team created and assembled concept sketches for the community to vote on (“Mighty No. 9: Update #24,” 2013). The initial round of voting took place between September 29 and October 4, and allowed members of the public to vote for one of 9 designs. This initial vote received input from approximately 82,000 members of the community (“Mighty No. 9: Update #29,” 2013). A secondary round of exclusive backer-only voting ran from December 19 to December 29 (“Mighty No. 9: Update #36,” 2013), from which backer could choose between the top 3 results from the public poll (“Mighty No. 9: Update #35,” 2013). Following the large public response to the poll, Comcept has since announced that they plan to crowdsource design work from the community to design an additional supporting character for the game, though as of January 2014 the developers have not officially begun this process (“Mighty No. 9,” 2014).

## DISCUSSION

This section is analysing the participatory mechanisms as well as potential problems with combining crowdsourcing and reward-

based crowdfunding. Through these case studies, project founders explicitly engage the crowd through one of several distinct mechanisms for feedback. The level and type of contribution afforded by the project, as well as the types of participants who are able to engage in the process, distinguish these mechanisms from one another.

The most basic type of participation is a broad appraisal of public or backer opinion, generally via open solicitation for project feedback from product consumers. This refers specifically to feedback gathered during the design and development phase of a project, and is a form of crowdsourcing utilized commonly outside of the crowdfunding context (Kleemann & Voß, 2008). The beta component of the Oculus Rift project is a clear example of this, as Oculus has created and maintained a website and forum for their backers to discuss and provide feedback on the project, with the stated goal of improving the hardware for the product's eventual release. In this case, project founders maintain full control over the design and development of their project, as backers lack any sort of equity or voting power in the company.

A slightly more active method of crowd participation is the organization of public or exclusive voting on one or more elements of a project. These votes allow backers to decide from a set of options determined by the project founder, as in the case of the Pebble Smartwatch and *Mighty No. 9*'s supporting character. In these cases, the developers determined the range of possible outcomes, granting voters a limited capacity to decide on aesthetic qualities of the products while keeping the vast majority of design decisions within the founders' control. However, while *Mighty No. 9*'s design team internally decided on the options that would be available to voters, the Pebble's developers utilized crowdsourcing in order to inform their voting options.

Projects such as the Pebble Smartwatch and Oculus Rift provide evidence of a more collaborative and crowdsourced approach to crowdfunding by focusing on the distribution of developer tools. By creating and distributing SDKs through Kickstarter, these



projects sought to crowdsource the development of software applications for their hardware, simultaneously testing the hardware and providing feedback for the projects' founders. Pebble's appstore furthers this collaborative relationship by combining the notions of profit sharing and crowdsourcing, incentivizing contribution to the mutual benefit of all involved (Kleemann & Voß, 2008).

The most robust forms of collaboration, as represented by *Mighty No. 9*'s collaborative rewards, also appear to be the most exclusive. Of the project's 67,226 backers, only 81 backers pledged towards its collaborative rewards, accounting for 0.12% of the total backer community. However, these 81 backers contributed an average of 19.43 times as much as the average backer, accounting for at least 2.34% of the project's total funds. As of January 2014, the results of these collaborative opportunities have not yet been released to the public, and it is yet unclear how such opportunities will impact the development process or project outcomes.

## **CENTRALIZATION VS DECENTRALIZATION IN CROWDFUNDING**

Projects in crowdfunding platforms such as Kickstarter are run by founders, which are individuals, teams, or companies responsible for delivering the project. This method of organization centralizes decision-making power in projects (Mollick, 2013b), as opposed to the decentralized approach of open-source projects (Belleflamme et al., 2013a). In their respective works on collective intelligence, Lévy (1997, 2012) and Surowiecki (2005) put significant emphasis on the necessity of decentralization, diversity and independence of individuals within a theoretically intelligent crowd. Without diversity, critical thought is ostensibly stymied by crowd members' reliance upon one another for information (Surowiecki, 2005), which would limit the usefulness of a crowd's creative input.

Importantly, reward-based crowdfunding projects involve very specific proposals, and are less conducive to major changes than conventionally financed projects (Belleflamme et al., 2013a). In

addition to the content of project proposals, crowdfunding backers make purchasing decisions based on trust in founders (Belleflamme et al., 2013a; Kim & Viswanathan, 2013; Lehner, 2012; Mollick, 2013a) and the ability to withdraw funds from a project at any point (Burtch et al., 2012), meaning that changes to the content or direction of a project's proposal could be problematic to financing. While crowdsourcing ideas and feedback may be of value to founders, we hypothesize that alterations to a project's originally stated aims could be harmful to backers' trust in founders, and would potentially put project funding at risk. As such, though it conflicts with the ideal conditions proposed by literature on collective intelligence, we assert that there is practical value in centralized leadership and direction for crowdfunding projects when funding is a primary goal.

## **CONCLUSIONS AND FUTURE STUDY**

This section is meant to conclude with a review of the findings and recommendations for further, more comprehensive research on the topic.

This paper attempts to address a significant gap in design and crowdfunding literature through a limited sample of case studies, all of which used Kickstarter as a platform and are ongoing as of the time of writing. It describes a variety of participatory mechanisms for crowdsourcing in a crowdfunding context and attempts to loosely classify such mechanisms. It is yet unclear if participatory mechanisms or the emergence of crowds of user-stakeholders provide any concrete benefits to the outcomes of reward-based crowdfunding projects, whether for founders, collaborators, or end users.

Reward-based crowdfunding is increasingly gaining validity as an avenue for financing design projects, and scholarly attention is needed to determine the disparities between conventional stakeholders and user-stakeholders. Further research should aim to quantify and classify existing methods of crowd mobilization in design projects, with emphasis on collaborative outcomes, the emerging relationship and between crowds and

project founders, and the role of crowdfunding platforms in facilitating collaboration.

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## AUTHENTIC ADVERTISING IN HONG KONG: A Case Study of a Co-creation approach

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### ABSTRACT

Brands communicate with consumers through advertising. Yet, most people perceive advertising as deceitful. Actually advertisements are rarely untrue. There is a need for advertising to resolve the contradictive relationship so as to uphold confidence in advertising's integrity.

Issues addressed in this study include consumer's unfavorable perception towards advertising; preserving integrity of advertising; relationship between brands and consumers; and new brand communication approach. Two approaches were adopted, consumer experience approach and brand expression approach. *I'm Amazing!* was examined in terms of both consumer's perception and brand expression. A list of meanings served as dimensions during investigation. Participants of the campaign were interviewed to understand the decoding procedure and possible gaps in between encoding and decoding.

This case demonstrated that authenticity could be a way changing the core value of a brand which helps shaping the brand. Authenticity was conveyed through a co-creation approach, which highlights user-generated content that participants who are provided with context showcase their passion about the brand spirit and what they generate is part of communication which completes the brand story. Being authentic is not only bringing about positive social or environmental change, but also retaining a brand's relationship with consumers.

### KEYWORDS

Advertising. Authenticity. Co-creation. Hong Kong

## **AUTHENTIC ADVERTISING IN HONG KONG – A Case Study of a Co-creation approach**

### **INTRODUCTION**

Brands communicate with consumers through advertising. Yet, most people perceive advertising as deceitful. That is because distinction between untruth and humorous hyperbole is blurred and hard to define, but actually advertisements are rarely untrue. There is a need for advertising to resolve the contradictory relationship with authenticity so as to uphold confidence in advertising's integrity.

Advertising needs to create content to get people attracted rather than avoided. Today's people are looking for active engagement in brand stories. They are not only interested in trendy or aesthetically pleasing advertisements but also demanding to know the brand story. More importantly, being more informed, empowered and ethically minded than ever, people are looking for a genuine connection with a brand through which the truth about the brand is told. It is a time when a brand can no longer simply state that it is good; advertising has to demonstrate that the brand is actively being good. To be good, brands are expected to address social issues. In other words, they have to be social conscious. Advertising should think about how they can build a world of shared prosperity and shared responsibility.

Authenticity is anticipated to be a way to address consumer's need. The definition of Authenticity from Oxford Dictionary is 'The quality of being genuine and true.' Furthermore, Cappannelli & Cappannelli (2004: 1) pointed out that 'Authentic from the Latin, *authenticus*, and the Greek, *authentikos*, means "worthy of acceptance, authoritative, trustworthy, not imaginary, false or imitation, conforming to an original"'

According to Gilmore and Pine (2007: 49-50) there are five levels of authenticity: Natural, Original, Exceptional, Referential and the highest one is Influential, which is to transform an individual into a better self and to better society. Gilmore and Pine (*Ibid.*) also suggested 15 stimuli for appealing to Influential Authenticity: 1) Accomplishment, 2) Beauty, 3) Community, 4) Creation, 5) Duty,

6) Enlightenment, 7) Freedom, 8) Harmony, 9) Justice, 10) Oneness, 11) Redemption, 12) Security, 13) Truth, 14) Validation, 15) Wonder.

To achieve Authenticity, co-creation is the approach used in *I'm Amazing!*. Himpe (2008: 270) pointed out that there are two schools of thoughts when it comes to involving people: one is about brands give over some control to people and the other is that because talent is scarce so more people gathered will do a better job. But it is often that, the truth lies somewhere between these two. In the campaign, authenticity was conveyed through a co-creation approach, which highlights user-generated content that participants who are provided with context showcase their passion about the brand spirit and what they generate is part of communication and completes the brand story. Being authentic is not only capable of bringing about positive social or environmental change, but also retaining a brand's reputation and relationship with consumers.

## METHODOLOGY

Case Study is the chosen research method in this paper in order to analyse this campaign to explore more about influential authentic advertising. Samples are picked out from International Awards (Cannes, D&AD, CLIO, One Show etc.), Regional Awards (Spikes Asia, ADFEST) and Local Awards (Hong Kong 4As Kam Fan Awards and China 4A Golden Awards). *I'm Amazing!*, which is chosen finally, won the Grand Prix of the 2012 HK4As Kam Fan Awards, is an outdoor-advertising-driven integrated advertising campaign for McDonald's Hong Kong. The campaign won the following awards:

*60<sup>th</sup> Cannes Lions International Festival of Creativity:*

- Media Lions - Product & Service - Retail and E-Commerce, including Restaurants

*ADFEST 2013 :*

- Silver Award in Design Lotus – Point of Sale
- Bronze Award in Direct Lotus – Field Marketing
- Bronze Award in Promo Lotus – Event & Field Marketing

- Bronze Award in Promo Lotus – Best Use of Merchandising/In-store Marketing Incl. Promotional Packaging.

*Spikes Asia 13:*

- Bronze Spikes – Outdoor

*2012 Kam Fan Awards:*

- Grand Kam Fan
- Gold (Field Marketing)
- Gold – Use of Branded Content, Experiential, Sponsorship and Events
- Gold – Best use of Ambient
- Gold - Best Integrated Campaign
- Silver – Environmental and Space Design

Participants of *I'm Amazing!* and their parents were interviewed to examine whether the campaign, in terms of consumers' perception, can fulfill the above-mentioned 15 stimuli. Further comments from the public were also gathered through observation so as to generate feedback from different perspectives.

## RESULTS AND DISCUSSION

Kids in Hong Kong are some of the brightest in the world but it comes at a steep price. 20% of kids in Hong Kong spend over 5 hours a day in private tutoring and 37.1% do not enjoy play time as their creativity is restricted by parents according to the researches from The Evangelical Lutheran Church of Hong Kong. Heather du Quesnay, who is the Former Director of the National College for School Leadership in the UK, also pointed out that 'the Hong Kong education system is strangling children's creativity.' (McDonald's I'm Amazing Round Up Video 2012) Therefore, when facing the challenge of reconnecting with families, the McDonald's decided to launch a campaign, which celebrates kids' creativity. They raised a simple question – If you could build the McDonald's of your dreams, what would it be?

Kids drew their design directly onto the campaign website. Special white walls allow kids to draw their ideas in store. Thousands of designs were submitted from all over Hong Kong.



The McDonald's collected over 10,000 entries within 3 weeks. Then the public voted for their favorite designs and there were 600,000 likes votes for the designs. The top 20 designs were then selected and professional designers would help to turn kids' imaginations to real. The drawings were turned into chairs, tables, lamps, cushions and many other decorations for the restaurant. The McDonald's took one of the highest traffic restaurants and transformed it into the most amazing little McDonald's restaurant, which was entirely designed by kids and for kids.

Not only kids and families, the campaign also involved people from many sectors. Through various platforms, people created this amazing one-of-a-kind McDonald's restaurant together. Some schools turned this as a class assignment, created a greater opportunities for children to join this campaign. Educators, doctors, professional designers and celebrities gave advices and shared the importance of nurturing creativity through the campaign website, newspaper, the kick-off event etc. These all successfully raised the awareness of parents on kids' creativity development. In the result, parents were willing to let their kids to involve in this campaign. And just in case the parents were not proud enough, the McDonald's auctioned off every item at designer prize and raised almost \$500,000 for Ronald McDonald House Charity. The goal of 'kids helping kids' was completed. The campaign was activated across a broad media, including: TVC, print, outdoor, internet banners, campaign website, in-store POP, Facebook and PR events. As one of the results of the 2012 campaign, they got \$5.2 million in earned media.

Best of all, which was regarded as their biggest success, they were able to show parents that their kids are amazing just the way they are. In addition, the 2013 campaign has just finished and launched a second wave. Some parent bloggers' shared feedbacks in their blogs showed that the event was satisfying and some of them joined both the 2012 and 2013 events. This was an event that kids truly enjoyed and parents felt happy and proud as well.

Feedback gathered from interviews and comments in blogs about this event were also very positive. Sandra Ng, a Hong Kong award-winning actress, said that this event was very

meaningful. She also suggested that within all activities that could nurture children's creativity, drawing was one of the best Parent-Child activities. (*Sandra Ng's view on I'm Amazing, Part 2*, 2012) Another award-winning actress, Anita Yuen, thought that learning from playing was as important as learning from tutoring classes. (*Anita Yuen's view on I'm Amazing*, 2012) Denis Weil, the McDonald's Corporate Vice President, thought that this project had a right name. He thought it's truly amazing. He said, 'the children will have a great time and use it to explore their biggest dreams and wildest ideas.' (*What are the benefits of joining I'm Amazing campaign?*, 2012) Kwan Yuk Lun, the Creative Tutor of *I'm Amazing!*, suggested that, 'children can take more time to observe the world around them and think out of box. ' (*Kwan Yuk Lun's view on I'm Amazing*, 2012) Dr. Lau, the Head Principle of Po Leung Kuk Choi Kai Yau School, believed that reading was a good way of cultivating children's creativity and drawing was another way while they could express themselves by it. (*How to expand kids' imagination?*, 2012) She was very happy that her students got a chance to involve in this event and hoped all classes could join. (*Why should we join "I'm Amazing"?*, 2012) Dr. David Lee Siu Ming, recommended that more kids gather together to play, or to create something would boost their creativity. (*How to provide a relaxing growing environment to children?*, 2012) Monica Tsang, a product designer, suggested that parents could cultivate kids' creativity by creating crafts together with them. (*Monica Tsang's view on I'm Amazing*, 2012)

Chan Man Chun, a ten-year-old boy, who is the creator of the *Space UFO*, said that this event raised his self-confidence. And while looking at other children's work, also raised his own creativity. (*Headline Daily*, 2012) *McDonald's-go-round's* creator, Chan Cheuk Kiu's mother said, 'My daughter loves drawing. This event gave her so much encourage that this will be a positive influence in her creative development. We are both very happy to see her design becomes usable furniture, especially when the outcome is faithful to the original work.' (*Ibid.*)

Bloggers who attended the *I'm Amazing!* blogger event also had positive feedbacks on both 2012 and 2013 event. There were comments such as 'this event is playful', 'our children enjoy it, they are truly into it', 'we have a happy day in it', 'those design

should be mass produced and used in every store' etc.

In the 2013 event, Hong Kong television actor, Roger Kwok, also shared his own nurturing skills. Besides, this event recalled his memory that he was given a pack of color pencils and paper to draw when visiting McDonald's when he was a child and that was really happy.

## CONCLUSION

With a list of meanings, the stimuli suggested by Gilmore and Pine, served as dimensions of examination, the following mapping is a summary of consumers' feedback about *I'm Amazing!*.

<i>Stimuli</i>	<i>Definition</i>	<i>Feedback</i>
1) Accomplishment	Achieving goals and making something of oneself; a sense of satisfaction that can result from productivity, focus, talent or status	<ul style="list-style-type: none"> <li>• Managed to reconnect with families.</li> <li>• Showed parents that nurturing creativities is as important as extra-curriculum classes or private tutoring.</li> <li>• Created a platform to improve parent-child relationship.</li> <li>• Created the first McDonald's store in the world designed entirely by kids, for kids.</li> <li>• Sold all items designed by kids and raised almost \$500,000 for Ronald McDonald House Charities, achieving the goal of "kids helping kids".</li> </ul>
3) Community	A sense of unity with other around us and a general connection with other human beings	<ul style="list-style-type: none"> <li>• Kids joined this campaign by submitting their design.</li> <li>• The public decided which of the designs would be brought to life by voting online.</li> <li>• Parents brought kids to the McDonald's Amazing Restaurant to enjoy leisure time.</li> <li>• Designers contributed in converting kids' design into real objects.</li> <li>• Educators, designers, doctors and celebrities gave advices on nurturing creativities through the campaign websites and events.</li> </ul>

		<ul style="list-style-type: none"> <li>• Some of the celebrities' children also participated in designing the McDonald's Amazing Restaurant.</li> </ul>
4) Creation	The sense of having produced something new and original, and in so doing to have made a lasting contribution	<ul style="list-style-type: none"> <li>• Kids created the restaurant and all the furniture.</li> </ul>
5) Duty	The willing application of oneself to a responsibility	<ul style="list-style-type: none"> <li>• Kids either drew their design directly into the campaign website, paper, or on the special white wall in stores. Some schools even made it as class assignment. There were 10,000 entries within 3 weeks.</li> <li>• Public decided which of the designs would be brought to life by voting online. There were close to 600, 000 votes for the designs.</li> </ul>
6) Enlightenment	Clear understanding through logic or inspiration	<ul style="list-style-type: none"> <li>• Showed parents the power of their kids' imagination.</li> <li>• Showed kids that their imagination could be achieved.</li> </ul>
7) Freedom	The sense of living without unwanted constraints	<ul style="list-style-type: none"> <li>• Kids expressed their imagination freely through this campaign.</li> </ul>
8) Harmony	The balanced and pleasing relationship of parts to a whole, whether in nature, society, or an individual	<ul style="list-style-type: none"> <li>• Kids enjoyed the activities and parents were proud of their kids too.</li> <li>• Created a platform for designers, educators, doctors and celebrities to share their experience on nurturing children's creativities.</li> <li>• The money raised from auction would be used to help kids of Ronald McDonald House Charities.</li> </ul>
10) Oneness	A sense of unity with everything around us	<ul style="list-style-type: none"> <li>• The collective power of kids in the community to create the McDonald's Amazing Restaurant.</li> </ul>
11) Redemption	Atonement or deliverance from past failure or decline	<ul style="list-style-type: none"> <li>• Kids were allowed to have time for their imagination, and proved to the mass that kids' imagination could be amazing.</li> </ul>
13) Truth	A commitment to honesty and	<ul style="list-style-type: none"> <li>• Allowed kids' to imagine, drew their ideas without over</li> </ul>

	integrity	interfered. Original designs were not altered in the process of bringing kids' imagination into reality.
14) Validation	The recognition of oneself as a valued individual worthy of respect	<ul style="list-style-type: none"> <li>• Auctioned out kids' designed items at designer price and raised almost \$500,000 for Ronald McDonald House Charities for helping kids.</li> </ul>
15) Wonder	Awe in the presence of a creation beyond one's understanding	<ul style="list-style-type: none"> <li>• This was the first McDonald's in the world which is designed entirely by kids and for kids.</li> </ul>

12 out of the 15 stimuli are fulfilled. It is not unreasonable to consider *I'm Amazing!* an influential authentic advertising campaign. The campaign had identified the community problem we are facing – tiger moms and far too many private tutoring for kids, and it had bound people from different sectors together to create this amazing first McDonald's restaurant, which was entirely designed by kids and for kids. Every person played an important part in the campaign and none of them should be missing in order to create this great success. But the best of all is: the McDonald's had successfully raised people's awareness on creativity development in kids and once again kids' imagination was valued.

Through this study of a successful case in Hong Kong, it was found that authenticity could be a way changing the core value of a brand which helps shaping the brand. The campaign showed a good way for brands to be authentic, corresponded to the idea that outdoor advertising could appear in a form that does not only do the talk but also the walk. It was to turn a space into a place where a brand can demonstrate who it is in reality and consumers can interact in person.

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## WHEN DESIGN IS NOT A SCIENCE

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### ABSTRACT

In many emergent new fields of design, creative practices open up a domain of new knowledge and understanding about us and about the world that is understood through the making of new or improved artifacts. This paper speculates on issues of 'research' and 'new knowledge' in the context of artistic design practices framed within postgraduate research degrees. A dilemma arises for artists and designers as researchers when they struggle between the need to protect the integrity of their individual practices and the need to fulfill the academic requirement for a robust and convincing theoretical text. This can result in a struggle between intuitive, inventive autonomy and institutional/academic authority for those artists who believe that designing and crafting work in itself embodies a form of legitimate knowledge accessible through the artifacts. The ideas discussed here have come out of an ongoing review of postgraduate student examination submissions with reference to an earlier study of the studio research methods of postgraduate art and design students. That study investigated students' understanding of active documentation as a research method within their creative practice and sought to identify the forms and processes that constitute that activity. The study results and subsequent review of thesis documents reveal some of the ways in which new researchers in art and design begin to understand and ultimately take control of their working methods. It appears that this control may lead to greater confidence in the design process and in the construction of meaning, which in turn strengthens the argument for the primacy of the creative work in the research process. The challenge for those of us in art and design education is to find appropriate forms of academic legitimacy, which enhance material thinking and design literacies.

### KEYWORDS

Postgraduate research. Art and design. New knowledge. Material thinking

## INTRODUCTION

The dominant version of academic legitimacy in postgraduate art and design research remains problematic for many researchers who wish to place material artifacts, crafted objects, artworks or performances or in a superior position in order to validate material thinking, poetic knowledge and design understanding. Design and creative practice opens up a domain of unique intelligence and understanding about us and about the world that is realized through the making and interpretation of practical and poetic artifacts. This paper speculates on issues of 'research' and 'new knowledge' in the context of art and design practice in postgraduate research degrees and argues against an artificial demarcation/separation between academic legitimacy and design/artistic autonomy or poetic expression, a demarcation that emerges out of the inappropriate application of a narrow interpretation of scientific research.

It is an important issue for the future development of postgraduate research degrees in art and design because knowledge in these areas is experienced through engagement with the materiality of making and the realization of new knowledge requires sensitivity and alertness during observing/experiencing phases in order to draw inferences from the experience. The form of knowledge embodied in artworks is better understood if we take an etymological approach and unpack an older word for knowing, cognizance, which comes from cognoscere to become acquainted with, to know, to come to know. It is a word associated with awareness as much as with facts or evidence. It fits well with notions of material thinking and poetic knowledge as awareness beyond objectives, methods or data.

## THE CONUNDRUM OF RESEARCH

To encounter an artifact is to experience it as a site of knowledge. This is an important consideration in the definition of new knowledge resulting from research in art and design. It is one of the fundamental ways in which material thinking is different from thinking in other academic subjects. The prototype, performance, exhibition or presentation is the publication, which

is an important point in relation to the acknowledgement of the work itself as a research finding. An accompanying or supporting text or a research report constitutes a completely different type of information/knowledge that also needs to be interpreted. Arguably, both are research practice although each performs differently.

Other differences are evident when typical approaches in scientific research are compared to typical approaches in design. A scientist's approach might begin with a research question coming from an external rationale that is directly connected to the research field while an artist's or designer's approach may involve an intention originating from an internal rationale, a playful proposition or a recognition of material potential. Such an approach may be personally driven. The scientist will usually be aiming to contribute to knowledge and understanding in the field while the designer or artist will often be challenging orthodoxy with the aim of providing new experiences and unimagined possibilities. Scientific work seeks precision while creative work typically retains and values levels of ambiguity. The scientist will reflect on her methods in order to find more pertinent questions and to maintain focus, while the artist may use reflection to recognize new problems and move in an unexpected direction. In a 2007 study of studio method in relation to art and design practice-based research projects I examined the perceptions of postgraduate art and design students about issues encountered in the search for balance between creative practice and academic requirements. Specifically, the study investigated students' understanding of active documentation<sup>1</sup> as a research method within their creative practice. The results revealed some of the ways in which these new researchers begin to understand and ultimately take control of their working methods and brought

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<sup>1</sup> Active documentation is a process of knowledge construction that may be regarded as a distinct method appropriate to practice-based research projects in art and design (de Freitas, 2002). It can be used to: a) identify the evolution of a work process; b) capture accidental progress or problematic blocks; c) articulate those phases of work that become invisible with progress and d) provide the detached record that is necessary in the abstraction of research issues. Active documentation, practiced in a strategic rather than informal way, can promote improved awareness of studio developments through the recording and reflection on studio processes, procedures in use, judgments and decisions taken throughout the duration of a project. As a research method, it is an appropriate hybrid tool for critique, strategic planning, decision-making and the writing of a supporting text. It is also a useful method for locating and negotiating theoretical and practical concerns.

to light various ways in which this self-assurance in dealing with perceived creative and research aspects of their work contributed to the implementation of acquired knowledge and communication about significant processes.

The results indicate that intellectual engagement for these student researchers is oriented not only towards creating new artworks and original thinking in relation to the content. The orientation is also towards knowing about particular material issues, anticipating interpretative possibilities and understanding the tacit and material thinking processes that characterize practice-based research. There were no indications that these visual arts researchers were looking for specific answers or seeking evidence and verification, matters that are important in scientific research. They were not concerned to provide proof of any kind, nor were they being careful to situate their ideas directly in response to or building on the work of others. In this sense, their work would seem to be inadequate within a scientific paradigm.

Let us consider three contexts:

- 1) In creative practice, a relationship to other artworks or artists ideas is neither important nor typical during the generative and developmental phases. Those observations and connections are typically made in retrospect or attributed by commentators, curators, viewers and writers. The role of establishing connections and finding relationships between artists is one that belongs to the domain of history or criticism.
- 2) Furthermore, while building on the work of others, extending or disproving their propositions is essential in scientific research, it is particularly inappropriate in the context of original works of art. The artist is typically searching for a unique poetic and aesthetic position that is inextricably bound to the formal and material characteristics of the work or the design context.
- 3) To open up interpretative possibilities for the viewer or user is valued more highly than working to preclude alternative readings/uses. Ambiguity in interpretation is often preferred to precision and a single correct interpretation may be an anathema.

In an email discussion on practice-led research in art and design

(2006),<sup>2</sup> three questions were posed to start a discussion:

1. What is the difference between the research component of practice-led research and the practice component that supports and leads it?
2. How can research methodology - the comparative study of method - open a fruitful discourse with the constraints and entailments of practice?
3. What role does the research narrative and meta-narrative play in practice-led research?

The first of these questions highlighted the predicament faced by so many postgraduate design and art students when they encounter this institutional differentiation between what happens in the studio and what is accounted for in an exegesis or research report. This is where the dilemma arises for postgraduate students as researchers. A review of current thesis submissions confirms that they continue to struggle between the need to protect the integrity of their individual practices (their material thinking and poetic products) and the need to fulfill the academic requirement for a robust and convincing theoretical text. For those artists who believe that the creative or designed product, through its own representation, embodies a form of legitimate knowledge accessible through the artifacts, the thesis submission remains problematic. It involves a struggle between their intuitive, inventive autonomy and the institutional/academic authority required in the exegetical text. Biggs (2006, p 191) acknowledges that art and design students in a research degree programme are caught between two sets of expectations. "On one hand the professional/academic authority that governs formal studentship, on the other the particular/ethical authority, however provisional, of the student's own unfolding identity in relation to a poetics.' This is not necessary or desirable for the development of a sound research paradigm in artistic and design practices.

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<sup>2</sup> Questions raised by Ken Friedman, Professor of Leadership and Strategic Design, Institute for Communication, Culture, and Language, Norwegian School of Management, for the on-line workshop discussion, AHRC Review of practice-led research in Art, Design and Architecture, June 2006, led by Chris Rust, Professor of Design, Sheffield Hallam University, UK. <AHRC-WORKSHOP-PL@jiscmail.ac.uk>

Various interpretations of this schism persist. One version is that the prototype or studio project is the practical/practice component but the exegesis is the research component. Another is that the artifact represents what artists do as professionals anyway, but the written text constitutes the research because it alone can make explicit how and why the work was made. Another variant of this artificial split is the notion that the artwork or material project is only the starting point for leading into a research investigation or narrative (the written text again), which also needs to be framed within the broader research field or meta-narrative if the research is to acquire significance.

Many design and art practices are as much intellectual as they are sensual and emotional. If we think about art and design as a culturally oriented activity that tends to assimilate and be defined by some factors that science rejects, such as sensual and material aspects, emotional issues and personal as well as culturally constructed meanings, then we must also acknowledge that the recognition of significance, value and meaning will be quite different. When meaning is constructed to include sensual or emotive conditions as well as material and mathematical reality, this knowledge can be more complex and difficult to access. It requires a critical perspective based on an understanding of the particular material, cultural and visual codes in operation.

The evolution of a material thinking or performative research paradigm is inhibited by the fact that there is, as yet, no consensus about the efficacy of a single artifact or series of artifacts to articulate their significance as outcomes of research. The requirement for a written exegesis or research report is an acknowledgement that an accompanying text can easily satisfy the University requirement for research candidates to communicate the propositions or questions that underpin their work, justify the material, theoretical or philosophical forms, explain the methods and processes, assert significance and place the work into the context of its field. Art and design postgraduate students generally do not resist this requirement. It is the muddled relationship between the value of poetic intelligence and practice and the required reporting practices that



is at the core of the perceived problem. Artists as researchers do not easily distinguish between research and practice components. They may be unsettled by the academic requirement to do so. They are unlikely to view their artistic, design or poetic intelligence and application as merely the preliminary work for a research thesis. They will undoubtedly value their material practices as something more substantial than simply the practical work that will support or steer the 'real' research component of practice-led research. They are likely to see their design/studio work as having many roles and manifestations both as creative practice and as research/discovery.

Making artifacts is akin to the practical activity of writing a scientific book or research report. In itself it is neither the creative act nor the research activity. However, the difference between these two examples is that in art and design practice, the research, intellectual engagement and creative work are all interrelated with the emerging artifact. Such research is characterized by perception and theorizing through encounter with the sensual, material world and the construction of meaning is responsive to intellectual, material/sensual and emotional concerns. Díaz-Kommonen, (2004) describes the artifact as a conceptual tool which can draw together the different aspects and elements of practice as they converge in making and use. She describes this notion as a "...lens, or perspective, that allows us to better describe the boundary territory where discourse and community subject and object interact." Never-the-less, the experience, knowledge and skill that is acquired, expressed and applied through material means is notoriously difficult to communicate although it may be embodied in the material artifacts. De Freitas (2000, 2007) suggests that active documentation at appropriate points in the research process can assist in the articulation of this knowledge. A study on the use of active documentation (de Freitas, 2007) revealed that research students discovered increased sensitivity to significant aspects evolving in their work. As a research method, active documentation facilitates the intersection of abstract/conceptual propositions with the materiality of form and aesthetic contingencies of the emerging artifact.

Webster's Dictionary defines research as: 1) careful or diligent search; 2) studious inquiry or examination, especially investigation or experimentation aimed at the discovery and interpretation of facts, revision of accepted theories or laws in the light of new facts, or practical application of such new or revised theories or laws and 3) the collecting of information about a particular subject. Within this range of defining options, there are perfect descriptions of the postgraduate studio practices of designers and artists: proof of concept design work; photographic inquiry; choreographic or installation projects; painterly investigations; architectural projects etc. The material practices, design questions, conceptual challenges and philosophical orientations are all encountered in the studio through the handling of materials. Design and art practice, when framed as an exploratory, systematic and rigorous process is clearly consistent with Webster's current definition. The challenge lies elsewhere in relation to scientific notions of research and knowledge.

## THE CONSTRUCTION OF NEW KNOWLEDGE

*Without falling into the trap of discussing the value of the arts in society, the benefit of research in the creative arts and industries is significant for the following reasons: it enables new ways of experiencing and understanding our relationship to the world we live in; it enables us to model abstract concepts and ideas which can be transferable to other forms of research; it proposes new ways of constructing systems and communication processes; it enables alternative models of logic that are non mathematical to be implemented and explained; it fundamentally embodies knowledge through its own representation.<sup>3</sup>*

In the process of designing and making as part of a research project, meaning is constructed by the designer throughout the

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<sup>3</sup> Excerpt from a response to four questions posed by the Council for the Humanities, Arts and Social Sciences at the April 2005 SPIN Conference, Queensland University of Technology, Brisbane. The responses were prepared on behalf of delegates and posted on the web site: by Dr Nike Bourke, Associate Professor Brad Haseman, Professor Richard Vella and Daniel Mafe. <http://www.speculation2005.qut.edu.au/CHASS.html>

process but is then open to further constructions of meaning in the using or viewing experience. Meaning is constructed and consequently the forming of new knowledge involves the designer, the artist as well as the users or viewers. Artworks are particularly valued by artists and by audiences when they are open to multiple interpretations of meaning and in use. Ricoeur (1991) argues that while metaphoric texts provide new knowledge, it is acquired through interpretation, which makes it a social, emergent process involving intuitive and imaginative action. This characteristic should be valued and analyzed as part of the process of developing the field. These characteristics are not weaknesses or inadequacies in the field, merely indicators of its current state of development. Timothy Emlyn Jones (2006: 229) reminds us that the idea of the scientific method, in the early days of physics and medical research, evolved over a long period of time, 'borrowing and transforming ideas drawn from the world of letters and when minimal research ethics were sufficiently elastic to allow systematic grave robbing'. We need to understand what it is in our field of research practice that we need to know more about in order to develop the field.

In the introduction to a publication on knowledge in the making professions, Dunin-Woyseth and Michl (2001) refer to Kaiser's classification of knowledge (Kaiser, 2000: 152-169) in which he proposes four types of knowledge: scientific expert knowledge, folk knowledge, tacit knowledge and practical skills. They suggest that all of these types of knowledge are evident in art, design and architecture and they go on to suggest that the challenge for researchers in these fields is to transform it all into a 'making discipline'. This might open the way for a new paradigm within which art and design research will ultimately flourish.

The concepts 'studium' and 'punctum' put forward by Roland Barthes in his analysis of photography (original publication, 1980) are helpful in understanding the type of remarkable complexity, the opposite of unity or banality, that characterizes interesting work and is a desired quality in design and artistic works. Barthes refers to all the cultural and publicly shared layers of constructed meaning in visual artifacts as the 'studium'. In

painting or photography it equates to or resides in the subject matter. His term 'punctum' refers to those layers of meaning in relation to the image, which are privately discovered and interpreted by the artist or by the viewer. These are the elements that co-exist with the main subject of the work. According to Barthes, without a 'punctum', the work is unary, banal. He uses as an example, the pornographic image:

*It is always a naïve photograph, without intention and without calculation. Like a shop window which shows only one illuminated piece of jewelry, it is completely constituted by the presentation of only one thing: sex: no secondary, untimely object ever manages to half conceal, delay, or distract... A proof e contrario: Mapplethorpe shifts his close-ups of genitalia from the pornographic to the erotic by photographing the fabric of underwear at very close range: the photograph is no longer unary, since I am interested in the texture of the material.*

(Barthes, 1993, p. 41)

The significance of the notion 'punctum' is that it directs us to a reading of visual art as a legitimate text that is valued for its multiple layers of meaning, both culturally implicit and privately distinctive. It acknowledges the coincidence of disparate elements and the opening of possibilities for poetic interpretation of significance at multiple levels. It is also transferable to an interpretation of designed artifacts with aesthetic qualities and recognizable affordances that may exceed the designer's minimum achievement of functionality and style.<sup>4</sup> Barthes' concept offers us a way of articulating the difference in intentions between artist and scientist. It hints at the particular strengths and research potential of design and art practices. It could help to direct us towards ground-breaking, 'practical-aesthetic' research orientations that could underpin a research paradigm for the making professions. This may be the particular recognizable strength for research potential in the design and artistic disciplines and it is not duplicated by research practices in the sciences.

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<sup>4</sup> Gaver (1991) defines affordances as properties of the material, physical world that are compatible with human perception or interpretation and relevant for people's interactions.

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## SHIFTING EDUCATION WITH CUSTOMISED LEARNING ENVIRONMENTS: A case study on university Metalware Engineering Center renovation

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### ABSTRACT

The new Massive Open Online Course (MOOC) has battered the traditional education model and triggers the design professional's impulse on educational innovation. With this new concept in modernization education, It is one of the extensively talked issues in China that how the universities are able to transform to be more sustainable, more interactive for the demands of the students. This paper is discussing around the application and practice of service design in transforming the university learning environment to be more sustainable, and the possibility of implementing service design methodology to current high education course system. As a practical project, the case outcomes are aiming to explain how "Service Design" improved the learning quality through interdisciplinary connections with environmental graphic design, and how it helped to create a customised innovative education field based on the learner's needs that changed the traditional way of teaching in the classroom.

### KEYWORDS

learning environment renovation . Service design .Environmental graphic design . Education field

## THE BACKGROUND

In 1998, Boyer Commission on Educating Undergraduates in the Research University published a blueprint for America's Research Universities "Reinventing Undergraduate Education". This report presents ten recommendations for the radical reconstruction of undergraduate education at research universities, to establish affective learning relates to values, attitudes and behaviors and involves the learner emotionally (Kerry Shepherd, 2008). Very similarly as Boyer's report, in recent years with development of information technology, sustainable education is regarded as a new high-potential education model experimented by couple of China universities. The sustainable development of universities, according to Mr. Gang Wan who used to be the president of Tongji University and Minister of Science & Technology, is to build up the sustainability in teaching, learning, researching, social servicing and international collaborating. Based on the emerging theories of ecological/systemic thinking, the redesign of education needs to occur in relation to the alternative values of the current society: social/ecological responsibility, cooperation, community engagement and contextual knowing (Sterling, 2005 and Capra, 1994).

The wave of educational reforms in the past decade brought up new requirements not only in education approaches themselves, but also affect in learning environment. MOOC (Massive Open Online Course )provides interactive user forums that help build a community for students, professors, and teaching assistants against traditional course materials such as videos, readings and problem sets. MOOCs have the potential to serve as "educational positioning systems" that precisely navigate students through their curriculum along individual "pathways and routes to maximize student success."( Linda and John, 2012).

We have been adopting Service Design methodology in the education model transformation, to use it as the human-centered design process considering "a deep understanding and respect for human behaviors, attitudes, dreams and capacities as the essential premise for any design action." (Meroni and Sangiorgi,



2011: 203). In the past years Service Design started to play more and more significant roles in the public service sectors including education, medical and mass transportation.

So we are practicing more and more frequently to make the service design and the environmental graphic design work together, not only to change the physical environment with latest technology but also to built the “inphysical” part of the education to provide new life to the learning and research facilities. The project we share in this paper is one of the series of “University Facility Innovation Program” in Tongji University, The Metalware Engineering Center. This facility (The Metalware Engineering Center) was built in 1950s and used to be a place of “Excellent Engineer-to-be” for students to practice metal goods production. But now after 50+ years, it has no relation at all with “excellence” because of its aged working environment and outdated equipment. We carried out successful design efforts to renovate this facility and make it with brand new vitality, not only new look but also new functionality. This paper is introducing how we use service design methodology to change this old works to be a modern multimedia learning place, and how we apply service design approaches and processes to change the facility to be part of “sustainable campus”, and satisfy the demand of student’s potential aspiration of learning. This paper also demonstrated how the environmental graphic design eliminate the cold feeling and rigid sense of the factory, and stimulate the self-learning in an innovation way.

## THE PROJECT OVERVIEW

Before our projects in Tongji University, there has been already meaningful practice for designed learning environment in the education sector. IDEO, a leading design consultancy, is an industry pilot who has engaged in couple of educational innovation projects. “The Stanford Center for Innovations in Learning” (SCIL) in Stanford University is one of them, where brings together teachers, scholars, and students from around the world to study how to improve formal and informal learning across cultural boundaries. SCIL is located in a century-old building on the Stanford University campus. The value to service



**figure 1** The Engineering Practice Center in Tongji University uilt built in 1950s used to be a space for students to practice metal goods production.

design and the case we are talking about in this paper is that SCIL also applied service design approach to rework and renovate its facilities to make them flexible enough to accommodate new tools, new workspaces, and new methods discovered by the Center's research. In addition to IDEO projects, we also know series of projects of North Carolina State University "Natural Learning Initiative". The initiative includes different topic projects and research programs to explore how design can help improve the teaching and learning experience. They applied multiple environmental scenarios to assist the education, used approaches of action learning and nature play to activate the learning motivation and behavior.

Tongji University is named as one of the universities under "Excellent Engineer Education and Training Programs" by Ministry of Education, so it has initiated a numbers of projects to batch-by-batch renovate the workplaces and facilities built in last century. As part of renovation outputs all the projects need to consider how the environment and facility can be enhanced to meet the new requirements of learning and teaching technology.

These projects can represent the common transformation practice in China universities, may not the exactly same premise but the common guiding principles and innovation objectives. It is realistically valuable when we focalize our interests on the direction of educational environment design. Service design is expected to play more significant role in pushing forward the regeneration of campus facilities, bringing new image and functionalities to the infrastructure, and improve the experience to meet the requirements of technological innovation.

## THE PROJECT APPROACH

In this project, the following guiding principles were agreed to develop our design and implementation approach:

Integrate the 4 effective learning elements into the new university facilities – Learner, Teacher, Knowledge and Environment

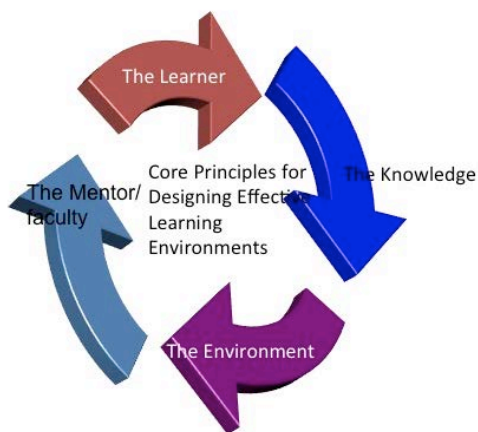
Construct a people-oriented education field

Encourage active and effective user participation

Before and after the design progress, we conducted a question survey from January to May and in September 2013, in the Engineering Practice Center. The questionnaire was developed around the above key principles related to study and work in this particular space, the expectations before and the evaluation after the renovation. The teachers and students involved in the survey come from various engineering related departments in Tongji University, including civil engineering, mechanical engineering, automotive, aerospace, and industrial design. These feedback data and information laid the foundation for the effectively design.

In the communications with the management team of the Engineering Practice Center, the director told us that machinery manufacturing work requires a high degree of concentration; long working hours and high intensity, the nervous tension of the manipulators have remained high. Coupled with the noisy work environment, prolonged fatigue jobs tend to make people tired of negative emotions and can easily lead to accidents. Therefore, we hope the working space to become more lively and interesting through design, so that the students can get relaxed quickly inspired after having break and maintain positive and pleasant working conditions during the practice and achieve good learning results.

Back to the 4 effective learning elements we adopted in this project, the Learner, the Mentor/faculty member, the Knowledge, and the Environment (Boettcher 2003), the center is the “learner”. This principle can be captured by envisioning a learning experience featuring the learner “on stage” actively learning under the direction of the mentor/faculty member using a set of resources containing the knowledge/content/skills to be learned within an environment. (Boettcher, J. 2007)



**figure 2** The core principles for designing effective Learning Environments.

THE LEARNER (the learner, may be an individual student or a group of students)

THE TEACHER (the mentor/faculty member who provides instruction and support to the learner. The mentor/faculty member may be physically present on stage, may remain in the wings directing the learner, or may only be present implicitly by virtue of having designed the instructional event. This element

may also be an inanimate learning object such as a text or video component that provides instructions and guidance from the faculty member.)

KNOWLEDGE (the knowledge, the content, or the problem that is the focus of the instructional experience.)

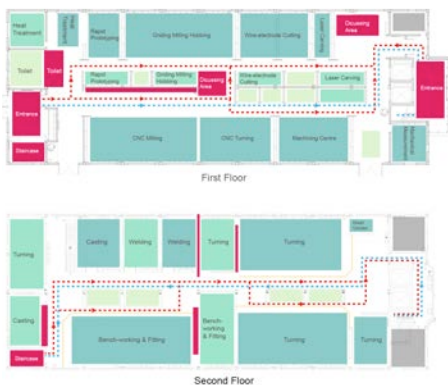
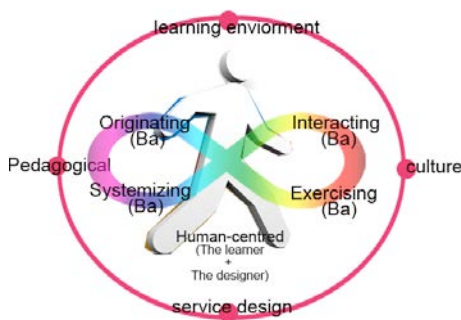
ENVIRONMENT (is determined by answering the question, "When will the event take place, with whom and where and with what resources?")

### CREATING THE TOCHPOINT INTO THE “EDUCATION FIELD”

Service touchpoints are the tangibles, for example, spaces, objects, people or interactions (Moritz, S. 2005), that make up the total experience of using a service.

The touchpoints refers to an entity or a kind of interactive form, can make the whole experience into a service. A successful interaction contains a plurality of touchpoint and will constitute touch surface. The touchpoint is the key to success of the entire design project. Touchpoints can take many forms, from advertising to personal cards; web-, mobile phone- and PC interfaces; bills; retail shops; call centres and customer representatives. In service design, all touchpoints need to be considered in totality and crafted in order to create a clear, consistent and unified customer experience. (Live|work, 2008) In this case, the touchpoint deepen into the point that how to built the make the “education field” for the different purpose and help the teachers and students get the expected services.

Professor Ikujiro Nonaka has proposed the SECI model, one of the most widely cited theories in knowledge management (Gourlay 2003), to present the spiralling knowledge processes of interaction between explicit knowledge and tacit knowledge. The space for learning between people called “education field”, which is a sharing learning space able to create and correlation relation, for further comprehension, This “education field” includes the physical, virtual, spiritual space. Ikujiro Nonaka proposed four “field” corresponds to the four processes of knowledge creation, relevant to knowledge transformation process of four stages, respectively as “founding Originating (Ba), interactive games (Interacting/Dialoguing Ba), systematic field (Cyber/Systememizing Ba), and driving range (Exercising Ba)”.











**figure 3** The service design framework we used to construct the learning facilities shows the four “fields” of processes including knowledge development, learning environment, pedagogical, and design with culture.



**figure 4** The touchpoint deepen into the point to built the “education field”.

Founding field (Originating Ba) emphasize open organizational design, that makes direct conversation and communication between individuals. Interactive games (Interacting/Dialoguing Ba) stressed that everyone with an open attitude to communicate with each other sufficiently, turning the tacit knowledge into explicit knowledge, in order to create new knowledge and value. Systematic field (Cyber/Systemizing Ba) refers to the use of virtual world than real space and time to interact. Within the organization will be the new explicit knowledge combined with existing information and knowledge, in order to update the explicit knowledge, and make it systematic. Driving range (Exercising Ba) under the guidance of experienced teachers and colleagues, practiced by means of viewing or practical exercise, which can be used in real life or simulation of explicit knowledge, and continue to put these knowledge internalization.

Field Properties	The Touch Point	Design features
Fundamental Field		
Founding Originating Ba	» Inward and outward stair	» the little space of special color » high utilization rate
Interactive Field	» Discussion » Hand Washing & Toilet » Container (Rest Area)	» use active space of the graphics
Interacting/Dialoguing Ba		
Systematic Field	» School district » A Layer of Display Wall » Black Wall on Second Floor	» the space partition to reduce interference » outstanding visual theme
Cyber/Systemizing Ba		
Exercising Field	» Operation Area on the First and Second Floor	» eye-catching safety warning
Exercising Ba		

Photos	Design method	Number of User Participation
	Character Graphics	Teacher: 6
	Mascot Design	Student: 18
	Mascot Design	Teacher: 2
	Mascot Design	Student: 10
	Character Graphics	Teacher: 6
	Mascot Design	Student: 18
	Character Graphics	Teacher: 6
	Mascot Design	Student: 18

**figure 5** The case of the Engineering Practice Center of Tongji University.

The Excellent base is about 3,600 square meters. Two cross-layer spaces are main space areas in it. The height of the layers is about 6.5 meters and the span is about 50 meters in east-west and 30 meters in north-south. Based on questionnaires and interview and recorded for the walking routes of the students first time into the base, we designed 13 practice space in these two layers and 6 different studying and serving areas, and set up signs, graphic stickers and dynamic displays to establish the service touchpoint of multidimensional studying style interspersed with learning, practicing, discussing and testing. We used environment graphic design and mascot design as the two core design elements to support each other, complementing each other. To eliminate the cold feeling and rigid sense of the “character graphics” and “mascot design” appears alternately in different function space, and design a series of small animation, including wayfinding system, course inquiry, part of the operating interface and image promotion of metalworking practice. An interactive system and center webpage applied to the space inside the liquid crystal display screen scroll to broadcast, digital signage displays. Using these digital devices and network media, can be more intuitive and convenient for people to provide services and to promote the practice of the center for image better.

### Encourage active and effective user participation

Service designers use methods where the user is enabled and has the power to influence a service design process. Co-design work is carried out on a regular basis, and new innovative methods are developed to allow inclusion, creativity and engagement (SATU, 2013). User Participation assists to establish the touchpoints and play a role in this practice. We put Chinese characters as the original point of the design and add some graphic as the expression of the auxiliary information. We tried to add some fun and some culture elements while keeping the identification of the system, so that foreigners or people without engineering background can find their ways when they first come into the huge space. However, owing to the recognisability of Chinese character, there are some difficulties when combining it with graphics, especially when solving the professional recognition problem of the same character and graphic at the first glance.

In the first stage of design, we found the error rates of characters “铸” and “息” were the highest of all the words. “铸” is a refined word of “铸工”, which means molding, the work that melting casting objects, also known as “Foundry molder”. Therefore, we selected the design intention of casting. Then we invited 6 teachers and 17 students from different major, including civil engineering, aerospace, mechanical engineering, industrial design, to have a test and conduct an investigation about the recognizable of the visual symbols. We understood the users’ acceptance of the symbols and let them participated in the design process. And from their own professional understanding, users suggested the way of combination of characters and graphics that is more in line with the professional orientation.



**figure 6** Photographs of the final completed visu design.

## RESEARCH DATA AND ANALYSIS

No doubt, you can't change which you don't measure. To support the environment renovation, we applied a continuous measurement approach of user experience at each touch point with the teachers and students so that the further improvement actions can be taken.



The measurement approach, by the way of survey, was developed based on three dimensions of rating questionnaires, which are:

**Make it easy:** whether the renovation supports different aspects of easy self-service, from visual comfortability to better functionality.

**Get it right:** sometimes it's the little things that bring the big impact. Getting the basics right will deliver a solid foundation across people, process and technology. It includes critical changes to the ponderous feeling and ineffective spatial layout.

**Delight me:** a set of design works to win the “hearts & minds” of students and teachers by delighting them at different occasions throughout their experiment journey. It aligns to the commitment to construct a people-oriented education field. In line with the above approach of understanding the user experience on the design results, we randomly surveyed 78 students at the base. Survey results show that most of the students interviewed will go to the base weekly to learning metalworking practice. Most students feel very satisfied with the overall situation on the base, especially for the spaces, the equipment, the environmental graphic design as well as the mascot design. These results suggest that users are satisfied with the result of this design.



**figure 7** Photographs of the final completed learning environment .

In the entrance and staircase, there are over 9 different kinds of spaces lie in the base. Among the students surveyed, 51% believe that this is the biggest feature of the base. Meanwhile, 26% of students believe that the spaces of learning areas are diversified, and 38% of students think the discussion areas are very changeable. 35% of the students said, environmental graphic in the base is very interesting, especially on the black well in the second floor and the display wall in the first floor. 60% of students satisfied with the space environmental graphic. 63% of students study in the base via the team than the individual. 62% students willing to teach by the teacher hand by hand. 91% students think the spaces of learning areas satisfied their demanding of the study, and 89% students believe the learning environment make them learning effective and

interesting.

The feedback from the students also made a lot of good recommendations, which provide good references on the design process and results. Some students suggest setting up floor plan so that they can find a destination more easily; another part of the students wish to set more partitions between the various regions in order to reduce mutual interference. Students also hope that we can set more rest and activity area, so they are better able to have break at lunch time. Some of the recommendations were valuable, whereas we cannot change temporarily, such as reducing the noise made by facilities, setting more drinking water supplying area, etc.

The survey also reflected some of the deficiencies in the innovation project. In the design, we give more consideration to the feelings of Chinese students and teachers than the foreign visitors. Whether they are able to accept the amount of design as well as ways to present information, we do not have specific in-depth studied. While some of the key points, we should set up some large signs which can be moved, so visitors can better help themselves finding ways in the base. Because of the limited cost and time, the construction quality did not meet the expectations, which also makes the design effect not that satisfactory.

## CONCLUSIONS

In an education environment, knowledge will be not only taught, but more importantly, also be delivered by emotion, atmosphere, feeling, memory, and other intangible non-spoken ways. By using an old Chinese saying “行不言之教” (LAOZI, 770BC), which means teacher should use their behavior to influence students, rather than endlessly tell students how to do, and encourage the students to try his best to find learning resources to consciously think through his own proper way, to explore every students are most suited to their methods. Such face-to-face communications and immersion learning help cultivate students' self-awareness, communication skills and team spirit, which currently a virtual online learning or MOOC is not able to offer. From students' feedbacks, we can know that the success



of the service design is attributed to satisfy the needs of providing human care and welfare. While we are envisaging huge potential in customising physical education environment for the inspiration of all dimensional learning needs, we can continuously apply service design and environment graphic design methodologies to differentiate and make the traditional education more vibrant.

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## A DESIGNERLY FRAME OF MIND: Nurturing student's design thinking skills through experiential learning research

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### ABSTRACT

Design thinking has gained prominence within a widening domain today and is viewed as an alternate mode of enquiry to complement more traditional, analytical ways of thinking. Kees Dorst for example explores the value of design thinking for organisational problem solving and innovation. Using Dorst's argument about the core of design thinking as a point of departure, this paper considers the nurturing of design thinking skills and practices in students, namely abductive thinking and framing. More specifically, the paper argues that experiential learning can facilitate design thinking and also teach students the importance of imbuing their work with good design and social values. To this end, the discussion is guided by the following overarching tenets of experiential learning that are found in the education philosophy of both John Dewey and Paulo Freire: the real world as the context of experience; the relationship between teachers and students and; the experiential learning process (praxis).

### KEYWORDS

design thinking. abductive thinking. Framing. design education. experiential learning

## INTRODUCTION

From a Western perspective, two analytic forms of logic or reasoning, namely induction and deduction, have traditionally been favoured (Golsby-Smith 2008; Crouch & Pearce 2012). Given that inductive reasoning facilitates discovery and deductive reasoning is employed for purposes of justification, they have been valued particularly for their contribution to the sciences in order to “predict and explain phenomena in the world” (Dorst 2011:523). Despite their relevance, the limits of induction and deduction as linear, analytic forms of reasoning are increasingly being acknowledged owing to the complex or “wicked” (Rittel & Webber 1984) nature of contemporary problems (Crouch & Pearce 2012:23; Owen 2007). In response to this, design thinking is currently being considered as a complementary mode of reasoning in fields such as innovation and business, education and healthcare to name a few. The proliferation and application of design thinking in other disciplines has stimulated research and discussion from within various design disciplines as well. For example, design theorist Kees Dorst (2011), who situates his argument for design thinking within the context of organisational problem solving and innovation, argues that abduction is the mode of reasoning that is at the core of design thinking.

Using Dorst's (2011) argument as a point of departure, this paper also considers abductive thinking and the related act of framing as being central to design thinking but positions them within a design education context. Furthermore, since the vantage point is design education, this paper proposes, on a theoretical level, that experiential learning can help to instil abductive thinking skills and the practice of framing in communication design students to solve complex problems and, ultimately, to encourage social innovation and responsible citizenship. To this end, the discussion is guided by John Dewey's (1938) and Paulo Freire's (1970) seminal contribution to the discourse about the role of experience in education.

## ABDUCTIVE THINKING AND FRAMING

As a form of reasoning, “abduction can be thought of as the argument to the best explanation. It is the hypothesis that makes the most sense given observed phenomenon or data and based on prior experience” (Kolko 2010:20). This explanation indicates that abduction serves as a form of inference or to describe it in Roger Martin’s words, the “logic of what might be” (Martin 2009:68). Although Martin’s viewpoint captures the underpinning ethos of abductive thinking it is not entirely accurate and therefore needs further elaboration (Kolko 2010:20).

Dorst (2011) provides a dual classification for abductive thinking which he refers to as Abduction 1 and Abduction 2 and he argues that it is Abduction 2 that designers need to be proficient in. Both forms of abduction share common ground in that there is an aspired result at the end (Dorst 2011:523). However, Abduction 2 involves less certainty than Abduction 1 because the aspired result is the only known variable at the onset of a design project. This aspired value stems from the “desiderata” (Nelson & Stolterman 2012) or the intention of the client and is often detailed in a project brief. The emphasis on value creation resonates with design, as a service profession, where the outcome of the design process is a means of creating value and providing meaningful change (Nelson & Stolterman 2012). Owing to the fact that a designer’s work always results in an outcome – be it a tangible product or a system or experience – abductive thinking is referred to as a form of productive reasoning (March, in Cross 2011:28).

Cross (2011:10), who provides insights into the design ability and working processes of designers, records that abductive thinking, colloquially acknowledged as an ‘intuitive’ way of thinking, could be an inherent skill designers have or it can be nurtured by means of education. This leads to the recognition that there are different levels of design expertise - ranging from novice to expert (Cross 2011) - and that designers move along the different levels by developing their own processes through which they become familiar with abductive ways of thinking. Irrespective of their training in different design disciplines, Cross

(2011:75) identifies three key strategic aspects of design thinking common amongst designers: “(1) taking a broad ‘systems approach’ to the problem, rather than accepting narrow problem criteria; (2) ‘framing’ the problem in a distinctive and sometimes rather personal way; and (3) designing from ‘first principles’.” For purposes of this paper, the act of framing is considered.

The term framing extends back to the work of Donald Schön (1983) and recurs in contemporary design literature (Lawson 2006; Cross 2006, 2011; Kolko 2010; Dorst 2011). Dorst (2011), for example, acknowledges the act of framing as one of the steps of the abduction process. A frame can be regarded as a point of view; hence, the act of framing refers to the creation of “a (novel) standpoint from which a problematic situation can be tackled” (Dorst 2011:525). Framing is particular to design practice in that it helps the designer to read a situation in order to propose appropriate design solutions to address the criteria and aspired values necessitated by a given project. Since design solutions are initiated and ultimately informed by frames, designers need to understand the consequences and social responsibility that comes with such a practice.

## **EXPERIENCE IS THE BEST TEACHER: NEW FRAMES OF MIND**

Considering that the nature of design products has changed (Buchanan 1998; Julier 2008) and designers are increasingly playing a strategic role within a widening domain, the shift to teaching design thinking more consciously within design requires new and/or improved ways of teaching. This is not to say that design students are taught exclusively within the context of the classroom, however, owing to the ubiquity of technology and the resulting democratisation of design, it is becoming ever-more important for design educators to keep their curricula relevant, responsible as well as meaningful. For instance, to develop abductive thinking and framing skills in students amongst other pedagogic aims, an experiential education approach was employed for a design for development project completed by final year BA Information Design students in 2013, at the University of Pretoria, South Africa. For purposes of the project,

students were tasked with designing a creative intervention in the form of an educational toolkit in order to cultivate environmental awareness in young, primary school learners. "The toolkits had to consist of a number of educational activities (with a comprehensive set of instructions) that could take the form of a board game, performances or screenings at the schools, activities and so forth" (Cassim & Bowie 2013). The project was commissioned by the South African National Parks board (SANParks) and the Information Design project brief was one component of a larger, interdisciplinary project involving the University's Fine Arts division as well as the Drama Department.

The relationship between experience and education takes on many guises and is often aligned with practices at institutions of higher learning, such as action design and service learning. Moon (2004:104) highlights the distinction between learning from experience and experiential learning. She asserts that all learning is dependent on experience but experiential learning as a concept and/or practice is a formalised learning situation that draws on prior learning and constructs experience in a particular way so as to transform that experience into knowledge. It is necessary for the experience to fit the nature of the discipline and more importantly, the profession in which students will practice. In addition, reflection must be a mandatory component of experiential learning.

With regard to the concept and nature of experiential learning, Beard and Wilson (2006:17) acknowledge that "Dewey is arguably the foremost exponent of the use of experience for learning." Paulo Freire's contribution, which has shaped the nature of experiential education from a political and social activism point of view, is also commonly acknowledged (Beard & Wilson 2006:30; Moon 2004:105). Kolb (1984) has also made a significant contribution to the experiential learning discourse with his pragmatic model of experiential learning and authors such as Moon (2004) and Beard and Wilson (2006) continue the conversation to date. However, the recurring affirmation of Dewey's and Freire's historical influence and contribution to experiential learning informed the decision to draw primarily on their key texts and education philosophies for purposes of this

paper. Accordingly, the following are identified as three, overarching tenets of experiential learning and are considered in relation to the SANParks project: (1) the real world as the context for experience; (2) the relationship between teacher and student; (3) the experiential learning process - praxis.

### **1) THE REAL WORLD AS THE CONTEXT FOR EXPERIENCE**

Owing to the social/environmental nature of the SANParks project and the complexity of the design brief, the project called for engagement beyond the classroom. This is in keeping with Freire's (1970:66) sentiment that education must comprise the "posing of the problems of men in their relations with the world." Experiential education is therefore valuable because it allows for circumstances which facilitate a critical consideration of reality since experiences are based in the real world. A critical consideration of reality is important for design education because students need to have first-hand experience of situations in order to be able to exercise abductive thinking and effectively frame the problems and situations that they're creatively tackling.

Students worked in groups of three for the SANParks project and they were required to conduct research on their complex environmental topics such as recycling, water conservation, biodiversity and climate change to name a few. The target audience was primary school children so not only did the design students have to conduct research about their topic but they had to better understand the age group as well as the teacher facilitators that they were designing for. The fact that it was a client-driven project also meant that students were accountable for their work to a larger extent. As such, the lecturers identified a school in a nearby suburb where students would be taken to conduct primary research by engaging with learners and school teachers alike (there were three school visits during the three week project period). As Dewey (1938:40) states that "experience does not occur in a vacuum" it was important that the learning scenarios were contingent on the specific educational and intervention needs of the project brief.

For the SANParks project, the decision to immerse students in the real world at the school enabled them to understand external



variables such as language and cultural differences which would impact on their designs. The school visits gave students an opportunity to prototype and test their toolkit activities with the end-users and provided a better understanding of how the activities would fare in a real, classroom setting. The value of placing students in the real world had additional advantages as well. Firstly, it encouraged design students to conduct primary research which is insightful for framing. Secondly, it also facilitated community engagement so that design students could be taken out of their comfort zone and could engage with students from different backgrounds and races; in this way, the real world experience taught students not to make assumptions about others and to engage directly with a diverse audience.

## **2) THE RELATIONSHIP BETWEEN TEACHER AND STUDENT**

The traditional education that Freire and Dewey reacted against is teacher-centric and follows a linear, one-way communication model which makes students passive and complacent. In contrast, experiential education mimics contemporary design and creative processes in that it is iterative and cyclical and comprises more than one active participant or group. Owing to the multiple stakeholders involved in the project - lecturers, client, school teachers, and young learners – students did not only create their own frames but had to learn to work with multiple frames. More importantly, students learnt that the design process is democratic and that all stakeholders have a significant role to play. Hence, the project has civic engagement implications in that students had an opportunity to understand the collective power to shape their environments and communities.

During the project, the lecturers, as one group of stakeholders, adopted the role of facilitators. This meant that students were given the freedom to explore and experience the project context and become familiar and confident with the design process while at the same time receiving continuing guidance from the lecturers. Such an arrangement empowers students and sees them as unique individuals who need to be provided with the correct tools for dialogical encounters. Dialogue, according to Freire (1970) is what facilitates generative themes amongst

learners. Similarly, Dorst (2011:528) also supports themes as a “sense-making tool, a form of capturing the underlying phenomenon one seeks to understand.”

Therefore, by adopting the role of facilitators, the lecturers were able “to regulate the way the world ‘enters into’ the students” (Freire 1970:62) and to impress the concept of respect amongst students so that they too would act as facilitators rather than approaching their end users in a patronising manner. In addition, students could be co-creators in knowledge as per Freire’s (1970) suggestion. For design, this is essential because students ultimately propose the “not-yet-existing” (Nelson & Stolterman 2012) and provide innovative solutions to complex problems using abductive thinking.

### **3) THE EXPERIENTIAL LEARNING PROCESS - PRAXIS**

Praxis is a key term in Freire’s (1970:66) work which is defined as “the action and reflection of men upon their world in order to transform it.” For Freire, praxis makes increased critical consciousness and liberating action possible. Problem-posing education and experiential education therefore moves from being mere action to being informed action coupled with reflection. This viewpoint is shared by Moon (1999:4) who indicates that reflection denotes a form of mental processing and goes beyond experience to provide context and meaning and ultimately results in the creation of embedded knowledge. It is this move from experiential/tacit knowledge to procedural knowledge about human-centered design processes that was one of the pedagogic aims of the SANParks project.

For the duration of the project, students were required to keep a log book and reflect-in-action and reflect-on-action. The intention was for students to embody being reflective practitioners in the way that Donald Schön (1983) advocated. Schön’s argument that professionals engage better with new situations since they think back to previous actions and experiences (and over time form a repertoire of images and actions) speaks to the continuity and quality of experiences that Dewey (1938) argued for. Here it can be argued that students’ experiences of framing during their training would support their professional trajectory from novice to

expert designers. Although it is impossible at this stage to gauge the long-term benefits of this project to students, their log-book entries certainly hint at how students utilised prior knowledge to attempt framing the project initially and also how new knowledge was arrived at. Therefore, praxis resulted in considerable action and more importantly reflection, which served as a tool for students to understand and articulate their project experience.

## **DISCUSSION AND CONCLUSION**

At the end of the three week project, all nine groups of design students were able to come up with a range of meaningful and exciting environmental education solutions. This viewpoint was shared by the client; SANParks representatives felt that the students successfully answered the brief and the solutions managed to surpass their expectations. The tangible toolkits, coupled with students' individual written reflections, served as a useful measure to gauge the experience of the students against the pedagogic aims. Essentially, the project deliverables facilitated a much wider reflection.

A number of the students make reference to the iterative design process in their reflections. Although none of the students refer to their mode of reasoning as abduction or to their acts of framing during the design process using these explicit terms, their descriptions align very closely with the concepts explained earlier in this paper. Furthermore, the students' reflections point to the fact that, through their experience outside the classroom, they experienced deeper learning. The value of prototyping was mentioned by students and the consequences of it could definitely be seen in the final toolkit activities which showed significant development from the initial conceptualisation phase. Having said this, it should not go unnoticed that one of the shortcomings of the project was the duration of it. For the scope of the project, the three weeks proved too short to fully immerse students in the real world. More contact sessions at the school would have allowed for more continuous testing which would have aided additional refinement of the final toolkit activities. However, the primary research conducted by students throughout the project certainly helped them to shape their final

deliverables. The role of research in/for design is relevant to arguments to support and elevate practice-led research and although it is not the focus of this paper, it warrants further exploration.

Many students acknowledged the project as being complex and challenging but despite this, the learning curve of their experience was substantial. An interesting observation from the reflections was that in addition to being reflective, students were actually reflexive too and as such, were able to better understand their social role as designers. Firstly, students understood and appreciated the value of engaging with end-users during the process. In this regard, the project seems to have instilled a practice of prototyping in students which will hopefully ensure the application of human-centered design processes in subsequent projects. Secondly, some students commented on the fact that they had to work in groups; some valued working as a team and understood its advantages, while others felt that it hindered the design process. In future, this should be considered and where necessary, students should be openly encouraged to negotiate different frames when working in teams.

The paper does not allow for a more in-depth and pragmatic discussion of the project's results but it introduces on a theoretical level how the philosophy of experiential education is significant for design education, especially when considering new learning environments for design students and how to accommodate learning objectives in untraditional and/or creative ways. If facilitated correctly, experiential education may be advantageous in nurturing the core of design thinking - abductive thinking and framing - in students. Furthermore, if experiential education is viewed as a social undertaking then it follows that such shifting education would allow students to each have an opportunity to propose innovative ideas and products for complex contemporary problems and to feel a responsibility towards their education and each other (Dewey 1938:58).

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## WORKING TIME IN CONTEXT

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### ABSTRACT

In UX Design project in classroom context different paradigms arise when implementing new perspectives in interaction, not only on the final output the digital device, but also with new ways to conceive the project, conceptually and technically working with tools influenced by how to cope and understand information. Movement has become a driving force in information representation and in the end it “molds” even the way students “sketch” functionalities and display how the system operates. New classroom methodologies Implementation have a fast thirsty pace in sketching a working system and movement plays on as a natural tool in reasoning the user experience project. This approach means new concepts to the classroom and reshapes the till now conservative settings to understand the UX design practice in learning settings. This paper presents a new perspective in the question of movement an experimental teaching strategy where moving image act as a prototype tool in UX projects, project developed in the course of Interactive Systems, Applied Arts School – Polytechnic Institute of Castelo Branco, Portugal.

### KEYWORDS

UX design. Motion graphics. Project planning

## **WORKING TIME ON CONTEXT**

### **SIMULATING TRANSITIONAL EFFECTS ON UX DESIGN ON A CLASSROOM CONTEXT**

In an app project development (such as a task tool app), the design student in the final phase before delivering the graphic project to the SDK developer has to prototype the linkage between different frames and specific functionalities behaviors. To materialize that explanation, the video and the animation performs a useful tool in explaining time on two perspectives.

One perspective is the Designer context in how he or her designs the several contexts and how they work in a specific contextual logic as found in a “Matrioshka concept” a hierarchy concept. We define hierarchy as specific system of preferences with respect to certain hierarchical parameters (Kulish, 2002, pag. 53)

The Matryoshka consists of the series of figures distinguished from each other by their size only, therefore these figures can be included one within other, the large Matryoshka contains all smaller matryoshkas. A set of matryoshkas and the concept of their nesting together in one cohesive package serves as metaphor illustrating how a social action incorporates many important layers of people places and resources connecting the individual learner to our interdependent global society (Heilman et al. 2010).

The other perspective applied in the classroom relates with the time concept in drafting movement and functionality, the final result and what timed graphic transitions to expect from the implementation in the code. The time notion is present in those exercises, in these contexts the student must differentiate between speed from time, and the aspect of quality in time.

In the conventional approach the design process involves a sequence, starting with personas modeling, list functionalities, wireframes, till the final graphic maps. From this last phase the developer codes the app for debugging and delivering. In this



experimental approach, the designer tests the flow and experience from the sequence displayed in the app. The visual accessibility associated to the user experience empowers the project outcome. The design process overview must reflect the pace and rhythm perceived from the contemporaneous culture.

Tools of video composition that allow that double perspective are useful tools in context validation and in project organization. The flow chart available in some of those tools, so many times overlooked in project practices, allow that structure overview.

During the course of Interactive Systems 13/14 the projects conducted on UX followed a sequential model composed by several phases. In the UX sequence logic, the movement prototype comes in the eighth place. One of the interesting aspects present in the motion prototype is the model incorporation in a larger UX diagnostic evaluation sequence. The experimental approach comes in the last phase in a sequence logic constituted by eight steps, from the persona till the aesthetic qualities evaluation in the user experience. In the last phase the motion prototype tests the last layout in several turns till achieved a coherency between the movement and static layout aesthetics, figure 1.

#### UX Project task sequence 8 steps

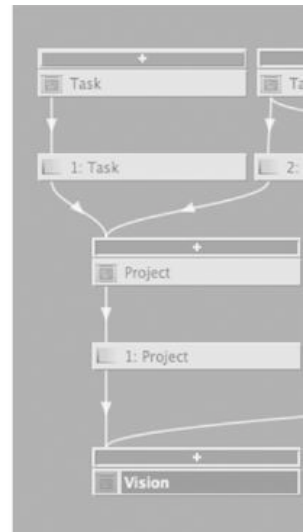
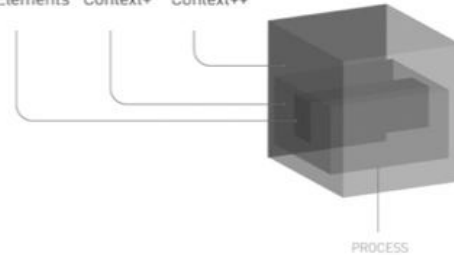


figure 1 UX project task sequence

Designing interactions through the use of video tools as experimental practice allows the incorporation and validation of till now neglected tools for project development. In the background of motion graphics project, the flow chart displays the logic between the several elements in the project and how they interconnect, figure 2.

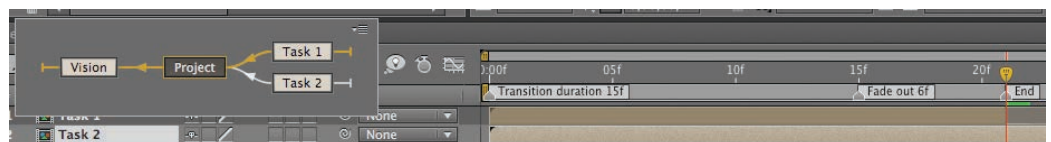
→PROCESS REASONING THROUGH MONTAGE

Elements Context+ Context++



**figure 2** flowchart view on the teaching strategy

In the video digital composing tool the timeline in each composition enables the student to design and test the future visual reactions on the visual interface. Applying the “Matrioshka concept” the project design enables a global contextualization in the work methodology, figure 3.



**figure 3** linking tasks to contexts in the digital video composing tool (Adobe After Effects)

The student designs the time through these visual constructions, creating different parameters to different functionalities in the app, in different levels of hierarchy the more important, the alerts or different visual responses each one with different “dramatic” levels. A graphic evaluation enables a better design of time and how certain visual responses work in the future app framework.

In the app final graphic maps before software coding, students often regarded these as the final output in the design process when testing those elements in motion they find necessary

modifications to those maps.

When prototyping with movement the details hold the secret, in that perspective attributes such as action, movement, and rhythm all the grammar elements present in transition effects and pauses between each element in the sequence, they all work together. The empty spaces between each frame, metaphorically perform as pauses between musical notes, due to rapid metronome by which we design content today, an mobile app gets an entirely different meaning in newer generation eager waiting for new paces and rhythms, eager also for new answers and new ways to engage with project planning, folding this grammar elements in their perspective and molding those as their personal tools.

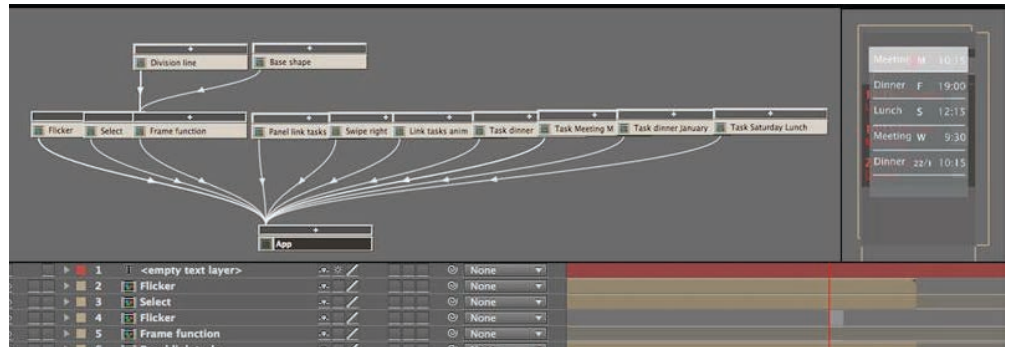
Continuity and discontinuity concepts play a crucial role in the app prototype. Continuity is abreast to discontinuity; the continuity, and discontinuity can characterize a moving sequence of frames on the motion perception in continuous time. An animated sequence of picture frames builds in the viewer a time duration illusion, managing to gather in one experience the concept of continuity from the fluidity till the complete fragmentation (Graça, 2006, p. 135).

When addressing in the moving picture frames the continuity and discontinuity is raised the question of succession of image frames and its rhythm value. To define the concept of pace is necessary to refer Plato definition, on the grounds of "ordering the time duration" as a metaphor, possible to represent in the regular motion of ocean waves upon their advent to the beach (Graça, 2006, p. 156).

We can contemplate the Rhythm as an organization and a language of continuous as an umbilical link to the human essence, where the metric foundation got lost to the poetic flow (Meschonnic, 1982). The variations of intensities can also delineate the rhythmic flow, emanating in it the expressions of various forms of language.

Understanding these concepts and changing their context allows

a refresh view on how to prototype a digital system under a new logic and framework, with this strategy the experience can empower new attractions on the subject of Design, figure 4.



**figure 4** prototyping with movement, project schematic view.

Applying the cinematographic metaphor of Walter Murch presented in his book “In a Blink of an Eye” we transpose to movie editing the way we edit thoughts. In a cinematic perspective we create the illusion of movement due to the gap between images and we make sense of a visual narrative joining the differences, contrasts in the sequence and pauses between frames, constructing a musical sense in the composition, a musical feeling that carries the message. As in a movie sequence also in the app aesthetic functionality, between the frames resides some of the secret.

The concept of movement and his understanding is crucial to understand how project development changes through time and how different ways to plan and conceive comes to surface due to new cultural behaviors and concepts to understand reality.

To an audience of students accustomed to rapid rhythms and fast pace there is a tendency to understand reality through a fast pace rhythm. In conducting learning experiments being aware of the preference of younger learners for a faster pace and adjusting for this may help grab and sustain student attention (Barkley, 2009,pag.137).

The author El-Shamy observes that the speed at witch people

prefer to move through material is a critical generational difference in education contexts, the author defends that younger generations, who have grown up with the faster, more driving beat of MTV are eager for faster rhythms, El-Shamy citing Christakis et al., 2004 and Tervaniemi and Hugdahl, 2003 explains that the reticular activating system, an area in the brain responsible for focusing attention has changed in recent years. Through constant exposure to video and computer games, the brains of today's young people have been trained to pick up and process new information at much faster speeds. When these students come into traditional classrooms they feel bored and show difficulty maintaining attention (Barkley, 2009, pag. 135).

For students, prototyping in an Ux project will change from a sequentially state to an intuitive assembly in mounting the pieces together and make sense of them through guides of aesthetic movement, comparing and constructing the coherence between static and moving aesthetics.

### **Findings**

Design through time enables a more playful perspective in the classroom UX project development. The student's interact with graphic elements through the use of animated graphics producing in the app prototype successive changes on each layer and context. Amplifying their reasoning on the app context of use. The time approach delivers different ways to change the graphic configurations enabling a more compelling experience in sculpting in the prototype how time will behave to the final app user.

Prototyping through motion allows a different perspective on the graphical layout effectiveness in the user experience settings. This model still in development gives to student the notion of adequacy and how motion influences the experience retrieved from the graphical layout.

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SPRING CUMULUS CONFERENCE  
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## WHAT'S ON IN RETAIL DESIGN? A transdisciplinary approach to a bachelor programme in retail design

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### ABSTRACT

This paper explores how a transdisciplinary approach to retail design is manifested in a new bachelor study programme in retail design at a Nordic University college for creative communication. The framing of retail design in terms of applied communication informed by design disciplines such as interior design and service design had implications for the structuring and implementation of the programme. The notion of multimodal brand communication, as well as what we refer to as the retail journey, and the orchestration of touch points are key.

### KEYWORDS

Retail design. Service design. Global culture industries.  
Multimodality. Touch-points. Retail journey. Brandscapes.  
Transdisciplinarity

## DRESSING WINDOWS WITH WRENCHED IDEAS



**Figures 1 & 2.** Window displays are dressed with wrenched ideas during a Students' workshop with artist at Thomas Saenger. The students are encouraged to articulate abstract ideas via physical objects.

This autumn morning, six empty window displays transform as thirty retail design students literally wrench their ideas under guidance of the artist leading the workshop. From Gaffa -tape, plastic ice cubes, pots, pans and kitchen stationary, the contour of a robot emerges. In another window display a floor lamp is strangled and muted with a stocking. The artist, Thomas Saenger teaches the students techniques for developing, transforming and refining abstract ideas, helping the students push their ideas far beyond their original point of departure. The first semester of the new bachelor programme in retail design is mid way, and the students are encouraged to develop their artistic, creative and conceptual skills.



## **A BACHELOR PROGRAMME IN RETAIL DESIGN**

A new bachelor programme in retail design is the result of a process of rethinking retail design in terms of contemporary multimodal branding practices. As a result of this rethinking, retail design is situated as a field of design and communication in the new study programme. As part of a transition process where vocational studies were developed into bachelor level study programmes, the retail design study programme has replaced a bachelor programme in visual merchandising and commercial interior design. The retail design study programme was informed by scholarly insights from branding (e.g. Klingmann 2007, Jansson 2006), media and communication studies (Lash and Lury 2007) as well as from service design (e.g. Clatworthy 2011, 2013, Gloppen 2012). In the study programme, retail design is theoretically situated in a contemporary brand-intensive multimodal media landscape but also rooted in more traditional design methods and techniques (which is the main focus of the second semester in the retail design study programme). In the development of the retail design study programme, study plans, curricula and teaching is oriented towards retail design as deeply intertwined with multimodal brand communication informed by service design as well as other design disciplines. As the first semester of the study programme was implemented for the first time autumn 2013, this paper gives attention foremost to the theoretical insights underlying the study programme, and how these insights are translated into the programme, especially in the first semester. The paper also focuses on experiences gained during this initial introductory semester.

The article is structured as follows: The first part argues how retail design may be positioned not only as a sub-field of interior design, but as weaved into the texture of the global culture industries (Lash and Lury 2007), where design intensive immaterial aspects of brand communication and customer experience (Petermans et al 2013) is regarded as central. The bachelor programme in retail design serves as

an case for a discussion of how the study programme seeks to scaffold student's knowledge building, which spans from the conceptual, the immaterial and the symbolic to practical design skills. Retail design is thus regarded as a trans disciplinary field that links media and communication with design. The last part discusses how the theoretical foundation of the programme is manifested in student works.

### **AN EDUCATION FOR REFLEXIVE PRACTITIONERS**

The study programme's main objective is to educate reflective practitioners (Jarvis 1999) in retail design via a balanced combination of theory and practice, often with real client case studies. The programme seeks to foster creativity and visionary thinking in tandem with acquired design skills and techniques, as well as design management leadership skills (e.g Gloppen 2012). The programme is designed so as to aid students in developing conceptual, artistic and creative ideas for retail, however, grounded in research, and as part of strategic integrated brand communication. Central to the programme is the objective of students and faculty exploring relationships between design and social changes in the context of retail design together. Ethical sensibilities, as well as a proactive approach to sustainability are regarded as innovation drivers for responsibility in retail in the new programme. However, this is a topic beyond the scope of this paper, and will not be dealt with in detail here.

### **DESIGNING FOR RETAIL IN A SATURATED MEDIA LANDSCAPE**

The word 'retail' refers to the selling of products to an end-user. Retail design is thus concerned with designing for the facilitation of selling products. This also includes designing for sale of services. Design may be understood both as a noun and as a verb. Garner and Evans (2012: xxiv) define design as:

Design (noun): Specific plans, drawings or instructions that contain all necessary information for the manufacture of a product, process or system; a particular physical embodiment of a product or device.

Designing (verb): the process of converting generalized ideas and concepts into a design as defined above.

Retail design is often understood as a design discipline closely related to, or as a sub field of interior design and product design (Mesher 2010). In contrast to many other art- and design disciplines, which tend to take as point of departure the artistic and theoretical interests of the artist, the interior is always influenced by the experience of the space that it is to inhabit. Balancing users' needs with the situation and place is crucial for retail design (Brooker & Stone 2007). Petermans and Van Cleempoel (2009) locate retail design within interior design. They understand the term retail design as covering a range of aspects that need to be considered in the design process, including tangible and intangible elements. These authors stress that economics and marketing are becoming more oriented towards a service oriented logic. In such logic, the products are becoming less relevant and a service dominant logic is becoming more important. The importance for retail designers and retailers to understand the emotional needs of customers and clients and to communicate with them is of great importance. According to Petermans et al (2013), efforts in grasping customer experiences has largely been on a detailistic and fragmented view on certain cues, which may influence customer behaviour, proposing a more holistic view on customer experiences.

## **RETAIL DESIGN AND THE GLOBAL CULTURE INDUSTRIES**

The study programme has been informed by a social semiotic view on media as understood broadly as encompassing buildings, interiors as well as other multimodal communicational resources (van Leeuwen 2005, Kress & van Leeuwen 2001). In social semiotics, attention is placed on the co-existence of a variety of communicational resources as well as on the communicational practices in which these resources are applied (van Leeuwen 2005). In a social semiotic view on communication, retail design is thus

central to the multimodal articulation of brands in the global culture industries (see for example Skjulstad 2008, Skjulstad 2011).

In conceptualising retail design as situated within the realm of communication as well as in design, the bachelor programme in retail design steers student's attention not predominantly to the physical retail space per se, but on retail design as a transmedia practice embedded in the rich and saturated media landscape which Lash and Lury (2007) refer to as the Global culture industries. In such culture industries, objects become media and media become things, and production and consumption are design-intensive processes for the generation of difference. This difference is mediated across platforms, modes and media as part of integrated brand communication.

While culture industry as discussed and critiqued as mass deception in Adorno and Horkheimer's (1944) seminal essay on culture industry was centred on goods, Lash and Lury (2007) stress that what they refer to as global culture industries largely works through brands. Lash and Lury's analysis of the global culture industries is particularly relevant in conceptualising retail design as situated in the cross sections between material environments and media, where brand communication is central. Drawing on Janssons (2002) work on the mediatisation of consumption, media and consumption studies may be regarded as substantially intersecting, as "...most kinds of consumer goods have become increasingly image-loaded, taking on meaning in relation to media texts, other commodity-signs, entire life styles and so on (Jansson 2002:6). Jansson (2002) argues that 'media culture' and 'consumer culture' is intertwined via the transitory processes of culturalisation, mediatisation and simulation into what he refers to as Image culture. Such an image culture holds media-influences and commodity signs increasingly as "...sources for, and expressions of, cultural identity" (Ibid: 5). Retail design may be regarded as a central aspect of such an image culture, a culture the students need to be tuned into from the very beginning of their study

trajectory.

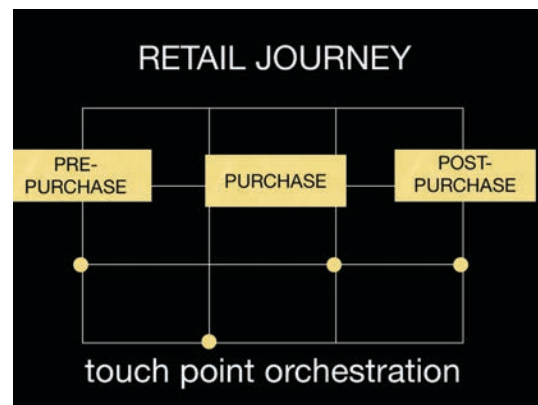
## **RETAIL DESIGN, BRANDS AND BRANDSCAPES**

Brands are omnipresent, penetrating almost every aspect of our life worlds, bleeding into economic, social, cultural, and even religious aspects of our lives (Jansson 2002, Lash and Lury 2007). Branding is central to most people, informing the experiences we choose, who we want to identify with and carefully moulding how our identity should be via persuasive lifestyle packages (Klingmann 2007). The concept of branding is intrinsically connected with marketing, advertising and is fuelled by consumerism and people's needs for categorise their lifestyles (Mesher 2010). Gardner and Levy (1955) understood branding in terms of a semiotic process unfolding in time, emphasising the brand as a complex symbol and a public object that may generate associations over a time-span. Such complex symbols may be mediated to the public via a variety of modes and media multimodally. Branding is now integral to many aspects of urban development as part of what Anna Klingmann (2007) refers to as brandscapes. However, the close associations between branding, architecture, interior design, media, and retail design as physical and virtual sites for staging of lifestyles (Steiner, 2000, Pierroux and Skjulstad 2011), is in need of further inquiry. These interconnections were regarded as a point of departure in the development of the study programme, and will be further explored in the bachelor programme.

## **AN INTRODUCTORY SEMESTER: SITUATING RETAIL DESIGN IN THE CULTURE INDUSTRIES**

The first semester of the retail design bachelor programme is labelled "Introduction to retail design". The main goal is to give students an overview of the field of retail design, as situated in a media-saturated trans-disciplinary applied communication and design field. The first semester introduces skills and insights for further development and refinement such as drawing and visualisation, branding theory, fashion-, architecture- and design history, media- and communication theory, but also an introduction to sustainable

design and, importantly, service design. Applying and adapting concepts from service design in the development of the study programme had a number of implications for the overall conceptualisation of retail design. In her study of service design leadership Judith Gloppen (2012), argues that service design is not a design discipline but rather an emerging competence that integrates other design disciplines. Gloppen (2012: 5) sees the design of services as comprising a number of design disciplines such as industrial design, interaction design, graphic design, interior design in order to "...design processes and customer/user experiences as well as physical products that are necessary to utilize the service, and to achieve the desired service experience".



**Figures 3 & 4.** Figure 1 shows and illustration of the retail journey and possible distribution of touch-points. Figure 2 shows a variety of touch-points related to retail design, spanning from catwalk to packaging.

Service design has informed the study programme substantially and is most prominent in the organisation of the study trajectory. The study programme follows what we have

labelled the “the retail journey” and not particular subjects/space typologies.

A commonly used definition of service design is “ Design for experiences that happen over time and across different touch points” (Service design.org, Clattworthy 2013). Touch-points are the points of contact between customer and service provider (2011: 15), and the use-scenario, where customers encounter the various touch-points is often referred to as a customer journey (Clatworthy 2011, Clatworthy 2013). In the development of the retail design study programme, these concepts were adapted and reframed as “retail journey”. The retail journey encompasses a conceptualised trajectory, which starts before the customer purchases something from the retailer, continues to the purchase situation, and continues after. Various touch points are then strategically distributed along the retail journey. Retail design students need to grasp how the careful orchestration of touch-points places specific retail space typologies such as stores or other physical retail sites (as for example discussed by Mesher 2010), in a complex interplay with physical retail spaces as well as other touch-points such as packaging, websites and mobile applications etc.

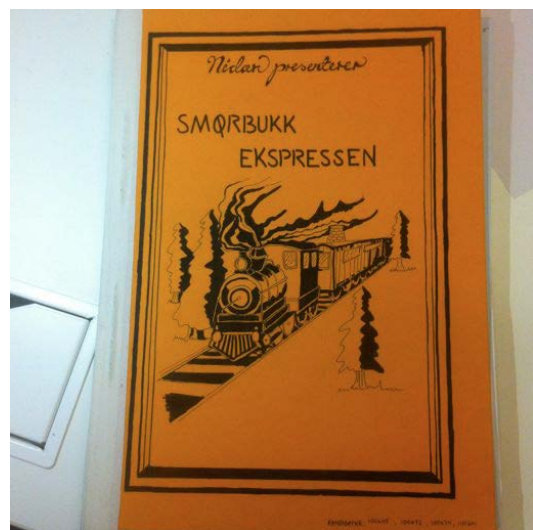
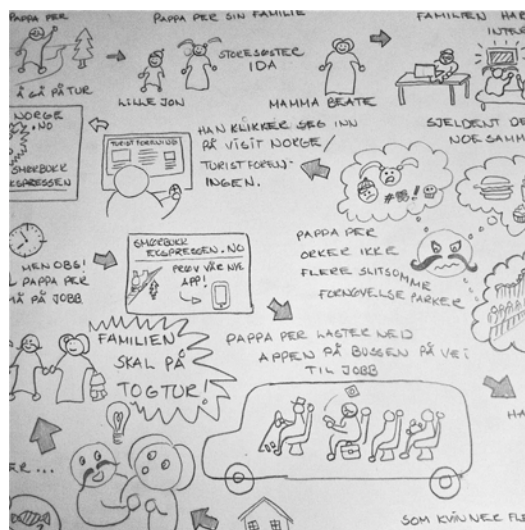
### **STUDENT WORK: REFLECTIONS OF THE STUDY PROGRAMME**

A service oriented view on retail design had direct consequences for how the students developed their exam projects during this first semester. They worked in groups of four, and they were given an assignment in the beginning of the semester. The assignment was to choose a decade in the 20th century (1920-1980) and select one product designed during the selected decade. The students were to design a groundbreaking retail concept for the selected product. The students were to have as a point of departure the visual language of the selected century, but make it relevant for 2015 via non-digital and digital techniques of visualisation. The assignment was to be handed in as a portfolio. As seen in figures x and x, one student group developed a train service for the revitalisation of a traditional caramel labelled “Smørbukk”. The caramel was launched

during the 1930s and is still in the market. After being introduced to service design mid semester, the students in this group applied techniques and ideas from service design in their exam projects instead of focusing only on the physical retail environment.

### SKETCHING OUT THE RETAIL JOURNEY

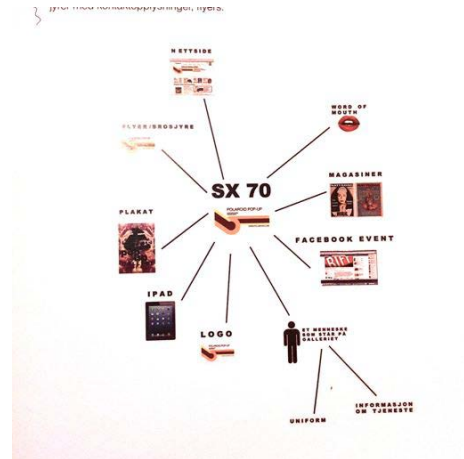
Designers need to have a means of explaining ideas to others, but is also important in the actual thinking and the creative process of designing (Minichiello & Anelli 2012). Visualising a customer journey, a visual map of a users' experience over time (Roscam Abbing 2010) is a design tool for creating an understanding of the experience of customers at different points in time. As seen in figure X, the students applied such a technique in their design of the Smørbukk Express. The visual map shown in Figure X shows how also such a visualisation make visible how shopping is integrated into the fabric of daily activities (Shaw 2010).



**Figures 5 & 6.** Figure 5 shows a mapping of a retail journey, where a family encounter a variety of touch-points in a process of deciding on a journey with the Smørbukk Express. Figure 6 shows how non-digital visualisation of the nostalgic mood of the retail concept.

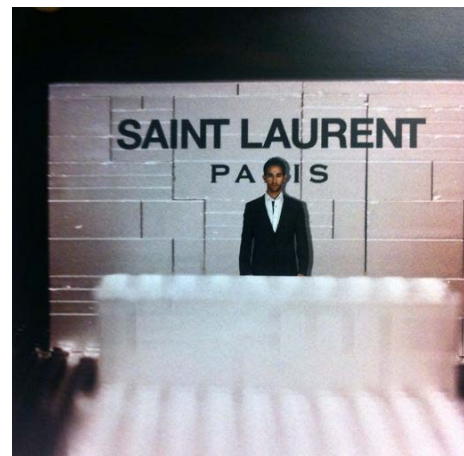
Figures 5 & 6. Figure 5 shows sketches of a pop-up store for Polaroid, and Figure 6 shows a variety of touch-points for the envisioned communication of the pop-up.





**Figures 7 & 8.** Figure 7 shows sketches of a pop-up store for Polaroid. Figure 8 shows a variety of touch-points for the envisioned communication of the pop-up.

Another student group created visualisations of a pop-up store as part of re-launching the SX 70 Polaroid camera, also showing the variety of touch points at play in this event, before, during, and after the pop-up event.



**Figures 8 & 9.** Mood board and mock up-visualisation of a co-branding project, where Saint Laurent Paris and Lego join forces.

(Roscam Abbing 2010) highlights designs' capacity to connect, to make the intangible tangible, to prototype and visualise what might be. Such a relation between brand innovation, design and visualisation is visible in a co-branding project between Saint Laurent Paris and Lego into a store that combines e-commerce with physical retail space built with Lego bricks. The multiplicity of techniques applied in visualising how such collaboration might look like in a retail setting.

## DESIGNING FOR MULTIMODAL BRAND COMMUNICATION

Summing up, by integrating and adapting central concepts from service design and by situating retail design in the brand driven and design intensive global culture industries, the focus of retail design in the bachelor study programme has been placed on integrated multimodal branding as opposed to a strict focus on special retail typologies. This shift will hopefully enable future retail designers navigate and balance the material and immaterial aspects of retail design.

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## THE SPECIALIZED GENERALIST; Art and design and the osmotic oxymoron

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### ABSTRACT

Against the backdrop of a rapidly changing media-scape and shifting economic balances, designer and artist is being pressured by a briskly growing body of media participants and their role frequently undermined by (internal) discussions on medium-specialisation versus medium-versatility. The position of the school in this turmoil needs to be anticipatory and participatory, both in terms of content and form. Education in design is also about the design of education. Five points to open the discussion.

### KEYWORDS

Specialization. Media-theory. Design-philosophy. Meta-media. Shifting paradigms

The Netherlands have recently witnessed a revival redefining the position of the autonomous within the autonomous, which resulted in the 'emergence of the hybrid artist'<sup>1</sup>. Despite its century old provenance, the current political and economic climate of the low countries justifies any attempt to scrutinize the practice of "non-essential" practices, such as the arts and design<sup>2</sup>. Now a seemingly integrated and accepted pre-existing economic model of the artistic practice has a new name, which suggests that there was still uncertainty over how the independent artist deals with commissioned or applied work.

This relates to the fact that the micro - economics which actually fed into the practice of the autonomous artist are not necessarily linked to the autonomous practice itself, in other words; the practice of the artist is not a monoculture but a hybrid system of economics tapping into different sources. Whether this recognition is sufficient to break the industry's collective cognitive dissonance towards its own dynamism is not yet clear, at least it gives rise to a renewed discourse on the validity of the distinction between arts and design. More importantly for this argument is the analogy that can be found in the discourse in which (media-) specialisms are essentially placed in an antagonistic symbiotic relationship with generalism. As a result, a specialization in a specialization would automatically exclude a specialization in a generalism. There is very little recognition of the generalist specialism, so this duality manifests itself often in an asymmetrical argument: it is the specialism versus everything else. In other words, if you do not have a recognizable specialty, but you excel in bringing together and conduct a wide range of skills, than you have nothing. It is a dangerous contradiction. There is absolutely nothing against this type of asymmetrical logic, but I would like to suggest a counterargument. As an alternative to this structuralist antagonism, I propose a third way for ("the third pill" as Slavoj Žižek would put it, including his charismatic enunciation<sup>3</sup>), and go with Deleuze in the proposition

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<sup>1</sup> Gielen, Pascal & Winkel, Camiel van & Zwaan, Koos (2012) De Hybride Kunstenaar.  
<http://lectoratenakvstjoost.files.wordpress.com/2012/03/eindrapporthybridiseringnlbe.pdf>

<sup>2</sup> Žižek, Slavoj (2006) *How to read Lacan?*, London: Granta Books

<sup>3</sup> Deleuze, Gilles (2012), *Difference and Repetition*, London and New York: Continuum.

to begin in the middle, the theorem of the excluded middle<sup>4</sup>. In principle, any discussion about the antithesis generalism versus specialism is fairly quickly brought to silence by diving into the history; it would be trivial to insert here some examples or to isolate a causal argument that would render such discourse superfluous. Apart from this, it will be necessary to bridge the discussion about the position and role of research in art and design, in order to see how education relates to the meta - discourse on the economic validity thereof , expressed in terms of the post -neoliberal economy. Five points of consideration.

## 1. MEDIUM DRIVEN ACTING

Much impetus for the discussion on the apparent dichotomy between specialism and generalism arrives from a media-driven mental framework . It is not necessary to be particularly informed to be able to notice that the convergence of media ever progresses and the ways in which these media are being used are subject to major changes . As a result, many classic or traditional divisions in media typology have been rendered obsolete<sup>5</sup>. Lemma's such as mixed media, multimedia, interactive media or cyberspace do no longer cover its original content or context, even though the terminology is in some parts of the field still very active. When you look at what happens if the mix is already in the medium, for example on the boundary of moving image and still image or the digital manipulation of 'real' images et cetera , or in 3D printing and when the media get a high degree of autonomy (with autonomous hardware types like Arduino et cetera), than the ambiguity of the classification becomes immediately apparent. A continuous conversions takes place between the analog and the digital domain to such extent that there isn't any clear distinction between them anymore. In a particular degree of minimization of the intervention of the

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<sup>4</sup> When we talk about a movie , then we are actually talking about video , but more specifically stored as a file and actually specifically compressed in H264 and so forth. Hence the uncertainty about how to deal with this has greatly grown, not least because of the economic implications.

<sup>5</sup> Another specific condition under which the taxonomy of media fails to produce a meaningful organization occurs when the media system is more important than the content or the form (for instance when the fact that you respond to a post is more important than how you respond, think of TLDR)<sup>6</sup>. The added message serves as an indicative signifier to the original post, any reaction to that reaction provokes a meta-discussion, leaving the actual medium or content out of the equation.

'author' of the mediation, one could only speak of the design of protocols as finished product; the actualization of a certain concept takes place without any interference or influence of the 'master' of this genesis<sup>6</sup>. All the examples mentioned indicate that traditional taxonomy of media typology is in an increasing number of situation not particularly useful anymore or even works counterproductive<sup>7</sup>.

Meta -media thinking is, by definition, neither generalist nor specialist, it refers to the moment that a concept / idea / thought is so intensely concentrated that it is almost tangible , the mental medium reaches a state of over-saturation. Any confrontation with a 'physical' medium ( note that physical includes both digital and 'virtual' media) will inevitably lead to a condensation actualized in that particular medium. The meta- medium as a proto- product . In that case; can you still speak of a medium - specialization ? Is it not true that the specialization lies not in the media , but in the artist 's own proto - product ? With a generic appearance ? With this I do not mean to suggest that the position of media related research and experimentation with and in media is of secondary importance, however I think it is no longer useful to express this in degrees of specialization. The field of the designer is embedded in stormy techno-social developments.

The ever accelerating developments in electro chromatics make it possible to provide any surface with an expression of (moving) communication, and even incorporate information about the viewer in its choice of topic and means of expression. The (in)famous scene from the film "Minority Report" is very easy to realize, only lack of economic interests and a little bit of ethics impede the implementation<sup>8</sup>. The future designer will increasingly

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<sup>6</sup> Alternative classifications as 'Lens-based' or 'Network-based' media or 'Real time' or 'Arrested time' media, have some advantages over the outdated models and can be found to be remarkable precise.

<sup>7</sup> Minority Report is a film by Steven Spielberg from 2002, its main theme is the antagonism of free will versus determinism. The infamous scene portrays the role of media in a futuristic state in which electronic advancements makes their presence ubiquitous.

<sup>8</sup> With this in mind , we have set up an experimental Master research studio in the Department of Architecture at TU Delft , where the ' media' architecture and cinema were used in the design on an equal footing<sup>8</sup>. It soon became clear that students respond very natural as they are handed a set of skills from another métier than their own to make a design. Think of the (sometimes literal) conversion of architecture into a movie , then adapting this product to a number of requirements and needs to eventually translate all assembled notions into



be engaged in this discussion , because it is no longer the medium that determines the feasibility and desirability of its own implementation . As with the 'social media' , participation is more important than the message itself , making participation almost a political choice. After all, without participants there cannot be any of these media systems ,and therefore no multinational media empires controlling these vast amounts of our personal data . To be critically engaged in social change and politically active, we do not need an external theme to address in the media, the media are a social-political theme.

## 2.FROM META - MEDIA TO ASSEMBLAGE.

In autonomous design -if a direct connection is made between the pragmatic realism of design philosophy and practice - it is of enormous importance to involve a field that moves between the affective capacities of media , the 'subliminal perception' and the virtual - as the non-actualized part of reality. The initial starting point for the proposition was that if you would assess media on its capacities (what it can do) as an alternative to a classification on basis of it properties ( which it is). Based on a redistribution in the media landscape, it is possible to compare two media, profit from each other's strengths and exchange information without the need for them to be of the same 'material'<sup>9</sup>.

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architecture. This is also closely connected to what an increased intensity of perception ( sharpening the senses - seven or more - as part of the heuristics ) can mean for the ambient experience-value . As a result, this style seems to develop a phenomenological character but in is fact much more resonating with a psycho - geographical approach. It appeared quite possible to make very concrete statements about the current reality without using traditional cartography (such as vision and dimension) whereby the ' soft' and new instruments offered by the 'other' métier provided a space for a surprisingly fresh code in the design of urban interventions .

<sup>9</sup> With this in mind , we have set up an experimental Master research studio in the Department of Architecture at TU Delft , where the ' media' architecture and cinema were used in the design on an equal footing<sup>9</sup>. It soon became clear that students respond very natural as they are handed a set of skills from another métier than their own to make a design. Think of the (sometimes literal) conversion of architecture into a movie , then adapting this product to a number of requirements and needs to eventually translate all assembled notions into architecture. This is also closely connected to what an increased intensity of perception ( sharpening the senses - seven or more - as part of the heuristics ) can mean for the ambient experience-value . As a result, this style seems to develop a phenomenological character but in is fact much more resonating with a psycho - geographical approach. It appeared quite possible to make very concrete statements about the current reality without using traditional cartography (such as vision and dimension) whereby the ' soft' and new instruments offered by the 'other' métier provided a space for a surprisingly fresh code in the design of urban interventions .

These heuristics have also been tested in several workshops offered around the globe including sessions in Hong Kong, Nanjing , Budapest ,Moscow and New Jersey and its reflection also appeared in publication. The follow-up study

The investigation into materiality , into medium specificity , into the medium specific gravitational pull , is according to this logic also influenced by the material itself, not only as a subject of its effects, but also as an actor. This position casts a new light on the aforementioned material and media research . To entirely reverse the relationship (the material investigates the investigator is perhaps interesting as a psychoanalytic study , but at least there is an argument to speak of a dialogue between the researcher and the researched. After all, the symbiosis does not only provides new insights and knowledge, but also pushes the boundaries of the material itself. For instance; the power of water is meanly visible as a long, flexible process until someone jumps out of a plane and crashes hitting the surface, then suddenly the force appears to be quite acute . New alliances can be formed which cannot be logically expected from the material itself , but with a little help could rapidly gain in strength ( material with memory , self-cleaning material , etcetera ). The question is how to describe this research through alliance in the practice of the artist/designer , and probably equally important is the question of how to interpret this relation in art and design education. It is this

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focuses on the affective capacities of media, including the subjective, virtual domain as 'hard' value in its appearance; hard in this context means as hard as color, material , dimension, and so forth, thus unlocking it's potential as a comprehensive tool for the designer. In radical empiricism this is called *real virtual* , it is the part of the reality that is not actualized. Of course , the subconscious , sub-narrative supremacy of ( moving) images is not new in the arts or in design and there is also a lot of theorization done on this topic , but what we propose goes much further. Again, a research studio was set up in 2012 to work with these affective design principles , which has recently delivered its first MSc graduates. In the words of philosopher and architect Andrej Radman:

Experience is never of something, rather it is something and as such irreducible to what we call lived experience. The main consequence of such a revelation, according to Robin Evans, is that goal-oriented human action (intentionality) cannot in any serious way be used as a design criterion (determinism) because "freedom of action is never a de facto established condition but always a nascent possibility (virtuality/the unconscious/desire)

The position of the New Materialism – and that of political theorist Jane Bennett in particular - claims that it is high time to leave the anthropocentric hegemony in thinking about the relationship human -object<sup>9</sup>. The internal needs and desires of the *material* deserve an equal position in the human-object force field. Or as Jane Bennett puts it : " the capacity of things – edibles, commodities, storms, metals - not only to impede or block the will and designs of humans but also to act as quasi agents or forces with trajectories, propensities, or tendencies of their own <sup>9</sup> "

<sup>9</sup> "New materialism shows how the mind is always already material (the mind is an idea of the body), how matter is necessarily something of the mind (the mind has the body as its object), and how nature and culture are always already "naturecultures." Uit Dolphijn, Rick & van der Tuin,Iris (2012) New Materialism: Interviews & Cartographies, Ann Arbor: Open Humanities Press, University of Michigan Library.

<sup>9</sup> Bennett, Jane (2010), *Vibrant Matter: A Political Ecology of Things*, Durham and London: Duke University Press.

research after all that is defining what the researcher specializes, and it is the job of the educator to help clarify this.

### 3. RESEARCH AS A HEURISTIC TOOL

The role of research in the learning environment of art and design education is the subject of current debate and this discussion itself indicates the complexity of the issue fairly precisely. In the traditional sense one could say that the artist stretches - by definition - the boundaries of 'what is' constantly and where possible (and if necessary) substantiates the imaginary<sup>10</sup>. In all cases an intrinsic research will directly or indirectly be put into a product and depending on the materiality of the process this research will in greater or lesser degree be medium dependent (material-experiment), sensation-oriented (form study tonality) and/or conceptual (Position- Aussage - Deutung)<sup>11</sup>. The perception of the visual artist / designer is by definition not merely input or output, but 'throughput', although it is also very valid to assume that this would apply to all perception<sup>12</sup>. In the case of the artist/designer however, this process is probably most clearly expressed. For both artists and designers goes that this research is initiated by an internal or external demand, mainly subjective in nature and will manifest itself most likely in an (audio-) visual form of expression. This also articulates the great discord between definitions that can be given of academic research in which terms such as objectivity, methodology and participation to the discourse in which there is a (sometimes arbitrary) distinction between fundamental and applied research. There is a value attributable to the research in the arts and design and the 'soft', imaginative, non-linear and creative subjectively are not perceived as a threat by the academic world, but as a valuable addition to the methodical, partially redundant and generic nature of much scientific research<sup>13</sup>.

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<sup>10</sup> Massumi, Brian (2002), *Parables for the Virtual: Movement, Affect, Sensation*, Durham: Duke University Press

<sup>11</sup> Positioning, targeting and signification.

<sup>12</sup> Massumi, Brian (2002), *Parables for the Virtual: Movement, Affect, Sensation*, Durham: Duke University Press.

<sup>13</sup> The frantic efforts of the industry of art and design education in order to quantify how the research in education is integrated seem therefore to play in the wrong tier. The formal obligations to make this controllable and quantifiable are mercilessly indifferent for this special type of education. In other words, the questions regarding research in a school for arts and design are too generic and

The question is not; how do we answer the question of how we implement research in our work , but how do we make explicit what is implicit. The transition from extensive modeling , to intensive thinking and acting . It is therefore of secondary importance whether one can express oneself in terms of specialization . One can specialize with a purpose, an end point, research to the point that there is an answer ( versus research till 'all' answers are found) to support a process, which in itself can be a part of yet another process. Under which not only an element could belong to the (temporal) specialty of the maker, but also to the process itself.

## 4. AFFORDANCE

Practical study is a part of the design process itself . That is to study individuality, passions , source material , techniques and design methodologies to use in the design process and to obtain a deeper understanding of potential solutions. This type of research returns in all practical subjects, so logic dictates that the content is always bigger than the form .

As mentioned , there is a simultaneous rise of the greatly increased media participation by consumers which cause a lateral flux in the development of the professional creative industry<sup>14</sup>. As a result, the question of what you could and would regard as imperative to teach - art and design- students altogether, seems to be more relevant than ever.

### EDUCATION IN DESIGN IS THEREFORE ALSO ABOUT THE DESIGN OF EDUCATION.

The rapid development of the means of production should be taken into account properly, since it is a reality that a student at the beginning of the study has a complete set of other instruments available then at the end of the study. And I do not mean the mental tools they are supposed to gain during the study . So the question is how can a curriculum be flexible enough to keep up with and respond to the constant changes

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contain many phallic components. Rather than formulating a response that addresses these superficial modes of thought , it seems that all efforts are aimed to formulate spasmodic constructs in subservient answers and to exhibit defensive behavior.

<sup>14</sup> As mentioned, some fear a 'counter - flow ' but it appears not possible to find much evidence for this

while maintaining a sufficient body and structure to speak of a curriculum. Especially when the in- and outflow conditions are not really predictable (social, technological, economically and so forth). If we look at the theory of psychologist Maslow and how to connect his "Four stages of learning" with all the other forces acting on the students works – including these imposed by the desire to optimize the student for professional practice, which is as mentioned most probably very different at the end of the study than at the beginning - than we can make some statements about specialties<sup>15</sup>.

Specialization can also be an instrumental part, as a means to a higher end. The role of a specialism can therefore change under the influence of the larger assembly, if we contrast that against a particular skill-set. It could be leading (specialization) or serving (as part of a generalism) depending of what stage of the research is reached. A consequence of this is that any kind of education that is now developing requires that these issues are intrinsically part of the program itself.

## 5. ECONOMY

If we follow economist Brigitte Borja de Mozota in her study of the relationship between the designer and the manager, the former excels in underdogness and a positional distrust of the

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<sup>15</sup> As is known, the basic assumption of Maslow's theory is that students go through several stages during their studies; 1.unconscious, incompetence, 2.conscious, incompetence, 3.conscious, competence, 4.unconscious, competent. Also important is the later addition of 'consciously capable of unconsciously competent'. This stage refers to the reflective ability of the student to consciously become aware of gaps in competences. A student in the first phase will be fitting a fairly naive certainty because 'all of the unknown' has not yet been established, a student in phase two has become more awareness of his position in the *phase map* and would like to cling on to something that gives a secure grip. Students in phase three may find themselves a specialist (but are not one yet), in phase four the students will not call themselves a specialist (but are in fact one). The most important phase herein is number five, namely when the realization of one's own position relative to personal competence is powerful enough to distinguish between research in one's own *oeuvre* (which is in fact the driving force for the development of own work) and conditional, pragmatic research (which arises from specific questions that ascend from the first type of research). It is at this junction that a specialization occurs. An example would be to name a befriended painter who specializes in mixing different types of chocolate to get a specific depth in pigment and structure on the canvas. The sad thing is of course that not every student nicely follows this trend, and even if that would be the case, then it is rarely so that all five phases are passed in a chronologic and orderly fashion. Educational programs are mainly modeled on a development up to phase four, which results in the logic that students get the most appreciation when they are specialized in a specific medium, because then they get the diploma. The causality has been mixed up; the appreciation (diploma) is a reward for having come to the end of stage four (unconscious, competence) but as this happened to align with the moment of maximum specialization, it is perceived as if the specialization leads to the reward.

second<sup>16</sup>. The manager acts in this relationship with a fundamental undervaluation of the soft resources and human capital of the first. All this sounds too familiar and in urgent need of revision. But the question is whether the necessary next economic model (as successor to the economy of the structural growth) would still recognize these oppositional positions. After all, the way out of this socio-economic and ecological deadlock will not be found in existing structures. And therefore it is worth - in economic terms - to think outside the structures of specialties. There are several reasons for not idealizing the Homo Universalis as highest attainable state of human development, but the Homo Connectus (if such a thing exists). The networked human who not only always operates in partnerships, but see himself and his/her role always in the larger framework. The non-egocentric, yet ambitious human who sees self-interest and collective interest as one and recognizes that there are no winners unless all win. Who leaves room for the unspoken, regards the virtual as real and valuable. Who does not think in terms of more or larger, but in terms of better and more precise. If we see information as the pivot point between the virtual and the actual, and affect as dynamic surplus that arises at this interface, it soon becomes clear what the role of the artist / designer in the new economy can be. First we must push for a growing awareness of the economic validity and value of the design of affect, both autonomous and applied. In addition, the role of the individual will need to be handled in a different way. The position of the individual in the collective sometimes requires a leading role and in another situation a following role, in one situation, the individual is a specialist and in the other he/she is a generalist. Follow and lead<sup>17</sup>.

New forms of affective design may arise; part-to-part design (no central design, different blocks complement each other), Rhizomatic Design (no central purpose, design what is needed, when needed), Watershedding (design without predetermined target, defined by the user). Therefore, in the future we will work

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<sup>16</sup> Borja de Mozota, Brigitte (2003), *Design Management*, New York: Allworth Press

<sup>17</sup> XXXXXXXX, xxxxx (2010). *Designing Paradigm Shifts; Follow and Lead*. Paper presented at Cumulus Conference in Genk, Belgium. (author made anonymous for the evaluation process)

with non-linear education which knows; group skills, modular-progressive learning and middles research as a prime directive. As expected the process of thinking about this progression runs completely asynchronously on the global scale. Therefore it is of great importance to fully emphasize and embrace the development and implementation of new forms of educational content - especially in art and design - because the current Western lead still can be of great importance for influencing the thinking and actions in other parts of the world . Teaching how to do design learning, is not be seen as a threat but as a huge opportunity to influence the world of design and hence the world as a whole.

## CONCLUSION

At this time we have to make choices that are crucial, more of the same kind of thinking does not make sense . Art is not about politics, art is politics and design is economy . The organization of the design of affect has a high priority, including a clear area of research at the meso-level ( the artist himself ) and practical research as a heuristic tool. The paralysis of the apparent antagonistic relationship between form and content must be broken, the empire of (post-)structuralism must be overcome. There are forces that soften the distinction between specialism and generalism from the 'inside out' like vanishing medium specificity and the increased participation in production and so forth. At the same time, there are plenty of reasons to maintain interested in materiality and media research. When we incorporate situation-specificity and temporality of our actions, in our actions, the existing antitheses will disappear and we create the conditions for a third way in which art and design claim their political gain and thus prove their economic validity. The specialized generalism appears to be an oxymoron, but of the kind where both terms merge into one another.

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## 'EXCELLENT ENGINEERS': Design of teaching aid under the creative curriculum and education mode

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### ABSTRACT

Under the plan "Excellent Engineers ", lots of schools of civil engineering try hard to foster students with the abilities of innovation and practice, but many of them are facing a problem of combining practice with theory in undergraduate education. Aiming at undergraduates majoring in civil engineering, through the research of existing teaching aids, 3D models, prototype making and mechanics experiment, a new kind of modularized teaching aid based on bridge construction was designed and developed. Combining theoretical analysis and calculation with structure models assembly, the teaching aid hopefully helps to nurturing creativity, practice ability and the ability to comprehend and apply engineering theoretical knowledge to solve practical problems.

### KEYWORDS

Teaching aid. Engineering education. Practice. Modularization

## **BACKGROUND**

The Excellent Engineers Training Program is an influential plan about education revolution, aiming to train a generation of high-quality engineering talents who are innovative and adaptive to the economic and social development. It helps achieve the goal of embarking on a new industrialized road, building an innovative country and implementing the talents strategy for powerful nation (Dong et al, 2012). A new education system which encourages students to explore and create by combining the theory with practice in the innovative education mode is the effective way to fulfill the tasks brought by the plan and to keep providing high-quality talents for the country (Wang et al. 2007).

As a subject of use and application, Civil Engineering highly requires that students in this field be equipped with basic knowledge and practical ability. Therefore, apart from improving the education system, it is also crucial to explore how to take full advantage of teaching tools to improve education quality. It has great guiding significance in promoting education system reform. On the other hand, it is of huge social value considering that students will be more qualified for their future work.

## **THE CHARACTERISTIC OF TEACHING AIDS UNDER THE CREATIVE CURRICULUM AND EDUCATION MODE**

The objective of Excellent Engineers Training Program requires that the teaching tools should play a role in combining theoretical teaching with practical teaching. From the view of teaching, it is of much importance to develop students' practical operation ability as well as the ability to comprehend and apply engineering concepts i.e. the ability to think deeply in a practical engineering way. Therefore, the teaching tools are required to help users make what they have learnt into practice and develop their ability to deal with problems.

In addition, we should not only focus on assisting teachers in teaching theories especially some abstract concepts, but also emphasize the development of students' self-learning ability and

practical ability under the innovative teaching mode as well, for a key difference between traditional and innovative teaching is the change that the teaching emphasis transfers from students' being taught to learning by themselves. What's more, invention of teaching tool should also allow for the openness that there is no limit to the users' creative thinking and offers them the chance to explore and be inspired.

## **CURRENT SITUATION OF TEACHING AIDED PRODUCTS OF ENGINEERING EDUCATION**

The majority of professional teaching tools among the present market are those that serve the traditional teaching mode, mainly aiming to aid teaching. There is a newer trend in the users of the real teaching tools involving independent exploration in the present market, most of which are baby's brain development tools, children's educational toys and primary and secondary schools teaching aids. It is hardly to find such a set of professional tools designed for engineering students. There are some selected products which meet requires of innovative teaching mode in a way and then did the case study.

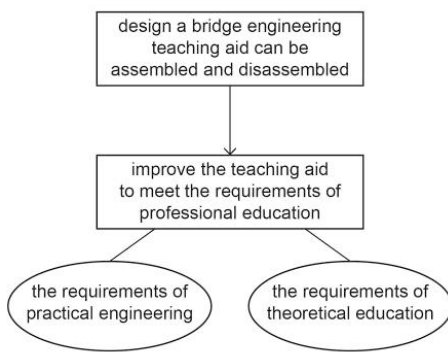
- K'nex teaching system

The K'nex system is a relatively ideal toy to encourage children to learn and explore while playing. Its building system consists of interlocking plastic rods and connectors, which can be connected at different angles and directions to form all kinds of models.


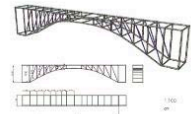




There are many other pieces, such as Wheels, Gears, and Pulleys, which allow the users create more models they want. In addition, its modular design makes it suitable for mass product. The system provides a good way to nurture users' creativity, but it can hardly meet the requirements of professional engineering education, because it could merely simulate the form of the structure, but couldn't demonstrate the real force state to be theoretically calculated.

- Lego

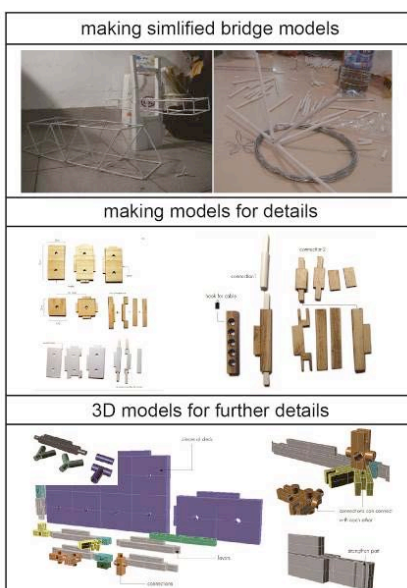
Lego is a typical and popular kids' toy which can be assembled



**figure 1** the mind map of how to design the teaching aid

Ancheng Bridge	
Arch Bridge	span: 65 m, width:7m
	
Qiantangjiang Bridge	
Beam Bridge	span: 1453 m, width:9.1m
	
Zhangzhen Bridge	
Cable-stayed Bridge	span: 126 m, width:12.8m tower height:30.31m
	

**figure 2** the simplified models of the three typical bridges



**figure 3** the methods of developing beams, decks, and connectors

and dissembled. And its modularization makes it easy for mass production. It consists of colorful interlocking plastic bricks, which can be connected to make all kinds of models. Its interesting design arouses the users' enthusiasms to explore, but for it is not particularly designed for professional engineering education, its shape, connection method would bring troubles when it is used in simulating structure model, let alone in the professional level. Besides it couldn't demonstrate the real force state and simulate the real function of structure, it couldn't be theoretically calculated or test the users' ability to apply engineering theoretical knowledge.

## DESIGN PROCESS OF THE TEACHING AID

Different departments in civil engineering have different research fields. Because the structures in bridge engineering is relatively clearer compared with building engineering in which there is more requirements for the material of other parts such as External Walls, we chose bridge structure as the start-point of our research. Inspired by the existing teaching products which can be assembled and disassembled, with the aim of combining practice with theory education, we make a basic mind map of how to design the teaching aid as the figure 1 shows.

### TENTATIVE EXPLORATION BY MAKING BRIDGE MODELS

The first step is to design a bridge engineering teaching aid can be assembled and disassembled. Because of the diversity of bridge structures, three typical bridges ( Ancheng Bridge, Qiantangjiang Bridge and Zhangzhen Bridge, China), respectively selected from three basic types of bridge forms (arch bridge, beam bridge and cable-stayed bridge), are simplified in order to guide the next step as the figure 2 shows. Then with the method of 3d model and real model making, we explored and developed the shape of beams and decks, and tried to using a kind of universal connector to connect beams with beams, beams with decks, and decks with decks as the figure 3 shows. The developed model can basically meet the requirement of assembly and disassembly.



figure 4 the strengthen parts of the deck-deck connectors

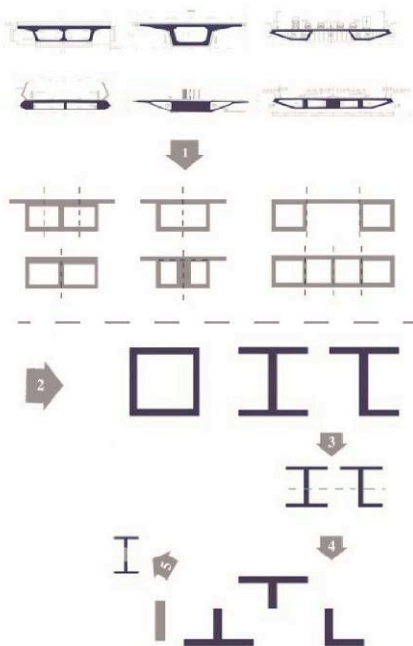


figure 5 the schematic plot of splitting sections of bridges

## REDESIGN BASED ON PRACTICAL ENGINEERING

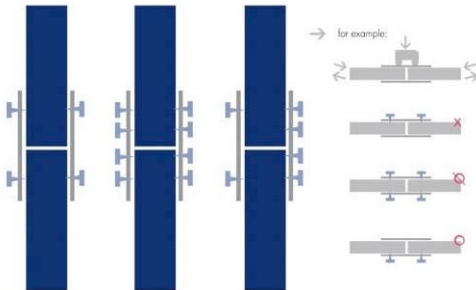
This step is to meet the requirements of practical engineering. Because the ability of force conduction of the existing connector is quite limited, the whole model made by the teaching aid couldn't simulate the force state of the structure or conduct a real load test. And then it cannot be further designed professionally without the foothold. On the other hand, because of the ignorance of the beams' function and that its size is similar with the decks, the current beams cannot play the role of which in the real bridge. Besides, the simplex shape of beams results in the simplex section of the structure it could simulate, which limits the diversity and possibility of the models the users could build based on engineering construction.

However, among the existing connectors, the strengthen parts of the deck-deck connectors, shown in the figure 4, conduct the force well, moreover it is quite similar with the one used in the real engineering project. Inspired by the strengthen parts, therefore, the connectors which consists of slices and studs are designed, and the corresponding beams are redesigned. By simplifying the sections of common bridges and splitting them into basic possible ones, rectangle and H-shaped sections became the prototypes of the model set. This not only much more conforms to the sections of steel structure, but also provides more possibilities of the structures they could simulate. Then the H-shaped sections are split into T-shaped and L-shaped sections, plus a kind of universal added cross sections which could achieve the goal of simulating box girders with variable cross sections, to meet more complicated requirements of practical engineering. The schematic plot is shown in the figure 5.

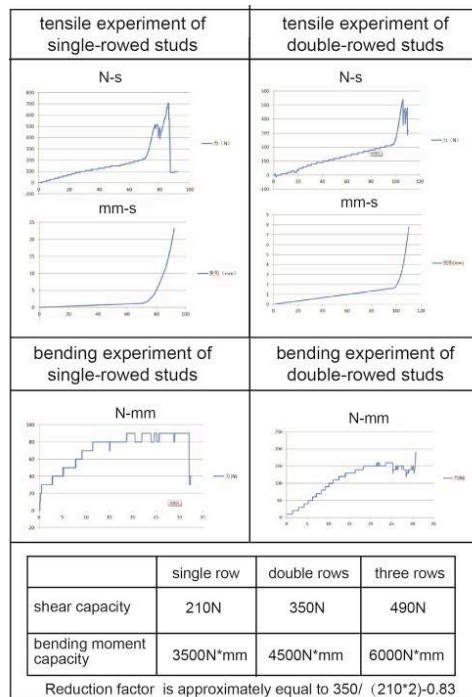
## REDESIGN BASED ON THEORETICAL EDUCATION

In order to fulfill the ultimate goal of combining the theoretical education with practical education professionally, besides construction of the bridge model, it is necessary to take analysis, calculation and even load test into consideration. The whole set of procedures are integrated into SINO to make students apply what they have learnt into practice.

The theoretical calculation depends on the precise data about



**figure 6** the schematic plot of how the connectors work



**figure 7** the data of the studs experiments

size and mechanical parameters, so we determine some representative sizes of cross section (the cross section in rectangle, H-shape, T-shape, I-shape and added cross section) and lengths of components (the lengths for connectors with direction of 30, 45, 60 and 90 degree). Moreover, the consistent size between connectors and rods together with the sizes and intervals of the stud holes on them are also decided, assuring they could be used compatibly.

It is noted that the numbers and positions of the studs distinctly influence the bearing capacity. To make use of this skillfully could offer different bearing capacity for the connectors. By thinking about where to put the studs and the number of them, users are trained to check whether they have analyzed and calculated in a correct way, as shown in figure 6.

In order to provide the real data for the users, we performed the experiments about studs in the favor of students in Bridge Engineering. The data is the evidence for teachers to examine whether students have the right calculated results, as shown in figure 7.

The quantitative computation requires other parameters containing the weights of components needed, elasticity modulus and ultimate strength of the material. Obviously, the areas of the cross sections are included as well.

Considering the costing and volumes of teaching tools, studs were marked into different colors, each color representing a kind of force state so as to examine whether students have correctly analyzed the force..

It is known that force is the key to study structures in teaching and learning. Invisible and colorless, it is hard for students to understand force which actually exists in the structures. If teaching aids can help convert abstract into concrete, it will make a big progress in the recognition about force. Then we find the photoelastic phenomenon<sup>1</sup> can show the force in the structure, so the photoelastic components is designed to make force 'visible' (see details below).

<sup>1</sup> Photoelasticity is an experimental method to determine the stress distribution in a material.



## SINO-STRUCTURE INPUT AND OUTPUT

SINO, the name of the teaching aid, is short for structure input and output. There are two types of basic rods with fixed cross sections, rectangle and H-shaped respectively. The rods with variable cross sections are T-shaped, L-shaped and I-shaped, which could be put together to simulate box girders with variable cross sections in order to offer more opportunities to reproduce the structure of bridges. Components for analysis based on the photoelastic experiments are made of epoxy resin, the same size with the basic pieces. Therefore users could replace the normal ones with those used for photoelastic analysis if necessary to understand the existence and change of force directly.

Connectors are in the form of slices and studs, making it easy to conducting force. Connecting slices could connect two rods in the directions of 30, 45, 90 and 180 degree. And all studs are in yellow, blue, green and semitransparent. The appearances and sizes of the components are shown in the figure 8.

According to the process of teaching and learning, SINO could combine the theory with practice in four levels.

### LEVEL 1: THE KNOWLEDGE OF THE COMPONENTS

A variety of structures could be built by SINO, including truss bridge, cable-stayed bridge and bridges with different cross sections, as shown in the figure 9, during which students can have a full knowledge about the designation and function of all the components and teachers can demonstrate and explain in a more direct way.

### LEVEL 2: PERCEPTUAL COGNITION ABOUT FORCE

The design of photoelastic components is based on the photoelastic experiment that the molecular arrangement in epoxy resin as well as the interference pattern varies when the force applied to the material changes, as shown in the figure 10, Users could randomly replace normal components with photoelastic ones, for they are similar in size. Thus, force can be sensed directly and understood better.

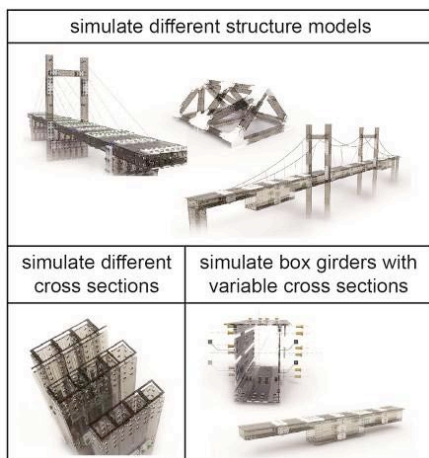
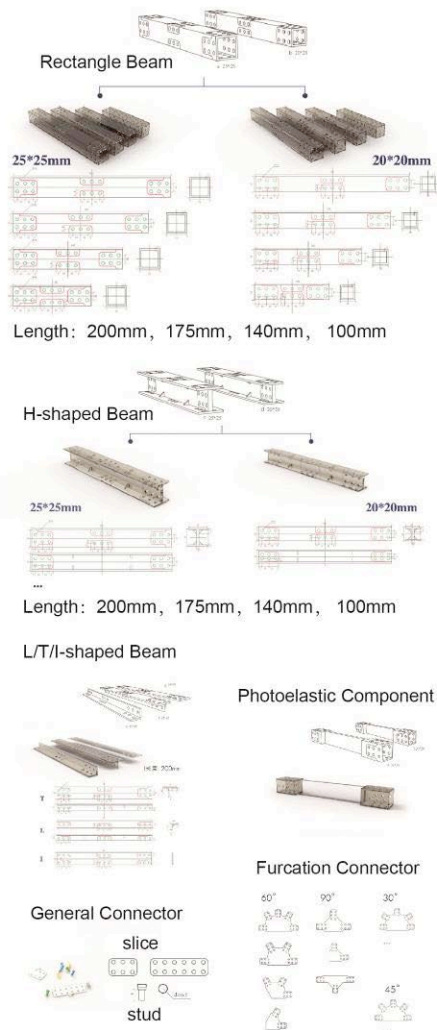


figure 9 the samples that SINO could simulate

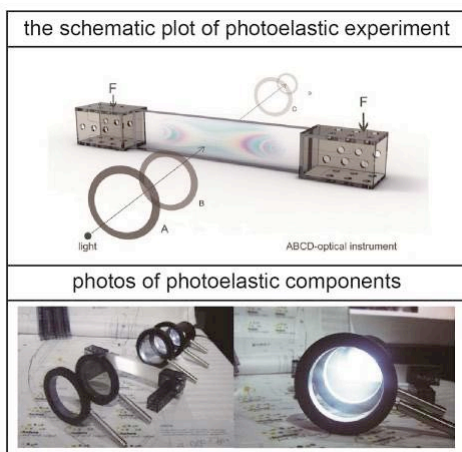


figure 10 photoelastic components

### LEVEL 3: COMPREHEND AND ANALYZE THE FORCE STATE

It is important for training engineers to comprehend the force state. The studs were marked into three colors. Yellow represent that the studs used here are exerted pressure, blue tension and green axial force. After analysis and calculation, students are asked to put the studs in the correct position with correct color, which later can be examined and judged by teachers.

### LEVEL 4: QUANTITATIVE ANALYSIS OF THE STRUCTURES

The possibility of quantitative analysis distinguishes the SINO from the tools only copying the form of the structures. Given the components and the parameters needed for calculation, including elasticity modulus( $3.19E9$ ) and ultimate strength( $50\text{MPa}$ ) of the material and the weight and size of the components, users could calculate the flexural moments of inertia, areas, tensions, bending degree etc. In addition, through checking the number and positions of the studs put by students, teachers could tell whether they have fully understood the structure and whether they calculated correctly. Moreover, a plenty of combinations of the studs encourage students to explore and experiment independently, leading to a better teaching effect.

## DISCUSSION

1. Because the lengths of rods and the angles of the connectors are constant, it could hardly satisfy the requests of some special lengths and angles, which restricts the types of models from SINO. It would be better if rods and connectors with variable length and angle are designed.

2. Given existing components, models of more complex structures turn out to be overlarge. If manufacturing technique permit, rods and connectors of smaller size will be designed and made to put complex structures into reality.

3. The studs experiments also prove the realizability of the idea of offering different bearing capacities for users to choose, but



the data of these experiments applies to the same material and size of components with those used this time only. And because the results of the studs experiments are related to material and quality of manufacturing, when it is involved with mass produce, studs experiments will be needed. What's more, considering the change of materials, components should be adjusted and optimized to get better results.

## Potential and expectation

The SINO shown here is just at a preliminary stage, yet lots of teaching aids like SINO are promising for their contributions to the promotion of innovative education system. Developing and exploring SINO's potential and possibility in function and combination as well as mass production is worth discussing and studying. Anyway, it could be even better and we expect its development in the future.

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## APPROACHES TO COLOUR IN ARCHITECTURE AND DESIGN. The discourse of Polychromy/Teaching colour today

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### ABSTRACT

A persistent "Chromophobia" (colour refusal) has for decades characterized contemporary architecture. However, there is now a growing international interest in architectural polychromy through new technology, new materials and coloured lighting. New generations can be expected to be attuned to the current trends. It is however important to ask whether the fascination for new technology leads to any deeper understanding of colour as a phenomenon, including dimensions such as psychology, neurology and sustainability. It is also important to ensure a personal, local, site-specific approach to colour to prevent global trends from leading to fragmentation, superficiality and loss of environmental identity. A renewed debate on architectural colour is overdue. Marginalization of this discourse has led to greatly reduced colour teaching and lack of inspiration among design students. This paper discusses how this inspiration and knowledge can be regained.

### KEYWORDS

Colour. Chromophobia. Education. Multidisciplinary.  
Past/Future. Le Corbusier.

*A persistent Chromophobia<sup>1</sup> has for decades characterized architecture and interior design. With the focus on sustainability, natural materials and their inherent colours seem to dominate the arena, although the colour green has a strong symbolic value. This position is understandable when it comes to "reduce, reuse, recycle", but why should our responsibility with the Earth's resources leave us with environments in need of red and blue, yellow and orange?*

We most certainly need to unite sustainable thinking with a colourful environment. It is therefore most encouraging to see the growing international interest in Polychromy<sup>2</sup> that has been awakened in the younger generation. We see this fascination especially in terms of new technology, new materials and the possibilities of coloured lighting. The question is whether young practitioners know how to handle the possibilities? It is therefore important to ensure a deep understanding of all dimensions of colour to avoid different unexpected impacts. This includes important values such as psychology, neurology and materiality. Knowledge of this may endow design with the potential to changes of perception depending on such circumstances as light, movement and time, or to activate the spectator in space through a greater stimulation of the senses.

Within the frame of ecology and universal design, teaching colour should also ensure a more personal and as far as possible, local, site-specific approach, contradicting international trendforecastings and global attitudes. We far too often see that this leads to fragmentation, superficiality and loss of environmental identity. First and foremost there is the need for a renewed debate about architectural colours in the academic field.

Marginalization of this discourse has not only led to greatly reduced colour courses in a variety of design and art colleges, but also to grave, sensorial deprivation in our surroundings.

## REACTIONS FROM STUDENTS

A design student at Oslo National Academy of the Arts (KHiO) in Norway newly dedicated her Master thesis to the subject, so did another student at Oslo and Akershus University College of

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<sup>1</sup> Greek: Chromos: Colour, Fobi: Fear

<sup>2</sup> Greek: Poly: Many, Chromos: Colour

Applied Sciences, Faculty of Technology, Art and Design. This is great news, and not surprising. The latter student, Hanne Dyrle Løhre, however conveyed alarming statistics. Her review of the 2008-2012 annuals of the journals "Form" and "Arkitektur N"<sup>3</sup> showed no traces of any colour debate. Her investigations in fact revealed that colour is neither essential for architects and designers, nor is it discussed in teaching practice. She also claims that new awareness for architectural colours should be understood by introducing a number of practical aesthetic exercises in "real time", hands on, Architecture. Theory is not enough, and for too long there has been stagnation in the transformation of relevant colour theory to fit contemporary thinking. It is interesting that suggestions of a better teaching program are coming from the students.

I greatly support this, because academising of the institutions must take much of the blame for the loss of innovative colour practice. I believe that an undermining of this discipline must be fought with the opposite force, a knowledge boost and an acknowledgment of colour as a valid subject. In Architecture, colour is one of the most vital elements for organizing, or disorganizing, space and volume. We must pick up the vital pieces and continue the discourse.

## COLOUR DEPRIVATION

Chromophobia has long traditions and influential disciples. The famous Norwegian architect and professor (School of architecture in Oslo), Sverre Fehn (1924-2009), said in an interview with a student that he was not a "colour man". The colour for him appeared in the choice of building material, wood concrete, bricks, etc. If he were to work with colours it had to be raw and brutal, not as a "thin film on the surface."

Fehn represented a generation of Norwegian (and international) architects who largely rejected polychromia. It was as if the hues violated the volumes. We know this rejection of colour from early Modernism. The architecture should, as Mies van der Rohe had claimed, be a neutral setting for human action and expression.

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<sup>3</sup> The most important Norwegian journals of Architecture and Design

Integrated colour schemes were impossible in the light of this ideology. The traditional Japanese house was also a fascination for these architects, where unobtrusive expression highlights and frames the natural colour spectrum. Fehn was, however, fascinated by Le Corbusier's personal approach to colour in Architecture. If he were to paint, he would have liked to work like the French master, with genuine pigments and with the artists' approach to volume and space. He expressed a frustration at the fact that we have lost touch with the natural colour sources, the earth or the surrounding plants, stones and animals. We can understand this frustration. Post-war future visions of industrialization hit the paint production and we no longer saw colour as something personal, tangible and material. Consumer-oriented systems like Pantone and NCS (Natural Colour System) were both abstract and unpredictable, too much and too little at a time. We choose among thousands of small colour tags and are often disappointed of the result. The interaction of light, colour and size is not easy to master. In addition, numerous building components are pre-coloured from the manufacturer and must be coordinated with the in situ colouring. It is not without reason the Swedish researcher Karin Fridell Anter has devoted her doctorate to this issue, published in book form as "What colour is the red house?" Colouring of architecture requires knowledge and courage. As long as there is no substantial education of professionals, which can guide people, municipalities etc., there is either colour denial or chaos. Paint manufacturing industries are governing, and if they don't impose upon us general trends of white and grey scales, its "Sandy Beach", "Rumba", "Carnival" or "Sahara." These trends have lingered for a while inside people's homes, and maybe one might think this is a private matter, but when the same trends hit the road to public spaces, street-and townscapes, we are faced with a serious loss in identity and traditional holistic colour expressions.

How, and why, has the white colour, which once would assist and enhance polychromy, been given such a status? This is where we have to gaze back to understand.

## THE WHITE RHETORIC

The cultivating of white can be traced back to Aristotle and Plato, who considered a painter's work for mixing of "drugs" - or Pharmakon. For much of European history, white has been seen as purity, perfection and innocence, associated with intellect and reliability. Strong hues on the other hand have been associated with sensuality, emotions, instincts and instability on the border to mendacity. The artist and author David Batchelor writes about this in his book *Chromophobia*, which first appeared in 2000: "Figuratively, colour has always meant the less-than true and the not-quite real." Colour represents", he says, "the disobedient, eccentric and subversive." Colour is uncertainty, doubt and change; -it is "the other." He argues that this ambivalence towards colour has resulted in attempts to purge Polychromia from culture and to devalue and diminish its importance and complexity in education. In architecture we recognize the white myth through a simplistic and falsified retelling of history. We can blame the black and white photograph, but more serious is the lack of appreciation of such hand fast traces of colours as those found on the ancient temples in Greece. In the wake of the discovery of Pompeii and Herculaneum (Stuart and Revett 1763), and the subsequent recognition of the vivid colours of Greek monuments and Architecture, so much idolized by western thinkers, there was a big debate in Europe. In the French journal *Jupiter Olympian* from 1815 contemporary experts in architecture and art exposed their views, including William Morris in England and Gottfried Semper in Germany.

They urged the disciplines to cooperate in art, craft and architecture, and to acknowledge the colour-reconstructions of the past as "Allkunstwerk"<sup>4</sup>. Towards these idealists stood circuits arguing vehemently for the white, colourless expression, focusing on the sovereignty of form over colour, and white's ability to articulate light and shadow. The artist Auguste Rodin was one of the staunchest representatives of this argument. The debate sent European architects in two directions, causing a rift that still exists. The historical denial of Greek Polychromy, on the border of hallucination, has been cemented by several museum

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<sup>4</sup> Art+Architecture

institutions, historical collections and not to forget, the powerful Hollywood film industry.

"Medelhavsmuseet"<sup>5</sup> in Stockholm recently made an important contribution in this field. They released the catalogue "Vita lögner" (White lies") (2010) in connection with a meritorious display of reconstructed antique sculpture. It documented Polychromy on the basis 200 years research. Museum Director Sanne Houby-Nielsen asks in the preface how art, architecture and philosophy had developed in Europe if they had acknowledged this fact rather than reject it?

## **ATTEMPTS TO AWAKEN COLOUR AWARENESS. EARLY TWENTIETH CENTURY MOVEMENTS.**

At the Bauhaus School in 1920s, architect Walter Gropius (1883-1969) and his followers rejected historicism with superficial motives in favour of the industrial expression, stripped of ornament and colour. The artists who taught there were however influential painters including Johannes Itten, Josef Albers, Paul Klee and Wassily Kandinsky, whose theories and opinions on colours were deeply grounded in philosophy, physiology and psychology. Despite the debate within the school, teaching of art and design included a colour pedagogy that is still living through voluminous albums and books. The teaching of architecture however was less influenced by these workshops, and more so by ideas on form, material and industrial production. The records we have are those shaped by the black and white photographs: White walls and wide windows, gleaming glass and tubular steel furniture. Most of the architecture influenced by the Bauhaus, as well as the purist villas that Le Corbusier was building in France, were perceived in this way by the following generations. In reality, Modernist interiors were much more vivid than the photographs suggest. When you go to those famous places, you'll discover that many of them often have glorious splashes of colour to complement the white walls. And one of the most gifted colourists of the era was Le Corbusier himself. He was both an

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<sup>5</sup> The Mediterranean Museum



artist and an architect and much influenced by contemporary painters like Ozenfant and Leger. They convinced him that colour was a vital tool for articulating space and the vibrant shades he chose for his paintings developed into beautiful three-dimensional renderings of his architecture. Simultaneously De Stijl manifesto saw art and colour as the liberators of architecture. Geometric abstraction in painting, with the Dutch artists Piet Mondrian and Theo van Doesburg in the lead, influenced architects like Gerrit Rietveld, JJP Oud and Cornelis van Eesteren. Schröder House in Utrecht designed by Rietveld represents the symbol of "modern" and a new attitude towards integrated colour.

Many followed the polemics between Theo van Doesburg and Le Corbusier during this vital period. Plasticism with De Stijl promoted surfaces with bright colours, blue, red and yellow with black and white, grey grout and steel structures, a schema matching Mondrian images. Van Doesburg provoked his contemporary colleagues by disrupting interior walls and ceilings with strong colour forms. Le Corbusier however promoted primary colours as accents, while the walls should be continuous colour-bearing elements in muted shades. Colour should enhance form, not camouflage it. Parallel movements among constructivists in the USSR fostered artists like Mikhail Matiushin (1866-1934) and Kazimir Malevich (1878-1935) who collaborated in the colour classes at GINKhUK. Matiushin developed a colour system based on the after-image effect (successive contrast), used in art and also in architecture in St. Petersburg. The Swedish art historian Margareta Tillberg recently published unknown material on this in connection with her PhD. These and other movements of the time saw colour as a vital design tool.

We have a story of colour diversity throughout history to pick up and convey to students, a story unfortunately lost in the post war educational system. The colour theories that were developed also represent a solid platform for teaching today, but we have to transform the material to fit contemporary thinking on colour.

## THE ROLE OF THE ARTIST

Coloured lighting and new transparent media has reintroduced some of the brilliance of the spectral hues, reminding us of the thrill of medieval stained glass. Thermo-sensitive materials and shimmering metals are cladding fancy exteriors. The proverb "Paint is out" has been quickly absorbed. Light makes the design process simple where form and space dominates; a variety of coloured light is imposed in selected areas. Not much of a colour decision to make really, because with led you can change the atmosphere in a room at any request. This of course might leave us with the dominance of white walls again, as long as daylight prevails. There is also a danger of the designer not being able to control the result in the long term, but maybe this represents a positive "user involvement?"

We live in an age of uncertainty, in that respect this is reflecting time. Instead of imposing order we see that colour confusion or contradictory expectations can be interesting. This is also due to the fact that artists find renewed inspiration in space design, through public art commissions. We are faced with quite bold approaches that can be provocative and conflicting to the architectural concepts. The artist is trying to avoid instrumentalisation and is thereby challenging the architects. The good thing is that it triggers debate. We must bear in mind the importance of the artist in the historical development of colour in architecture. Their knowledge and sensitivity is important, even today, when colour plays a less important role in the neo-conceptual art-world.

Despite of this development, I still see colour as a mediator between the disciplines, and I am convinced that joint work across borders can be the most valuable method to sophisticate Polychromy both in contemporary art and architecture.

## SOURCES OF INSPIRATION-GAZING BACK AND FORTH

The complexity and challenge of the trans disciplinary work lies within the often contradictory, parameters and interests of the

disciplines and players involved. Should Architecture be mere frames around human activity and not evoke emotions? Is that why colour has been discredited as a design tool?

The colour impact of a painting, however strong, can easily be tolerated because of its size and temporality. The impact of a space is much greater and needs another kind of consideration. Theo Van Doesburg provoked contemporary colleagues with his vivid colour scheme for café Aubette and other interiors in the twenties. Are we just as easily provoked today?

Artists and architects are responding very differently on these issues, the greater tolerance belonging to the artists. Lay peoples reactions to colour in architecture has been tested by several colour researchers, among them Dr. Jan Jansen's at Lund University with the conclusion that they seem to tolerate much brighter hues than designers think. So the main question is:

Who are we designing for? Are architects and designers themselves standing in the way of a more expressive colour approach?

To enhance "the cross over effect", I find that interesting examples from both artistic and architectural work is triggering energy among the students. Especially the controversial examples evoke reactions and discussions. One must realise that the nature and role of colour in architecture is different from that of art, but maybe we have made some artificial barriers, which are important to illuminate and subsequently dissolve?

One example of a personal approach to colour in architecture is the Norwegian functionalist Arne Korsmo, who always co-operated with artists. He developed a spontaneous and eccentric attitude and liked to mix his own paint from the strangest pigments, like ashes from a burnt pear-tree or saliva from tobacco. Another is a video interview with the artist Per Kirkeby who dreams his colour strategies, knowing first thing in the morning exactly which pigment to use in a specific painting. The way he applies colour to architecture is not much different. The goal is therefore to build motivation in the students for an equivalent personal and fun relationship with colour, and develop

an experimental practice, which can end as a portfolio of palettes, and flexible, maybe even conceptual, methods and examples, as a counterweight to the influence of glossy magazines. This idea of storytelling as a base for teaching practice within the colour laboratory exercises is meant as an accompanying strategy to the more traditional theoretic input, which is necessary for a deeper understanding, in order to build professional argumentation for colour choices.

Or, as the great colour pedagogue Joseph Albers always said:  
“See and experiment- then you can read the theory.”

## **COLOUR BETWEEN ART AND ARCHITECTURE RESEARCH BASED TEACHING**

My artistic research is aimed at supporting the development of this teaching practice.

Being an architect and an artist I study colour practise within the different fields to gain a better understanding of the colour phenomena, the behaviour of colour, the human responses and the historical traditions. Through this research I also hope be able to develop more complex and original colour projects in my own artistic and architectural practice.

As "interlocutors" in this process I have chosen artists and architects from the past and present who have developed personal palettes, philosophies or methods in their use of colour, or systematized them in interesting ways. These are people who have reflected deeply on the notion of colour across disciplinary borders and see the vital potential of it in their work.

The current study include already mentioned Russian constructivists / artist Mikhail Matiushin, the Swiss architect and artist Le Corbusier and the Danish artist Per Kirkeby. On the agenda is also the work of the Finnish artist Silja Rantanen, who also has architectural education, as well as the German artist Katharina Grosse and the American architect Steven Holl (USA).

Lastly the French design team Alain Bony and Jean Nouvel. The plan is to penetrate and discuss the colour repertoire of their different oeuvres, vent the different philosophies and transform ideas and systems to inspire my own work and research based teaching and dissemination. A further aim is to build a colour laboratory in Bergen Academy of Art and Design (KHiB) that includes possibilities to work with both the material aspects of colour, including pigments and binders, as well as the digital and light aspects.

To give a better understanding of the different interlocutors, I will touch briefly upon their specific contributions, and finally elaborate slightly more on the colour philosophy of Le Corbusier, who has been the main focus of my research the last two years. He made an "idiot proofing" system of colour choice that is still appealing today, because the colours are so great and mix so well with each other. Another is the quality in manufacturing and the fact that they win (very topical) eco-points for using nontoxic pigments. My work on this has resulted in a solo show in Bergen 2013-"Who is afraid of red and blue" and a publication to be released in 2014.

Mikhail Matiushin (1866-1934) worked simultaneously with the Bauhaus and the Russian Constructivists in Russia. During the 1920s a number of institutes for interdisciplinary scientific research in art, design and architecture were founded in the Soviet Union. One of them was the Institute of Artistic Culture in Leningrad – GINKhUK – where Malevich and Tatlin also worked. One goal was to formulate a universal language with mathematics as the ideal science, to be collected into an encyclopaedia for visual culture (art, architecture, design); another goal was to redesign the world for the masses outside the 'dead' museums, and, as the third goal, to produce a new kind of human being. There the artist, musician and theoretician Mikhail Matiushin supervised the Department of Organic Culture with his Laboratory of Colour. His textbook/colour handbook was published in the Soviet Union in 1932 and has been applied to painting as well as architecture. However, the material was not known to the western culture until Margareta Tillberg, a Swedish

art historian, published it as part of her doctorate. I find this material very interesting because it has physiognomy as a starting point with focus on how the eye and brain treats colour impressions. He claimed that a colour, it's after image<sup>6</sup> and a third link colour was the ideal colour harmony. The function of the link hue was stabilizing the triad and makes each colour keep its authenticity. How he produced this link is still a mystery, and this triggers researchers as well as students. Grosse (1961 -) and Kirkeby (1938 -) has worked with architecture and space in a way that seems provocative to architects, with spray-paint and strong coloured forms that camouflage and break down form and space. Their colour palette is not particularly changed from painting to spatial relationships, or motifs. They have a personal approach, different from Matiushin and Le Corbusier- who developed more general systems. Silja Rantanen (1955 -) works between the 2 and 3 dimensional, with transformations of palettes and design from architecture to "white-box" installation and painting. The palette seems to be unchanged and this then becomes a target for studying the nature and behaviour of colour in the respective disciplines. The designer Alain Bony (1956 -) works close to the French architect Jean Nouvel (1945-). This team is demonstrating a brave and innovative approach to colour in interiors as well as exteriors, with bold and original palettes.

They use pigments, light as well as new materials, thus showing us the diversity that is possible today. I find them a wonderful example of "art+architecture+design" cooperation for the benefit of colour in all disciplines. Steven Holl (1947 -) is concerned with the experiences of the senses and with colour authenticity. The poetry of moving coloured light reflections on walls and water surfaces, or the use of "coloured shadows", shows he has done his homework on Goethe. He is also working along the lines of Matiushin, but in a more direct manner, and only in his own projects, not trying to develop a general system or philosophy. He has written about his personal relationship with colour in a way that triggers inspiration among students.

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<sup>6</sup> Induced by looking intensively at a single colour. The colour that appears next to it is a light colour with complementary hue

## WHO IS AFRAID OF RED AND BLUE?

### LE CORBUSIERS COLOUR KEYBOARD

In Le Corbusier's (1887-1965) rhetoric order, purity, and truth was inscribed in a dazzling whiteness, so dazzling that history has overlooked the fact that his buildings were coloured. The Australian architect Mark Wigley, who observed that only one, all white house exists in Corb's portfolio, has fortunately managed to break this myth.

Le Corbusier did however express doubts about colour in architecture early in his career, especially in the exteriors. When he wrote for the magazine L'Esprit Nouveau in 1919, he presented himself as the architect Le Corbusier and the less important painter Charles-Edouard Jeanneret. In *Towards a New Architecture* from 1923 he declared that painting and sculpture should be free and completely separate from architecture. In his purist paintings however colour was highly sophisticated.

Le Corbusier's palette in this period included a strictly limited family of pigments, divided into three categories: 1 "Grand Gamme", so-called structural colours: Yellow and red ochre, terra, white, black, ultramarine, and the colours arising from mixtures of these. 2 "Gamme dynamic", for smaller details and elements: Lemon yellow, orange, red, Veronese green, light Cobalt 3 "Gamme de transition": Alizarin (Krapplack), Emerald green and all lacquers.

Le Corbusier did not follow an objective analysis of harmonic colour relationship to achieve moods, as it was put forward by colour theorists such as Wilhelm Ostwald, but worked with his subjective experiences in painting. He had an artists approach and mixed pigments and binders in the studio or on site, thus building a bridge between craft, art and architecture. The concept of "The elastic rectangle"<sup>7</sup> or "Le plan libre" opened for plastic modelling of walls as a dynamic counterpart to De Stijl "infinite plane". Polychromy lead the eye through complex spaces made possible by reinforced concrete, the coloured walls should

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<sup>7</sup> The space should not be painted in a single colour, but several, on different walls, to ensure a certain dynamic.

cultivate form and space in a play of light and shadow. The polarization of warm/cold and light/dark was highlighted in reds as a recipient of sunlight and blues as "vibrant shadow colours". With his associations of colours to different moods or atmospheric vibrations he added an addition to the wall, the illusion of another world, that of the Greeks. For a residential area in Pessac in Bordeaux, Le Corbusier delivered an example of a "chromatic city" (1924-26), where the purist palette played against the surrounding nature, quite different from the white exteriors in his purist villas. By 1931, he had settled on a palette of soft pastels and bright primaries for details to accentuate white, and arranged for them to be reproduced on wallpaper swatches by the Swiss manufacturer Salubra. It was named "Colour Keyboard". During the 1950s, he added a set of brighter hues to complement the raw concrete, wood and lime plaster he had introduced into houses like Maisons Jaoul in Neuilly-sur-Seine. The new colour attitude is also prominent in the polychrome corridors and balconies in his apartment blocks. (Unité de Habitation) and the Centre Le Corbusier in Zurich, which was to be his last work. The white wall disappeared in many ways, although ivory white is provided as colour in the palette. A pure black colour also appears for the first time. He never mixed it with other hues, but it appeared as a contrast. In order to deepen his hues he instead mixed them with complementaries or he lightened them with white, showing a painter's sensibility.

"The Keyboard" was organized and systematized as 13 spatial atmospheric palettes. Using a matrix the user could isolate 2-5 colours in each of these chromatic atmospheres. Ever the control freak, he thus specified exactly how people could combine colours without too many "catastrophes." The user could thus buy pre coloured oil paint in a roll, as ready-mades, based on a system for colour preference. The Colour Keyboard was also seen as a testament of purism.

In 1948-49 Le Corbusier's architecture was presented along with his oil paintings and Murals in the book "The new world of space". At the same time, he carried out a large mural for the Swiss Pavilion in Paris. His earlier opposition to breaking up the



wall by colour fragments was probably more a product of future avant-garde spirit and not a heartfelt conviction.

In Le Corbusier's own architecture colours were rarely scheduled on the desktop, but rather on site. There is not much sketch material documenting his "prescriptions" - only records from clients and others he communicated with, and of course the houses themselves.

According to sources, he walked through his architecture, from room to room, dealing out the appropriate colours as if it were a three dimensional purist painting. He discussed the possibility that colours could "cover up" or rectify problematic issues in the final architecture, like optical corrections of the space.

There is one house that is particularly well documented by one of Le Corbusier's clients, namely Maison Guiette, designed for René Guiette. The pictures from this house depict why Le Corbusier declared: "La maison blanche entièrement serait un pot à creme."

The Colour Keyboard was published in 1997 by the German publisher Birkhauser. Editor was Arthur Rüegg. A young chemist Katrin Trautwein, co-founder of kt. COLOR in Switzerland, became interested and explored the possibility of producing the colours, originally made for tapestries, as paint. She secured a license from Fondation Le Corbusier and went into production. She states: "I loved the colour combinations of le Corbusier. Even today they are the only palettes I know of, which are designed so that all the colours really harmonize with each other. You pick at random, look at them and feel gratified." This inner harmony is why these colours still are popular today.

Another reason, as mentioned, is that they have particularly beautiful hues and are made with a great sense of quality. Most paint manufacturers today produce their colours from different combinations of about a dozen industrial pigments (NCS), while kt. COLOR renders le Corbusier assortment of more than 120 pigments, mostly mineral pigments. Pigment base makes the shades richer, deeper and more complex. They produce, as in the Gammes, largely from earthy colours, but also well-known, more exclusive pigments are included.

The production of the colours by LC-kt.COLOR happens in other words the "old way", often by hand, in order to approach architectural colour the artistic way. It is also possible to customize the colours just the way you want on site. The idea is to connect scientific empirical knowledge to artistic tradition. This integrative approach to colour as a rational science rooted in artistic tradition yields startling answers to modern ecological and aesthetic demands as voiced by architects and conservators. Is this the way to regain some of the magic of colour?

I now cooperate with Katrin Trautwein in my research where the key question is: " What are the consequences of industrially produced paint where price is ruling over colour quality, leading to a reduction in colour depth and quality, which undermines colour impact upon the human being? "The brilliance of hue disappears with plastics, fillers and the heavy use of titanium white and black; hence also the the inspiration to use them. Production is readily automated and their application does not require highly qualified craftsmen. Colour systems have been instrumental in allowing paint materials to be replaced in the past few generations, since they reduce colour to a question of hue and introduce a nomenclature that neutralizes out material difference. A critical review of the NCS system will be necessary because of the way the system is linked to the industrial production of standardized colors. Such a critical review must however be followed by a reflection of new ways to approach colour as material.

## **PAINT IS OUT-PAINT IS IN**

"Paint is out" is the refrain, and we are facing a paradigm shift for architectural colour schemes, with a new industrial tactility, including coloured light. We can also, as mentioned in the introduction, expect a denial where sustainable architecture seeks to identify more strongly with nature's colour repertoire. Are we fit to land these different challenges and do we have enough qualified professionals to keep the debate alive? Look to the good examples is my advice, and use coloured light with intelligence. Le Corbusier was an advocate for the colour magic through pigments. For those who do not have multidisciplinary

talent of le Corbusier, collaboration across disciplines can be the solution for teaching and practicing Architectural Polychromy. And remember, most of our environment is already history and still need to be painted.

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# SPATIAL KNOWLEDGE MANAGEMENT IN DESIGN EDUCATION

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## **ABSTRACT**

The main goal of design education is to transfer design knowledge to students, and to foster the creation of new knowledge through design project work. The main facilitators of such knowledge transfer and creation are obviously the teachers, along with the supply of relevant literature. However, the role of the physical environment as a knowledge facilitator in design education has not been extensively analysed, so far. This paper tries to fill this gap. We investigate the role of the “creative space” (architecture, classroom design, and furniture) in a design educational environment in terms of its capability to support design processes, and specifically its capability to facilitate the management of design knowledge. The main contribution of this paper results in the comparison of actual architectural characteristics and spatial elements (such as whiteboards, showcases, classroom furniture, etc.) as identified in two case studies with an epistemological taxonomy of spatial knowledge management. We analyse these elements regarding their capability to store and transfer design knowledge, which we believe will contribute to a better understanding of the role of space for managing design knowledge in design education and practice.

## **KEYWORDS**

Design Education. Creative Space. Learning Environment.  
Design Knowledge. Spatial Knowledge Management

## INTRODUCTION

The environment, in which students learn to design, can have a significant impact on the quality and effectiveness of their design work. Architecture, furniture or workshop machinery, and the overall room layout can influence the process of designing, and specifically the process of design learning—which means the storage, the access to, the transfer, and the creation of design knowledge—in a positive or negative way. This paper tries to investigate the role of the “creative space” in a design educational environment in terms of its capability to support design processes, and specifically its capability to facilitate the management of design knowledge.

## RELATED WORK

There are numerous papers that focus on the effect of space on various variables, like collaboration (Oseland et al., 2011), performance (De Croon et al., 2005), health (De Croon et al., 2005), innovation (Haner, 2005; Moultrie et al., 2007), creativity (Thoring et al., 2012; Van Der Lugt et al., 2007), class room learning (Harvey and Kenyon, 2013), and student engagement (Jankowska and Atlay, 2008). There is only limited literature about the role of space in knowledge management. Earl (2001) presents a taxonomy, which distinguishes between seven schools of knowledge management; one of them is the “spatial school” that focuses on the facilitation of knowledge exchange by space. Peschl and Fundneider (2012) look at the relationships between space, innovation, and knowledge creation. Razzak et al. (2013) analyse the role of space on knowledge creation and sharing in distributed teams of software developers. To the best of our knowledge, there is no paper that looks at space in the context of design (education) and knowledge management.

## KNOWLEDGE MANAGEMENT

The Knowledge Management (KM) literature distinguishes between two fundamentally different strategies for managing organizational knowledge: Codification and Socialisation (Hansen et al., 1999; Nonaka and Takeuchi, 1995; Nonaka and Von Krogh, 2009; Nonaka, 1994).

## **CODIFICATION**

The strategy of knowledge codification focuses on externalized (codified) knowledge, which can be easily stored in digital or printed form (e.g. in libraries or databases), accessed, and reproduced. Codification means that the knowledge is codified in documents, which can be retrieved, copied, and transferred by people (document-to-person knowledge management). This strategy has significant advantages when it comes to knowledge that is independent from its context, that is long lasting, and relevant to a large number of people.

## **SOCIALISATION**

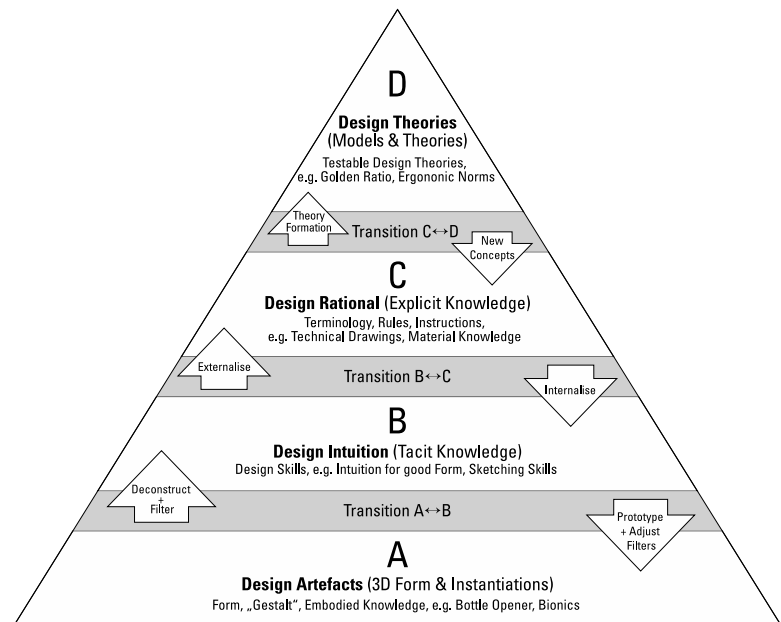
The strategy of socialization (also known as personalization), however, is focusing on knowledge that is mainly implicit (internalized). The knowledge is stored, transferred and reproduced mainly verbally through people (person-to-person knowledge management). Knowledge management systems that focus on this strategy establish expert-portals and consulting hotlines, rather than libraries and databases. This strategy has advantages when the knowledge is highly context-related, short-dated and spontaneous, and relevant to a limited number of people.

## **DESIGN KNOWLEDGE**

Design Knowledge has specific characteristics that distinguish it from other disciplines. The main goal of design is to create new and innovative concepts—the knowledge is usually highly contextualized, short-term and needs not or cannot easily be reproduced and transferred to many people. Part of design knowledge is tacit—an intuition for good form or the ability to create innovative design concepts is sometimes not easy to explain, to externalize, or to reproduce. These qualities of design knowledge require a personal exchange, rather than a codified storage system, which makes it more predestined for the above-mentioned *socialisation* strategy of knowledge management. Additionally, the act of designing involves working with artefacts, creating and building things, and working with tools and materials. However, the artefact dimension—specifically the capability of artefacts to store and represent knowledge—is

rather disregarded in established knowledge management theories.

To better understand design knowledge we refer to a typology of design knowledge by Mueller and Thoring (2010), see Figure 1.



**Figure 1** Design Knowledge Pyramid (Mueller and Thoring, 2010)

This typology distinguishes between four levels of design knowledge: On the physical level (Level A), design artefacts are able to store information within their physical shape, which means that knowledge about a specific handling, usage or function is “frozen” in the form of an object (example: a bottle opener stores the knowledge of how to open a bottle in its physical shape). The concept of embodied knowledge is also mentioned by Cross (1993). On the neuronal level, knowledge is represented as tacit gut-feeling or design intuition (Level B). One just ‘knows’ how to design something, without being able to explain why (similar as the knowledge how to ride a bike). This concept is also mentioned by Polanyi (1966) and Cross (1993), and relates to the above-mentioned *socialisation* strategy of knowledge management. On the symbolic level (Level C), knowledge is represented in codified form—as text, images, rules, and instructions (similar as in e.g. a cooking recipe). This type of knowledge relates to the before-mentioned *codification* strategy of knowledge management. And finally, on the model



level (Level D), design knowledge is represented as theories or testable models (such as ergonomic norms).

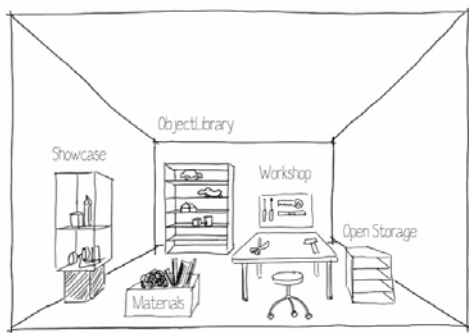
A specific emphasis is given to the transitions between these levels, in which new knowledge is being generated, by filtering signals from the environment or deconstructing existing artefacts ( $A > B$ ), by adjusting filters and by prototyping and modelmaking ( $B > A$ ), by externalizing intuitive knowledge ( $B > C$ ), by internalizing codified knowledge ( $C > B$ ), by theory formation ( $C > D$ ), and by concept development ( $D > C$ ).

## SPATIAL DESIGN KNOWLEDGE MANAGEMENT

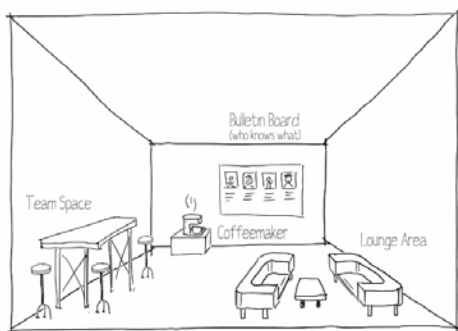
This section analyses the physical space on an abstract level regarding its capability to facilitate the management of design knowledge, according to the four levels of the afore-mentioned typology of design knowledge. Management involves the acts of storing, representing, accessing, transferring, and creating design knowledge.

### LEVEL A – ARTEFACT KNOWLEDGE

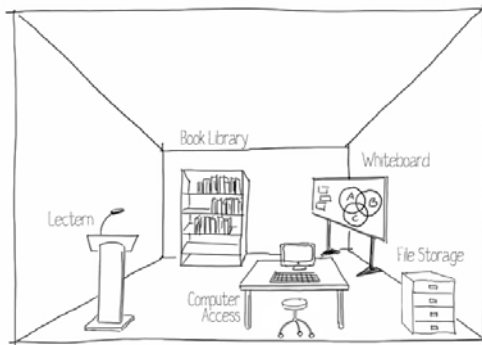
The artefact level (Level A), in which design knowledge is stored in the physical shape of an object or in a spatial arrangement, plays an important role in terms of design knowledge facilitation. Tools and machines in workshops facilitate the working with and the creation of artefacts. The knowledge about a specific production technique is holistically stored in those machines and tools, which can be extracted by working with them. Finished or interim models and prototypes store knowledge about the particular design of themselves. Displaying those artefacts (e.g. in shelves or showcases) facilitates the access to such knowledge by other students. The knowledge management through artefacts is relatively unknown in traditional knowledge management, but seems to be of major relevance for design and design education. We suggest involving this “embodiment” strategy, which makes use of artefacts to facilitate KM, systematically into design education. Figure 2 illustrates an abstracted creative space, which focuses on the suggested artefact-based *embodiment* strategy of knowledge management.



**Figure 2** Abstracted creative space facilitating the suggested artefact-based “Embodiment” strategy of Knowledge Management



**Figure 3** Abstracted creative space facilitating the “Socialisation” strategy of Knowledge Management



**Figure 4** Abstracted creative space facilitating the “Codification” strategy of Knowledge Management

### LEVEL B – TACIT KNOWLEDGE (DESIGN INTUITION)

The Design Intuition (Level B) is difficult to transfer and teach, due to its intangible nature. The afore-mentioned *Socialisation* strategy can facilitate the management of tacit knowledge. In design, tacit knowledge can be transferred or generated by (informal) conversations between people and storytelling, through trial-and-error and experimental learning-by-doing, or by a master-apprentice relationship. Feedback from other people or directly from the material (which e.g. breaks at a certain treatment) can facilitate the development of a design intuition. The space can facilitate these aspects, e.g. through designated experimentation areas (“tinker spaces”), furniture for teamwork and social exchange (sofas, group tables, conferencing furniture etc.). Lounge areas and informal meeting points like the coffeemaker or a kitchen also foster the exchange of tacit knowledge. Also, the distances between tables, chairs, or within work areas can be arranged in such a way that communication and socialization are encouraged. Figure 3 illustrates an abstracted creative space, which focuses on the *socialisation* strategy of knowledge management

### LEVEL C – EXPLICIT KNOWLEDGE (DESIGN RATIONAL)

The Design Rational (Level C) is knowledge in externalized, codified form, which can be stored in books, or in digital form, and it can be accessed and transferred by reading or by lecturing. The space can facilitate a *codification* strategy of knowledge management by providing a library, bookshelves with books, and computers with Internet access. Auditoriums with designated lecturing furniture (e.g. lectern) facilitate the transfer of verbalized knowledge through lectures, while whiteboards, chalkboards, or other writeable walls allow for the storing of notes for other team members (like an extended memory). Figure 4 illustrates an abstracted creative space, which focuses on the *codification* strategy of knowledge management.

### LEVEL D – MODELS AND THEORIES

The Model and Theory level (Level D) represents design knowledge in the form of scientific theories and testable models, which means highly compressed and abstracted, codified knowledge. Hence, the role of the physical space in this level is

similar as for the Design Rational (Level C): Theories can be stored and accessed through books or digital databases. The creation of new theories requires also writing facilities (e.g. computers or whiteboards for teamwork). However, one spatial concept of particular interest for this type of design knowledge is an explicit testing space (e.g. Usability Lab), in which theories can be tested.

### **TRANSITIONS LEVEL A>B AND B>A**

As mentioned before, the transitions between the four levels allow for the generation of new knowledge. We focus on the transitions between the Levels A and B (both directions), since these seem to be most relevant for spatial aspects in design education, since design knowledge is often tacit, and it involves the creation of artefacts.

The transition from the Artefact level towards the Design Intuition level facilitates the creation of new design knowledge by filtering signals from the environment, or by deconstructing existing objects. Signals from the spatial environment refer to any stimuli the space can provide, which can have both, a positive (inspiring) or a negative (distracting) effect (e.g. noise from other co-workers or from the outside environment, background music, smells from material work in the workshop, views through windows, etc.). Physically or conceptually deconstructing existing artefacts might help to gain new insights on how these objects were designed. Providing a collection of inspirational objects might be a facilitator for developing such knowledge. The space can support such collections, e.g. through shelves, object (gadget) libraries, or showcases. The transition vice versa, from the Design Intuition level towards the Artefact level involves adjusting filters to focus on only the desired stimuli from the environment (this might involve adding stimulating materials for prototyping, or removing stimuli by installing curtains or acoustic baffles). Also, prototyping and experimenting with materials foster the development of new design knowledge. Materials (provided within the space as a collection in shelves or boxes) can facilitate this process.

More detailed information about the specific characteristics of the four levels of design knowledge and the adjacent transitions can be found in Mueller and Thoring (2011, 2010).

## **TAXONOMY OF SPATIAL DESIGN KM**

In the following, we summarize the characteristics of spatial knowledge management for design education in a taxonomy. A particular focus is given to the role of the spatial environment on storing, transferring and generating design knowledge, according to the afore-mentioned typology of design knowledge. We distinguish between space, spatial elements, and interior design elements. Space includes the architecture itself, such as the characteristics of the building (windows, walls), entire rooms (workshop, library), and the surrounding environment (parks, streets). Spatial elements, however, are referring to elements inside the building or the room, such as furniture (chairs, tables, stools) or working equipment (machinery). Interior design elements refer to the interior design of classrooms (materials, colours, curtains). We believe that all three categories can be utilised to facilitate the management (i.e. the storage, the access to, the transfer, and the creation) of design knowledge within design education. We analyse and compare the characteristics and the knowledge functions of all three categories. The results are summarized in an epistemological taxonomy of spatial knowledge management (Table 1).

Level of Design Knowledge	Example	Category	Knowledge Function
<b>A</b> Artefact Knowledge (Embodiment Strategy)	Tools and machines	Spatial elements	Embodied manufacturing
	Open storage (shelves)	Spatial elements	Possibility to store interim working models
	Showcase/ cabinet for prototypes	Spatial elements	Prototypes incorporate embodied knowledge
	Locks and doors	Architectural elements	Knowledge protection
	Material collection	Spatial elements	Materials facilitate prototyping
	Object (e.g. gadget)	Spatial elements	Artefacts embody knowledge
<b>A &gt; B</b> Transition	Windows	Architectural elements	Provide view and stimulation (signals)
	Noise, music	Interior design elements	Provide stimulation (signals)
<b>B &gt; A</b> Transition	Curtains	Interior design elements	Filter signals, prevent stimuli
	Acoustic baffle	Interior design elements	Filter signals, prevent stimuli
	Workshop	Architectural + spatial elements	Facilitates prototyping
<b>B</b> Tacit Knowledge (Socialisation Strategy)	Sofa	Spatial elements	Facilitates exchange of tacit knowledge (storytelling)
	Team space (e.g. group table)	Architectural + spatial elements	Facilitates exchange of tacit knowledge (storytelling)
	Kitchen / Coffee Maker	Spatial elements	Informal meeting point, facilitates exchange of tacit knowledge
	Experimenta	Architectural	Facilitates learning-

	Bulletin board (who knows what)	Spatial elements	Facilitates finding the right expert
<b>C</b> Explicit Knowledge (Codification Strategy)	Whiteboard, chalkboard	Spatial elements	Stores explicit knowledge (notes, sketches)
	Writeable wall	Architectural + interior design elements	Notes can be stored directly on the wall to be accessed by other team members
	Library	Architectural elements	Stores explicit knowledge (books)
	Bookshelf	Spatial Elements	Stores explicit knowledge (books)
	Lectern	Spatial elements	Facilitates lectures
	Auditorium	Architectural elements	Facilitates lectures
	File cabinet	Spatial elements	Stores and protects explicit knowledge
<b>D</b> Models & Theories	Usability lab	Architectural elements	Facilitates testing of theories

**Table 1** Taxonomy of Spatial Knowledge Management

## CASE STUDY

Based on two cases in two design educational institutions in Germany (Dessau Department of Design of Anhalt University of Applied Sciences, and the School of Design Thinking of the Hasso-Plattner-Institute in Potsdam), we provide examples of spatial aspects that facilitate the management of design knowledge as described in the previous section. The Design Department in Dessau is a traditional public design school, while the School of Design Thinking in Potsdam is a private institution for the teaching of Design Thinking. Interestingly, the space designs of both educational institutions are quite different. The Design school in Dessau offers a combination of different

rooms types: some for classes and lectures, some for project work (workshops). On campus there is a library with reading rooms, a student cafeteria and a canteen. However, there is no such thing as a lounge area or even comfortable seats within the main buildings, which might facilitate the exchange of ideas and other forms of tacit knowledge. Codified knowledge is available in the library. The workshops, however, are well equipped and provide space for experimenting and tinkering. Project works (final models and mock-ups alike) are displayed in some glass cabinets in hallways, and in some of the lecture rooms in shelves, as provided by the individual preferences of the teachers. Overall, the focus seems to be on the codified knowledge management strategy (which was identified to be not the best approach for design education), and on artefact-based learning in workshops and with materials. However, the socialisation strategy was not addressed at all, other than through the providing of a canteen.

The School of Design Thinking in Potsdam offers dedicated team spaces, a small library, located directly within the main teaching spaces, but also additional material and gadget collections (some kind of libraries of artefacts and materials). Sofas and lounge furniture are available at several spots, to allow for informal knowledge exchange. Work examples from previous projects (prototypes and mock-ups) are displayed in shelves and on boards, ready for anyone to inspect. But also a lecture space (auditorium style) is provided for presentations and lectures. The socialisation strategy was much more addressed, but not by forgetting about the codified knowledge management as well. Only the workshops were not as good equipped as in Dessau.

## DISCUSSION

How should a learning space that facilitates knowledge management in design education look like? Traditional knowledge management strategies suggest either a codification approach, based on libraries and lecture-spaces, or a socialisation strategy, based on communal areas and meeting points. As an extension of these concepts, we suggest a KM strategy based on artefacts, to facilitate the utilisation of embodied knowledge. According to our afore-mentioned

analysis, the management of design-specific knowledge should focus on the *socialisation* and *embodiment* strategies, since these facilitate the KM of design-specific tacit knowledge, as well as the KM through artefacts and prototyping. Hence, spatial concepts to facilitate the KM within design educational institutions should include the providing of 1) lounge areas (such as sofas), team-furniture, and informal meeting points to support exchange of tacit knowledge, 2) areas for experimenting (workshops or tinker spaces), to facilitate prototyping, 3) material and object/gadget libraries, to facilitate the access to artefact-based knowledge, 4) sufficient supply of prototyping materials, and 5) the display of previous work results.

Obviously, we do not suggest abandoning the codification strategy of KM, based on libraries, lecture spaces, access to computers and databases, and writing equipment, such as whiteboards, but these are already available in almost any design educational institution, which is why there is no need to focus on these.

We believe, that the results of this paper might contribute to a better understanding of the role of space for the management of design knowledge, and that it might help design educators to adjust the layouts of their classrooms accordingly.

## **FUTURE WORK**

Recently, new forms of educational concepts have been developed, for example Massive Open Online Courses (MOOCs) that focus on distant learning via Web tutorials, videos, and user forums. These new forms of education offer many opportunities, such as the teaching of nearly unlimited numbers of students. However, such learning environments—literally without a physical space—also bear some challenges, especially for design education. Future research will try to answer the question, how these virtual spaces have to be designed in order to facilitate the management of design knowledge in the future. Another future research approach will focus on investigating the spatial requirements for the management of knowledge on the Model and Theory level (D).

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## REDESIGNING DESIGN EDUCATION: Project-Based Learning and Spatial Design

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### ABSTRACT

Design “is never a process that begins from scratch, to design is always to redesign” (Latour, 2008). Redesign and spatial counter-practices uniquely position the new field of spatial design as a discipline, thus allowing for the emergence of systems that emphasize fluidity, exchangeability and multiple functionalities – in short, complexity.

Today academia seeks to put complexity to the test by breaking down boundaries between disciplines, encouraging transdisciplinary approaches and enabling as many actors as possible to participate in the learning and teaching of design. Unfortunately, education today still remains within its disciplinary domain and is relatively isolated from new experimental and experiential platforms, such as labs, clinics and Research Development Innovation (RDI). The current task in design education is to shift the emphasis and invent new methodologies that interlink the complexity of real life problems with design practice. The paper proposes an innovative educational platform using Project Based Learning (PBL) and Spatial Design to encompass new spatial design content and methodologies. It is demonstrated through a case study of a participatory spatial design project, designing and fabricating small scale project in a community center in Jesse Cohen, a neighborhood of Holon. The neighborhood is marked by extremely low socioeconomic status, home to a large Ethiopian community. The Design School in COMAS (College of Management Academic Studies), the Design Designers' Clinic, FablabIL, the Israeli Center for Digital Art and the community in Jesse Cohen neighborhood all participated in this collaborative project. The project consists of participatory design, community participation workshops and fabrication of furniture, objects and re-modeling the space. Analysis of this project reveals the complexity of the entire process, beginning with dialogue between the various stakeholders and the community through the stage of actual manufacturing and building the design.

Real-life projects can serve as an impetus for innovation and can change the perceptions of all involved agents, as well as the overall perceptions, educational content methodologies and outcomes of the design discipline as a whole.

### KEYWORDS

Spatial Design . Project Based Learning (PBL). Design Methodologies. Redesign

## 1. INTRODUCTION: SPATIAL COUNTER-PRACTICES

Design “is never a process that begins from scratch, to design is always to redesign” (Latour, 2008). The notion of redesign uniquely positions the new field of spatial design as a discipline related to the scale of the body and grounded in tactile and sensual experience. Redesign facilitates the assimilation of participatory dynamics that redefines spatial design as a new force for active engagement. It allows for the emergence of systems that emphasize fluidity, exchangeability and multiple functionalities – in short, complexity.

During the summer of 2011 public spaces in several cities around the world turned into new habitats. In Tel Aviv, for example, hundreds of protestors camped along Rothschild Boulevard demanding spatial justice, and specifically affordable housing and an end to the privatized economic system. The tent-filled urban space became home to a charged mélange of “domestic,” social and political activities, with ad-hoc open kitchens serving food alongside debates and group discussions. Domesticizing the public space changed our perception of this space, thus facilitating performative acts in which common or private activities construct identity.

Occupy Wall Street (OWS) is another example of spatial counter-practices. Activists occupied Zuccotti Park in New York in protest of American financial institutions. When protestors were later forced out of the park, they turned their focus to occupying banks, corporate headquarters, board meetings, and college and university campuses. The protest was structured around anti-authoritarian and non-hierarchical principles of decentralized organizational practices and invited a diversified, bottom-up, directly democratic approach. This collective protest movement spread to 130 cities in the United States and Canada, as well as the Middle East, Mexico, Europe, Asia, and Australia.

We believe that this new form of participatory discourse and activism offers a new framework for reexamining and challenging the prevailing conception of design education, introducing the

notion of Spatial Design as a new force field. The emergence of spatial counter-practices forces the redesign of academic educational practice, facilitating the emergence of systems that emphasize fluidity, exchangeability and multiple functionalities. Spatial design reinvents the ways designers think and act with respect to space, people and their surroundings. It transcends the boundaries of traditional design disciplines such as architecture, interior design, landscape design, urban design as well as public art within the public realm. Such a transdisciplinary approach simultaneously refers to what exists within disciplines crosses different disciplines and transcends all disciplines, thus reflecting the complex spatial problems that designers face today. In *The Production of Space*, Lefebvre argues that space is a social product or a complex social construction. This Marxist-humanist view affects spatial practices and changes perceptions of spatial theory and practice (Lefebvre, 1974). This argument points to a shift in the research perspective, from space as a product to the processes of its production, that is, the multiplicity of spaces that are socially produced. Thus, emphasis is placed on the contradictory, conflictual and ultimately political character of the processes of production of space. The production of space belongs to a wide circle of agents, including designers, artists, social scientists and members of various communities, as well as politicians, builders, entrepreneurs, economists, policymakers and lawyers.

One of the main tasks of academia today is to address the challenges involved in breaking the boundaries between disciplines by encouraging transdisciplinary approaches and allowing as many actors as possible to participate in the process of learning and teaching design. In recent years, new platforms in the form of labs, clinics and RDI (Research & Development & Innovation) have emerged to address these issues and to integrate between academia and practice. Unfortunately, education today still remains within its disciplinary domain and is isolated from these new experimental and experiential platforms.

Part of the problem is that design education is based on traditional canons regarding type of knowledge, teaching methodologies, and the role of design instructors and institutions.

To integrate the transdisciplinary approach with emerging non-academic platforms such as Labs, new methodologies platforms must be invented within academia that combine complex real life problems with design practice. In this paper we propose an innovative educational platform using Project-Based Learning (PBL) platforms and spatial design to encompass new spatial design content and methodologies.

## **2. PBL AS AN EDUCATIONAL PLATFORM – BETWEEN ACADEMIA AND PRACTICE**

In recent years, Project-Based Learning (PBL) in academia has developed as an innovative and challenging learning approach. In PBL, students study in multidisciplinary groups that must cope with complex questions, problems and challenges by implementing real-life projects. The projects are based on collaboration between academia and practice and require innovative teaching methods as well as the use of collaborative knowledge. The learning process is based on the development of 21st century skills, among them cooperation, communication and critical thinking, with particular emphasis on the quality of the project outcome and on its presentation. It should be noted that PBL differs significantly from projects, whether theoretical or collaborative, that are implemented within the framework of studios or workshops in architecture and design academia. PBL was researched extensively during the 1990s (Moursund, 1999; Krjck, Blumenfeld, Marx & Soloway, 1994). Thomas (2000) takes an academically oriented approach and identifies five criteria for PBL: "PBL projects are central, not peripheral to the curriculum; PBL projects are focused on questions or problems that 'drive' students to encounter the central concepts and principles of the discipline; projects involve students in constructive investigation; projects are student-driven to some significant degree; projects are realistic, not school-like" (pp.3-4).

Rather than considering PBL as an academically oriented approach, Ayas and Zeniuk (2001) see it as emerging from PBL practices in industrial R&D projects at companies such as Ford Motors and Fokker. By definition, these problems are highly complex and require a new learning infrastructure and a new

means of implementation.

The complexity of real-life projects is clearly an area that academia is only now beginning to consider in terms of opportunity rather than limitations. Ayas and Zeniuk put forward six distinguishing features of PBL for theory and practice: "(1) a sense of purpose and clarity in both long- and short-term objectives; (2) psychological safety and a commitment to telling the truth as part of the project environment; (3) a learning infrastructure and a balance between emerging and formal structures; (4) communities of practice that cross project boundaries; (5) leaders who set the tone for learning and model the reflective behavior; (6) systemic and collective reflection" (Ayas & Zeniuk, 2001).

While Thomas's (2000) academic model refers to a single project framework, the model proposed by Ayas and Zeniuk (2001) suggests that projects comprise communities of practice that allow all individual participants to belong to multiple communities. We believe that innovation in spatial design education is created through new platforms that integrate academia and practice by cross-sectioning various design disciplines. These new platform are based on the following three characteristics of PBL.

## **2.1 COMPLEXITY**

Spatial designers must cope with complex, authentic and urgent problems on the public agenda, ranging from ecological/environmental issues to problems of new urban metabolism, from issues of reuse and urban resources to problems of spatial orientation and restoring resources to the civilian space. The ability to cope with such complex issues requires relating various parameters through projects.

The concept of complexity has been defined by De Landa and is in line with Deleuze and Guattari. De Landa (2006) challenges the current social analyses paradigm by positing social entities in terms of the complexity that emerges from assemblages. Assemblages appear to function as a whole, but are actually coherent bits of a system whose components can be "pulled" out of one system, "plugged" into another and still work. Today's

design challenges generate the need to deal with complexities that “take into account the diversity of life-world perceptions of the problems” (Pohl & Hadorn, 2008). Therefore, complex problems can no longer be tackled through a single discipline or even multiple disciplines.

Complexity is also related to questions of the identity of the 21st century designer and the way in which academia addresses the new roles of spatial designers. The traditional situation in which the profession students learn in academia resembles their actual future practice no longer exists. Spatial design education can address this issue by offering students a new means of acquiring design knowledge and tools through multidisciplinary projects. These complex projects integrate various fields of design and complex decision-making, thus making a difference within academia.

## **2.2 REAL LIFE PROJECT**

In addressing real-life problems and issues of complexity in higher education, the main question is how to develop innovative integrative educational approaches that can transcend the boundaries between disciplines. Real-life projects based on collaboration with municipalities, industries, non-profit organizations, commercial organizations and more have thus become the focus of spatial design programs. Collaborations through real life projects force academia to be entrepreneurial by initiating the collaboration and finding the project most suitable to the transdisciplinary approach. In initiating, designing and building real projects, academia embraces a new role of generating social, economic and technological changes in urban, public and business spaces.

## **2.3 INNOVATIVE METHODOLOGIES**

Challenging teaching methods that implement extensive interdisciplinary knowledge in real-life projects are based upon various forms of collaboration. Among these various forms are the client's collaboration in the decision-making process, empathy with the client, the community and the public, identification of issues, development of prototypes and ongoing reflective processes. The PBL perspective involves a non-



hierarchical approach in which the lecturer serves as partner and advisor rather than as an instructor who organizes the students' work. This approach, known as the lab approach, is prominent in the world today (e.g., MIT Media Lab). In a report on future design labs, Torjman (2012) indicates that labs in general and media labs in particular offer a neutral space dedicated to problem-solving in a highly experimental environment. Projects initiated by the needs of industries result in prototyping, thus allowing groups of students, instructors and users to learn by doing rather than by thinking. Each project employs a user-centric lens, thus turning the end-user into a critical participant throughout the process. The labs focus on diversity of perspectives and skill sets as well as on the team process, thus representing a convergence of design, ethnography and business to support both theoretical and real-world applications. In a lab, the whole (that is, the solution) is greater than the sum of its parts (the input of individual participants). Proprietary ownership is minimized in favor of objectivity and commitment to a shared vision.

### **3. NEW PLATFORMS BETWEEN ACADEMIA AND PRACTICE**

Two new platforms established and developed at COMAS (College of Management Academic Studies) – Fablab Israel and the Designers' Clinic – can serve as an infrastructure for the development of the new field of spatial design education.

#### **3.1 FABLAB ISRAEL**

Fablab Israel, a community-based digital manufacturing laboratory, is a collaborative effort between the Design Department at COMAS and the Israeli Center for Digital Art in Holon. The lab offers a setting for realizing dreams in concrete materials using a variety of methods that connect the virtual and the physical, ranging from CNC manufacturing to 3D printing and electronics. As part of a global network of laboratories founded by the Center of Bits and Atoms at MIT, FablabIL represents a new approach to current technologies and offers a new space for creation, with room for innovation, social entrepreneurship and interdisciplinary creativity. FablabIL calls for a transformation

from consumerism to fabrication. In a world of ever-growing consumerism, assuming responsibility for the environment and the community in an active, entrepreneurial and productive manner is essential. An interdisciplinary approach is required to confer and teach the skills necessary for the 21st century in technology, in entrepreneurship and in creativity. FablabIL focuses on education through both formal and informal frameworks in the world of digital fabrication and serves as the foundation for local community work, integrating communities, municipalities and agencies. It also place special emphasis on people with special needs through collaborative projects.



**figure 1** Jesse Cohen Youth Center

FablabIL serves as a point where artists, designers and creators from difference disciplines can meet for innovative creation and design thinking that is out of the box. Problem solving and brainstorming groups, activity days and projects promote various collaborations with industrial and academic bodies. FablabIL serves as an infrastructure for applicative academic research for students and faculty in the COMAS Design school and is open to all other academic institutions.

### **3.2 THE DESIGNERS' CLINIC AT COMAS**

The Designers' Clinic at COMAS serves as an apparatus for applying design activism within spatial design curricula. The Clinic nurtures the weakened community by activating the capability approach as a subversive act toward developing the wellbeing of community members. The actors are faculty members, students, graduates and designers from all fields who wish to use the Clinic's platform as an effective tool for change, initiative and activism. The designers engaged with the Clinic create a model of synergy between design practice and academia. This synergy promotes research. It aims at formulating a critical view of the role of designers and design in and for the community as well as the role of academia and its involvement in the urgent social, urban and environmental issues currently on the agenda.



## 4. PROJECT-BASED LEARNING: A CASE STUDY



**figure 3** The youth center before renovation



**figure 4** Presentation for the client



**figure 5** Students building furniture prototypes

The project was implemented in the Jesse Cohen neighborhood of Holon. The neighborhood is marked by extremely low socioeconomic status and a home to a large Ethiopian community with families who are struggling to survive. As a result, very young children wander around the neighborhood unsupervised. The Community Center serves as an important focus for the unsupervised young children, by offering after-school activities as well as by employing at-risk youth who are not part of any formal educational setting. The FabLab Israel is situated in Jesse Cohen, in line with its vision of becoming a community fabrication laboratory. (figures 1-3).

Real life projects and PBL methodologies are main objectives of the design school in COMAS College Israel. Part of its curricula is a social design course in which students identified the children's needs for a special space in the community center to spend the afternoons and get help with homework. Currently, the space in is a depressing and uninviting space that does not entice them to spend a lot of time there.

The Designers' Clinic realized the need to cope with the situation at the community center and decided to integrate the project of renovating the community center into an Extreme Make-Over real life project studio.

### 4.1 REAL LIFE PROJECT COMPLEXITY

#### Multiple stakeholders

**Table 1** Taxonomy of Spatial Knowledge Management

- **A SET OF ORGANIZATIONS SEEKING TO PROMOTE AND DEVELOP THE COMMUNITY:** The Design School, FabLab Israel and the Israeli Center for Digital Art in Holon. Each organization contributes a different aspect to the joint effort. The Israeli Center has been working in the neighborhood for quite some time and knows how to operate there, but has not taken any action to make the stakeholders understand the added value of working over the long term.



**figure 7** The final Design



**figure 8** Furniture prototyping

The Design School, led by Dean Carmella Jacoby Volk, has a broad set of academic and practical connections as well as the tools to link the needs of the community to those of the place. The Design School invited a pair of Spanish architects, Arch. Patricia Muñoz and Arch. Luciano Alfaya (Studio MMasa), to lead the project. These architects are experts in enlisting the cooperation of the community in design projects of this nature. The FabLab, with its' director Arch. Ohad Meyuhas are an excellent platform for linking the various stakeholders, both due to its physical location and because it is a digital fabrication lab where the various products can be adapted to the place and produced quickly, efficiently and inexpensively.

- **THE STUDENTS:** The participating students come from diverse backgrounds and have varying abilities. Each student has a different understanding of what it means to help and participate in the community. Many of the students come from Israeli communities that have adopted a less collective and more individual approach.
- **THE LOCAL ETHIOPIAN COMMUNITY:** The problem within this community lies in its lack of faith in the ability of other people and organizations to help them. The prevailing feeling is one of suspicion and lack of faith in the possibility of receiving genuine help. The director of the community center shared this prevailing perception. This was evident in the discussions preceding the project, in which he was extremely aggressive. Many architecture programs had already offered help in the form of schematic design simulations that did not require any commitment on their part.
- **BUDGET AND FORMAT:** The project budget was €2000, and the director of the community center was expected to bring additional funding through sponsorships (which eventually did not happen). The entire project was completed in the short period of seven weeks. The project took the form of a short-term studio: the students got to know the neighborhood, met with all the stakeholders, reached conclusions, formulated designs and presented them to the

director of the community center and some of the children (figures 4). After a design was selected, the students were transformed into a group that supported and developed the chosen design and documented the process through a blog and publications. The students and their instructors implemented the entire project, including the making of the actual space as well as the furniture, upholstery and storage items. During the last week, everyone fabricated together – the stakeholders, the students and the instructors (figures 5-9).

#### 4.2 INNOVATIVE DESIGN AND EDUCATIONAL METHODOLOGIES

- Community participation workshops as part of the project: In these workshops the children were taught to use the digital fabrication tools at the FabLab. Not only did this reinforce the ties between the community and the FabLab, it also empowered many of the children who became part of the local landscape (figures 10-12). This technological empowerment also had an added value. The fablab became their comfort zone for acquiring knowledge.
- Broad interdisciplinary knowledge in the project: the project required combining knowledge from the design disciplines, far-reaching questions emerging from political, cultural and social situations, knowledge of project management and adhering to a timetable.
- Real-world knowledge based on collaboration: inclusion of the client in decision-making processes, empathetic approaches to the client, the community and the public.
- Set of tools: Identifying major trends and issues, depth-wise and breadth-wise analyses, developing prototypes and ongoing reflective processes. The PBL perspective involves a non-hierarchical approach in which the teacher serves as partner and advisor rather than as the instructor who organizes the students' work. This approach, known as the lab approach, is prominent in the world today (e.g., MIT Media Lab).



**figure 10** Young children in participatory workshop



**figure 11** Youth building furniture with the students





**figure 12** Young children in participatory workshop

### 4.3 DISCUSSION

The development of new approaches to teaching and learning by means of real-life complex projects will ultimately change the shape of spatial design education. In addressing real-life problems and issues of complexity in higher education, the main question is how to develop innovative integrative educational approaches to overcome the boundaries between disciplines. This paper has proposed a foundation for new spatial design methodologies based on PBL that incorporates the characteristics of complex real-life problems, real-life projects and innovative methodologies for learning and doing.

One of the big questions in using PBL and innovative spatial design education is how to turn this into a vehicle for community development and improved well-being among people who are less privileged. In the paper we described a real-life project based on collaboration that addresses complex problems and includes all the phases in the design process, from identifying the problem through designing and building the project. Not only can such a project improve the spaces and the experiences of children and the community, it can also change children's approach to technology and to their future.

The students involved in the project completely changed their perception of the role of spatial design practice. Such a change could only be accomplished by learning and acting outside their comfort zones, enabling them to reinvent themselves.

Real-life projects can become the center of academic spatial design programs only by integrating spatial design education with other platforms such as the Designer' Clinic and FablabLL. If treated as partners, such platforms force academia to be entrepreneurial in initiating collaborations and finding the most suitable project to showcase the transdisciplinary approach. In initiating, designing and building real projects, academia assumes a new role of generating social, economic and technological changes in the urban, public and business spaces. Real-life projects can become a force for innovation and can change the perceptions of all involved agents, as well as the contents and methodologies of spatial design education.

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## THE EXPERIENCE AND DESIGN OF STEREOTYPE

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### ABSTRACT

Our everyday life is influenced by an overproduction of images and by an iconogenic surplus that is connected to the proliferation of media. These contribute to both the quality and quantity of communication, but simultaneously amplify the knowledge gap between an audience that is able to critically process messages and another that is affected uncritically by prejudices and stereotypes. The need for a critical “media education” (Bellino 2010) is required to address this gap by encouraging the development of students' critical thinking and social awareness.

In this paper we will discuss the results of a didactic experiment in which visual communication design students explored the potential of metaphor to critique the role of media in perpetuating cultural stereotypes. Where stereotype simplifies reality, metaphor extends beyond the simplification of reality toward the discovery of new communicative opportunities; here the link between ethics and esthetics is reinforced.

To support the learning process of the participating students we assumed that the model of experiential learning (Kolb 1984) and the appeal to experiential metaphors (Lakoff & Johnson 1980) are the best way to deal with reality, its comprehension, its representation, and its transformation. Students were required to explore the potential of metaphor through the development of viral / guerilla communication campaigns that highlighted the role of the media in perpetuating stereotype.

### KEYWORDS

Media education. Stereotypes. Experiential learning.

## **THE EXPERIENCE AND DESIGN OF STEREOTYPE**

### **INTRODUCTION**

The following paper is based upon a workshop "The Experience of Stereotype" in the MA Course in Communication Design at Politecnico di Milano. At the outset of this workshop we made it clear to students that we understood that cultural stereotypes could not be eliminated, only transformed, and that developing alternative cultural representations would only generate new forms of stereotype. We made it clear that this project was primarily concerned with them as emerging media practitioners, and hence cultural mediators, and their development of critical insight into the role of the media in co-opting cultural representation and perpetuating it in stereotypical form. As such students were to design a campaign that made the role of the media, and indeed the consumers of media, explicit in this process. In this regard the project is ideological.

### **THE OVERPRODUCTION OF IMAGES**

We live in a cultural space - the semiosphere (Lotman2005) - where we experience ideas, messages, signs, and artefacts that circulate within it. Analogous, as it is to the biosphere, it is subject to evolution and transformation, but also involution and stiffening (Volli 2000, p250). The dimension of the semiosphere is limited and its structure is inflated by an overproduction of messages and images that, responding to the logic of consumption, are losing their intelligibility. The semiosphere operates in the "ecology of the artificial" (Manzini 1992), that is the complex environment of the human made world. Manzini argues that in this ecology we have a "system of production that is strongly geared to the ever accelerating production of worthless goods" (Manzini 1992, p8). It is self evident that we now live in an age where the rate at which we produce and disseminate images exceeds our capacity to view, let alone comprehend, more than the smallest percentage of them. The resultant "semiotic pollution", as Manzini (1992, p7) calls it, that has accompanied this shift indicates to us then that the system of

*reproduction* is geared towards the ever-increasing reproduction of worthless images. Such images are worthless in that we take them for granted because of their ubiquity. Simultaneously their ideological underpinnings are concealed through this ubiquity. While we may consider ubiquitous images as worthless it is wrong to assume they are not powerful.

The contradictory nature of worthless images being powerful has a number of consequences. Firstly the overproduction of images, means that we can never consume, or conserve, all the images diffused by media. The risk is to be overwhelmed by the iconogenic surplus resulting from the dross of visual hyperproduction (Smargiassi 2012). Secondly the overproduction of images is incompatible with the image's ability to create differences and oppositions (Volli 2008, p112): the surplus of image production is not content oriented but promotes an imaginative space seemingly detached from reality. Perniola (2004) highlights one of the problematic aspects of this communication landscape: the transformation of the audience into a 'tabula rasa', sensitive and receptive to media communication, but largely unable to be cognate of content beyond the moments of transmission and reception. This enables communication in which "making and unmaking according to the momentary self-interest" (Perniola 2004, p108) stages a substitute reality that serves the economic interests and political consensus of those commissioning the communication (Chomsky 1989, p8). Such a substitute reality is linked to the persistence of image stereotypes. According to Zingale (2012) a stereotype is a "connotation ideologically oriented" that creates, in public opinion, arbitrary simplifications, social sharing and semantic stiffening<sup>1</sup>. The essential cognitive function of stereotyping is to systematize and simplify information from the social environment in order to make sense of a world that would otherwise be too complex and chaotic for effective action (Tajfel 2001, p134). Hence our earlier claim that stereotype cannot be eliminated, but it can be critiqued. It is little wonder that in an era characterised by the overproduction of images that the

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<sup>1</sup> See also Lippman (2004[1922]).

stereotype dominates for they are a simple response to dealing with complexity. However, to simply accept them as a pragmatic response to this complexity is to underestimate the profound impact they have upon how we see, experience, understand and - most importantly - act within and upon the world.

Merleau-Ponty explores the role of the image in our perception, understanding and transformation of reality. He examines the relationship between mental images - or the images of our imagination - and visible images - images that we conventionally regard as some form of visible representation of things seen. The visible image, Merleau-Ponty (1964, p164) argues, is not a "a tracing, a copy, a second thing" or representation of the world separate to our perception of it. Nor is it a design that just shows us objects or events that are absent from our field of view. Rather the visible image is a part of the horizon of our embodied perception and is as much a part of the reality we perceive as the object it purports to represent. Merleau-Ponty elevates the image's epistemological and ontological status to that of what is commonly called material reality.

Merleau-Ponty also examines the significance of the images of our imagination, and sees them not as "belonging among our private bric-a-brac" but as "the inside of the outside and the outside of the inside" that makes possible "the quasi presence and imminent visibility that make up the whole problem of the imaginary" (1964, p164). Merleau-Ponty turns to painting, and the artistic vision behind it, to clarify the relationship between the images of the imagination and visible images and the manner in which they constitute and transform reality. He argues that the painter "sees the world and sees what inadequacies (manqués) keep the world from being a painting" and sets out to rectify these inadequacies by producing a painting and that such "vision in any event learns only by seeing and learns only by itself" (Merleau-Ponty 1964, p164). So the visible image, as a part of the horizon of the broader reality we perceive, informs the images of our imagination that in turn result in further visible images that become part of the horizon of the broader reality that

we perceive<sup>2</sup>. Merleau-Ponty calls the manner in which visible and mental images transform reality, the "image sensitising itself" (2010, p 53). Diprose argues that the transformation "of the lived world" in this manner "is not an extraordinary event" but "the dynamics of ordinary perception" (2010, p33). Where Volli argues that the overproduction of images creates an imaginative space seemingly detached from reality, we argue that as the visible image - no matter how ubiquitous or stereotypical it is - is a part of the landscape of our preception then it shapes our understanding of reality, even if at times it contradicts our experience of the reality the image puports to show us.

The visual communication design industry is largely responsible for the overproduction of visible imagery that populates the commercial media landscape and consequently plays a pivotal role in imagining and transforming the horizon of our perceived reality. The dominant visible image is photographic and more often than not it comes in the form of the stock photograph, making the stock photography industry "a powerful force behind the culture of the image" and a "principal site for the production and distribution of photographic images in culture as a whole" (Frosh 2001, p628). The reality depicted in stock photography "is the optimized version of a common global reality" (Bruhn 2003, p374). In short stereotype and cliché reign supreme, with the cliched image having significant "iconological currency" (Bruhn 2003, p373). This currency is not directly determined by the audience that these images are designed for but by the complex network of actors responsible for their production and dissemination within media communications. This network includes visual communication designers who, by imagining the kinds of images which consumers will respond to, assume the role of "cultural mediators" in that determination (Frosh 2001, p 634).

Although Merleau-Ponty is disssmissive of the photographic image's capacity to inform perceptual transformation Diprose contends that the photograph does indeed inform it but does so

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<sup>2</sup> See Roxburgh 2013 on the implications of photographic images in this scenario.

in a very specific way arguing that “realist photography” expresses the world “by lifting the viewer above the lived world to the position that tends to sediment the significance of relations between things and the possible paths for living these relations allow” (2010, pp37-38). We argue that a further sedimentation of the significance of relations and paths of living occurs through the overreliance of stereotypical image content. The ideological consequence of this is that we become increasingly constrained in how we imagine the world, and our relations to and within it, can be.

### **THE PRODUCTION OF CRITICAL PRACTICE**

Given the central role visual communicators play as cultural mediators, and the manner in which they shape the landscape of visible images that are a key part of the horizon of our perception, it is crucial that emerging practitioners in this field are educated about the ideological power they exercise. In short we are advocating the development of a critical attitude towards their practice, something sorely lacking currently in industry.

Baule (2012) argues for the presence of a critical culture inside the communication design project and the development of what he calls ‘communicative antibodies’ to challenge the dominance of stereotype or prejudice in media communications. These ‘antibodies’ are the actions that critical practitioners put into place - through their consideration of the content, language, technologies, design methodologies, and media formats used in the communications they are designing - that extend beyond stereotype. Baule (2012) argues that by training communication designers to be more aware, more critical and more sensitive in the exercise of respect of others they can spread their ‘antibodies’ in all systems of communication design production and promote a different culture of communication. Research, and in particular the research conducted at University level, can be oriented towards the developemnt of new possibilities of language starting from the strategies of deconstruction,

decontextualization, and emphasis suggested by the avantgardes<sup>3</sup>.

In our attempt to develop such an attitude “The Experience of Stereotype” workshop represents a didactic educational experiment where a research dimension, structured around formalised methodologies, has been implemented through student work. This workshop is linked to the research activities of the group dcxcg (communication design for gender cultures) of Politecnico di Milano, Design School (Design Department), whose goal is to offer a critical view of the forms of representation of society (in particular of gender through the media). dcxcg also supports the proposal of new models of communication and new opportunities to raise awareness in everyday life (private and public) about issues of representation. The educational objectives of dcxcg are to develop the professional experience and competence of students whilst encouraging a critical attitude and inquisitiveness about the norms of visual representation.

Students have explored the issue of stereotype in different projects and from different perspectives (Stereotypes in the media, Sexist stereotypes, Stereotype deconstruction, Stereotype experience). The experimentation of visual languages, codes, and forms of persuasion gave students the opportunity to reflect on common prejudices, but also to define new challenges for the creation of new ways of looking at reality and interacting with it. The value of these experimentations is a constitutive part of the basic research, but it also has a double purpose: the intention of provoking change and iterative and imaginative steps forward (Sevaldson, 2010), and the will to create an experiential dimension of learning, that integrates theory and practice, tacit and explicit knowledge (Niedderer and Imani, 2008) with a final design output. The goal of the experiment to overcome the most common expressive codes (a persuasive and inviting rhetoric) and move to a type of

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<sup>3</sup> Baule suggests, the concept of détournement of Guy Debord, Gil Wolman, *Metodi di Detournement*, “Les levres nues”, 8, Bruxelles. 1956

communication which is more sustainable and more responsible. The output is represented by a series of visual campaigns (poster and audiovideo animations) that critique the nature and presence of stereotypes in contemporary society and media.

### **THE EXPERIENCE OF STEREOTYPE WORKSHOP**

At the outset of we acknowledged to students that given how the media industry rapidly consumes emerging forms of representation that their task was not to try and design alternative representations of gender, race or sexuality but rather use media to interrogate and critique the mechanisms through which stereotypes come into circulation. Therefore the project was not a typical industry project responding to a client need or brief, nor was it conceived to solve a specific design problem. Rather the project was conceived as a form of critical intervention into visual communication itself, much along the lines of the sorts of projects advocated by Dunne and Raby (2001). Yee calls problem solving design "affirmative design" because it "perpetuates the existing norms of societal expectations" and affirms the ideological status quo (2012, p467). On the other hand "critical design challenges the norm by expressing alternative values and ideologies" (Yee 2012, p467). As such the students in this workshop were required to take on the practices of guerilla / viral communication in their projects. In keeping with the open nature of the brief students were not given specified media to work in, nor was an audience typology provided to them. Media choice and the prospective audience was determined through the research and the development of the communication objectives of each project, as determined by that research.

The research dimension of the project was shaped by four framing questions.

#### **1) What do I know?**

- The researcher explicitly identifies what they 'know' about the subject of stereotype.
- This values their pre-existing knowledge and experience as 'expertise' AND lays bare their assumptions and bias.

#### **2) What does someone else know?**



- The researcher looks to the knowledge and experience that others have of the subject of stereotype in the form of - theoretical writing, conversations with experts or novices, observing objects, activities or phenomena.
- This exposes the researcher to the wider field of knowledge of the subject.

### **3) What do I know now?**

- It also requires the researcher to outline what they 'know' **now** as a consequence of comparing (1) and (2). How has their knowledge and experience of the subject of stereotype changed and why has it changed?

### **4) What can I imagine?**

- In a theoretical sense this would be a proposition about the 'state of affairs' of the topic or area they are researching.
- Importantly for design this is about imagining a design response or outcome as a result of the knowledge they have developed from this process.

This approach is similar to that used in a grounded theory in that it builds knowledge from the ground up. Grounded theory, developed by constructivist social researchers, entails collecting, analyzing and interpreting 'data to build middle-range theoretical frameworks' in order to 'focus further data collection' that in turn informs and refines the theoretical analysis (Charmaz 2003, pp249-250). Bryant and Charmaz (2007, pp44-46) and Reichertz (2007, pp214-228) argue that grounded theory privileges abductive reasoning. As abductive reasoning is privileged by designers (Kolko 2011, Lawson 2006[1980], Louridas 1999) using a theoretical framework that requires similar thinking patterns means that the research task does not feel overly foreign to students more typically used to working within the tight constraints present in affirmative design approaches compared to the more open ended and speculative nature of critical design approaches. Given that students were not building a middle-range theoretical framework of the nature of how media promulgate stereotype but were turning that knowledge into some form of critical design response, a research methodology that was framed by abductive reasoning was essential to ensure there was not a disconnect between their theory and practice.



**figure 1** image from the project "You Are Not A Label": example of the application of stickers near the doors of a bus.



**figure 2** image from the project "Mirror on the wall".

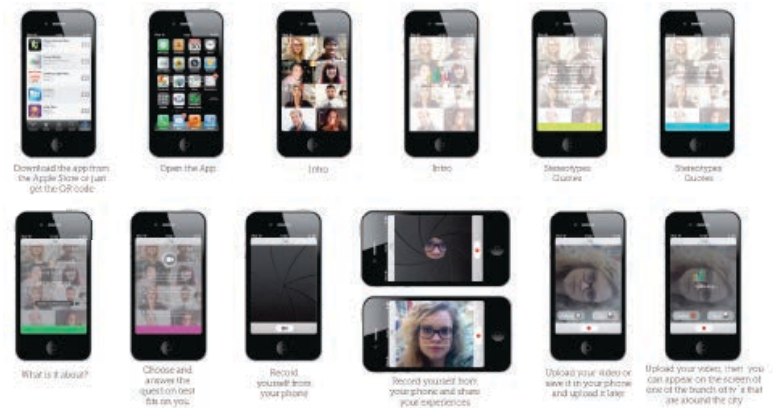
In keeping with the critical nature of the project inquiry, the students were aware that producing a polemical piece of communication - that spoke of the problems of stereotyping - would be as closed and ideological as the systems that propagate stereotypes are. The most successful projects, therefore, took an educative approach that encouraged audience members to participate in the generation of meaning when engaging with the final communication platforms. For example both the "You Are Not A Label" and the "Mirror on the Wall" projects provided opportunities for the public to see themselves, or others, in the work through either their reflection in the work itself (Mirror on the Wall) or the overlay of semi transparent labels on members of the public (You Are Not A Label). Both campaigns used the simple, but successful, metaphoric strategies of reflection and juxtaposition to enable members of the public to reflect upon and question their own assumptions and experiences of stereotyping.

"The Hobson's Choice Campaign" project team designed a web-based interactive video campaign that enabled audience members to determine the structure of the story by choosing from pre-set scenarios at various points in the video. It used humour and audience expectations of stereotype to infer that stereotyping is a social choice, but as we all do it appears not to be a choice we actively make. The audience helped determine the meaning of the message through the appearance of choices built into the narrative.



**figure 3** image from the project "The Hobson's Choice Campaign" Against Homophobia and Transphobia.

The "Towers of Babel" project team took audience interaction one step further by designing a campaign that encouraged audience members to shooting and upload short videos where they discussed their own experiences of being stereotyped.



These videos were available on a purpose built website but more significantly, from a guerilla campaign perspective, to be screened on towers of television screens installed in public locations throughout Milan. Apart from being a clever means of displaying the work to the general public the use of the television screens was strategic in that the work was simultaneously critiquing the role of televisual and screen based media in perpetuating stereotypes.



**figure 5** image from the project "Towers of Babel": storyboard for TV installation

## CONCLUSION

In critiquing the dominant visual image - the photograph - used in modern media communication Flusser (2007[1984]) argues that as photography is the product of conceptual, as opposed to imaginative thought, and is shaped by analytical and

instrumental paradigms then it is futile to challenge the self replicating ideology underpinning it through critical theory, itself the product of conceptual thought. Rather, Flusser argues that the best way to challenge the constraining dimension the photograph has on our imaginative capacity is through critical practice.. As stereotypical representation more often than not comes in some form of photographic based image, be it still or cinematic, then the constraining dimension, or sedimentation of lived experience, of the photograph and the stereotype is amplified into our lived reality. This in turns effects how we imagine any alternate reality. In "The Experience of Stereotype" workshop it has been our aim to use the kind of embodied learning Kolb (1984) describes as accomodating - that is learning through feeling and doing - to encourage the next generation of designers, that our students represent, to grow their own 'antibodies' to the dominant ideologies of contemporary media and develop such a critical practice. In turn this enabled campaigns to be developed that had the potential for audiences to develop their own critique of individual and societal attitudes towards stereotype as well as an understanding of the role of the media, thus spreading these 'antibodies' and hopefully developing a more critical audience but more importantly provide a less constrained imaginative space to imagine the kind of world we want.

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# PICTOGRAPHIC COMMUNICATION, AND SELF-REGULATED EXPLANATIONS

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## ABSTRACT

Pictogram communication is a self-regulated learning tool, providing a custom visual explanation for a set environment. Visual explanations rely on pictograms that must perform a specific task usually refer to cognitive and gestalt principles using symbols and diagrams.

As part of the ongoing work in the World Congress on Drowning Prevention 2013 (WCDP), a drowning chain was presented, however it was visually unclear lacking a simple visual narrative. It was therefore necessary to redesign and synthesize a set of pictograms with the consensus of specialists, technical and medical staff, but above all understood by lay persons. Explaining a given course of action to any lay person through pictograms must provide an error free, easily perceptible information medium.

The drowning chain of survival, in particular the drowning icon was subject of much controversy due to perceived drowning episodes, and real life occurrence.

## KEYWORDS

Pictogram. Cognitive. Visual Explanation.

## DROWNING PROCESS

Drowning victims usually face shore, and instinctively use their arms (underwater) to stay afloat, trying to keep the airway out of the water with the head slightly tilted back, performing a (underwater) ladder movement. The whole process may take just a few seconds to up to 2 minutes.

*"Victims are usually unable to grasp or call for help, as breathing is a vital bodily function."* Vittone & Pia "(2006)"<sup>1</sup>

According to WHO (2012) drowning is the 3<sup>rd</sup> leading cause of unintentional injury death worldwide, accounting for 7% of all injury related deaths, estimated in 388 000 annual deaths.<sup>2</sup>

## LIFEGUARD VERSUS LAY PERSON

Being a lifeguard requires a set of skills that go far beyond the individual ability to interpret and feel confidence in the aquatic element, performing accordingly and providing help.



figure 1 Original drowning chain design

When saving a human life is concerned, one should be prepared for the unexpected, for what is possible and not only for what is probable. Despite a lay person lack's most of the set skills, that define a lifeguard, he has the ability to rescue a human life when well directed. Thus a pictogram can provide required information to perform rescue procedure, as revised by medical and technical staff, as indicated in the WCDP 2013, (figure 1).

## DESIGN GUIDELINES

*"Graphical excellence consists of complex ideas communicated with clarity, precision, and efficiency."* Edward R. Tufte (1983)<sup>3</sup>

The *prägnanz* principle states that the human eye sees objects entirely before perceiving its individual parts, perceiving experiences in a simple and symmetric, self-organizing manner. Thus assuming that the human eye sees objects fully before perceiving details.

<sup>1</sup> (pp.14) <http://www.usc.edu/cg534/On%20Scene/OSFall06.pdf>

<sup>2</sup> <http://www.who.int/mediacentre/factsheets/fs347/en/>

<sup>3</sup> <http://viscomvibz.wordpress.com/2012/02/26/the-visual-display-of-quantitative-information/>

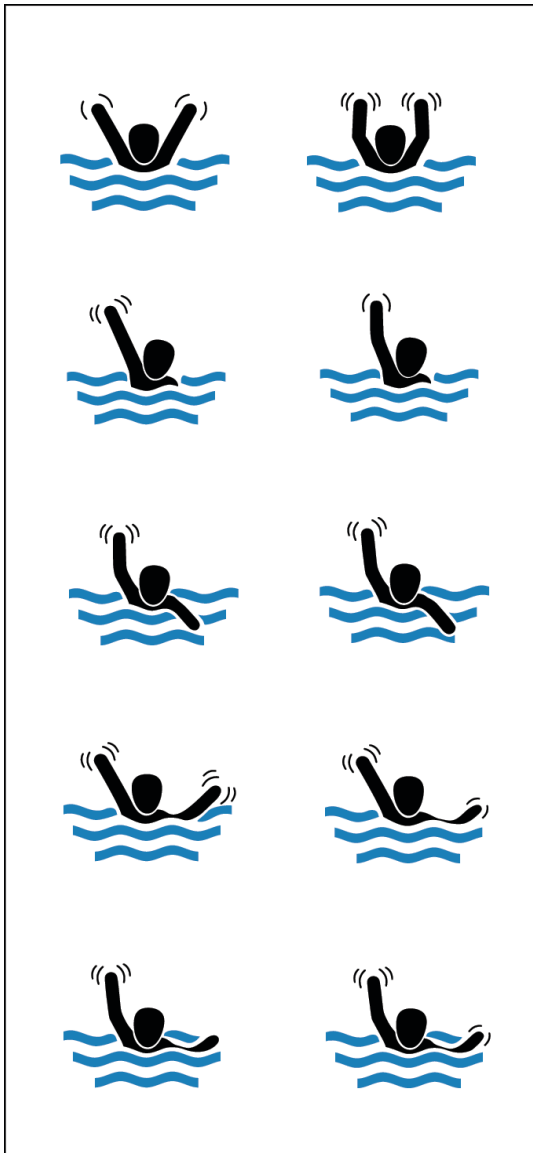


figure 2 Design of the drowning pictogram

The father of ISOTYPE (International System Of Typographic Picture Education) *Otto Neurath* (1936) envisioned two principles, that a two dimension sign could be used to represent a subject, and that perspective should not be used, as it causes distortion.<sup>4</sup>

Pictogram design is about simplifying an idea and coming to terms with what the majority accepts as representing an idea. Nevertheless a pictogram can have several drawbacks, as different regions (beliefs & culture) render different perceptions and interpretations of what is what. Also a recognizable and distinct pictogram does not necessarily represent reality, just that it is perceived as such, informing what the correct message and course of action should be.

The drowning chain was developed to provide an action plan for a lay persons to take action, and rescue a drowning victim. Research of ISO norms, warning and risk communication (emergency signs) lead to the development of the current drowning prevention chain. Nevertheless in the course of design research and development one particular pictogram, the drowning, became a matter of discussion between medical, first responders, lifeguards and the end user (lay person). People perceive the pictograms message according to their cognitive perception, not necessarily reality.

*"The best cues for retrieval are those that were presented when stimuli were encoded earlier. Thus to increase the likelihood of correct remembering, one should maximize similarity between conditions..."* Wogalter M. S., DeJoy D, Laughery K. R. (1999)<sup>5</sup>  
To assess how the message could convey appropriately a focus group was established, providing layperson input and specialist critique, rendering several design alterations, corrections and improvements, as small visual identification issues were brought up, there rendered in 10 different designs (figure 2).

<sup>4</sup> <http://isotyperevisited.org/1975/01/the-significance-of-isotype.html>

<sup>5</sup> (pp107) Wogalter M. S., DeJoy D, Laughery K. R. (1999)

Pictogram rely on cognitive perception, visual information processing must have a simple and consistent design. The process developed over 10 pictograms, tested with visual user comprehensibility tests (not as extensive as ISO testing).

A focus group of a lay person, mixed gender native Portuguese, aged from 12 to 40 living in the Lisbon area. That is 11 lifeguards, 52 beach users, 42 design students were asked which pictogram did convey the drowning victim message best.

The group was asked:

1. if they understood the pictogram message
2. to choose from the presented pictograms (print)



figure 3 current drowning pictogram

Despite multiple choices, 58% chose the same (figure 3) pictogram. Some medical specialists, who did not take part in the multiple choice, argued about the fidelity of the pictogram as it does not depict reality. Nevertheless, a consensus considered the pictogram adequate in depicting a drowning victim as it was perceived as such, rendering the final drowning chain prevention.

## CONCLUSIONS

It is optimistic to assume that all people will encode and integrate information as it really is, rather they will interpret information, and cognitive understanding will tell them the message one wants to convey. It is however paramount to convey tests so that the majority recognizes the meaning of the message.



A distinctive pictogram renders efficient and effective visual explanation, providing the best possible visual communication, recognized and understood by all users. It is about consensus and not about the designer's hegemony.

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## DESIGN AND INTERDISCIPLINARITY: The evolution of knowledge's permeability within design's disciplines

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### ABSTRACT

As a result of effective socioeconomic, technological and philosophical transformations over the modernity, the unity of knowledge dissociated into small plots outlined by the growing empirical rationality, reductionist and objective of modern scientific thought, reaching all areas of knowledge, such as the Design. On other hand, given this hyperspecialization of knowledge the contemporary principles of interdisciplinary teaching epistemology aim to promote a unified and critical holistic view. According to this perspective, this paper, through literature review, discusses the consequences of disciplinary fragmentation in universities, as well as the influence of contemporary principles of interdisciplinary methodology of design education.

### KEYWORDS

Design. Interdisciplinarity. Education

## THE RATIONAL FRAGMENTATION

The spread of Cartesian paradigm in the West in the mid-seventeenth century promoted the disjunctive thinking, establishing a dissociate character in the unity of knowledge. Descartes' paradigmatic formulation separated the "thinking subject" (*ego cogitans*) from the "corporeal substance/ extended thing" (*res extensa*), in others words, philosophy and science (Morin, 2006a), and promoted the modern rationalism through the sovereignty of reason and mechanistic philosophy.

In the construction of his plan related to a complete and exact natural science, Descartes developed methods of reasoning described by publications that made references to the basis of his philosophical epistemology. The "Discourse on the Method", published in France in 1637, can be exalted among the material of his own once the philosopher uses it to propose a linear and rational model to conduct human thought.

Seeking rigor in his philosophy, Descartes begins the "Discourse on the Method" discoursing about the importance of reason and truth in the scientific knowledge range. The fundamentals postulated by the philosopher corroborate to the diffusion of philosophical epistemology, contributing exponentially to the revolution of the modern scientific thought. Through an analytic method, he decomposed the thinking and the problems into component parts and disposed them in a logical order (Capra, 2006).

The Cartesian methodological approach has become the dominant paradigm of science in the period after Descartes. However, the responsible for turning into reality the principles of Descartes, as well as for completing the scientific revolution, was the physicist Isaac Newton. According to Capra (2006), the scientist has developed a complete mathematic formulation of the mechanistic nature conception, e wherefore, realized a great summary of Copérnico, Kepler, Galileu, Bacon, and Descartes' works.

Thus, the mechanistic and rational context of nature began to guide the scientific observation as well as to formulate the



theories of natural phenomena. Capra (2006) emphasizes that the Cartesian idea of the universe as a mechanic system provided a scientific assent to the manipulation and exploration of nature that became typical of the Western culture. However, the advent and the establishment of Cartesian epistemology divided mind and material, and fragmented the scientific knowledge into small parts, in order to establish connections and truths, stimulating the reductionism of knowledge areas. Due to Capra (2006), the author affirms that the excessive emphasis given to the Cartesian method provided the fragmentation of our general thoughts and in academic disciplines, and led to the widespread attitude of reductionism in science.

The methodological and philosophical epistemology of modern scientific thought advanced in the centuries following Descartes and Newton. The rational way to establish the knowledge in the world spurred the emergence of movements against this absolutism, such as the one defended by Immanuel Kant in the mid-eighteenth century. The German philosopher was one of the biggest critics of classic metaphysical model and of the prevailing rationalist at his time. He didn't deny the importance of reason to obtain knowledge, however, he didn't see in it's absolutism the necessary conditions to understand the whole. Consequently, his postulate brings out his transcendental idealism and his Kantian Pragmatism into the social and philosophical sphere, intensifying concerns regarding the sovereignty of the rational.

In 19<sup>th</sup> century, in the middle of exchanging information and philosophies and of the disturbed context of the social and political revolutions in Europe, the French philosopher Auguste Comte expressed himself against the spread of a speculative philosophy of idealism and rationalism. The greatest motivation of Comte was based on the chaotic intensity of the society of his time, which was experiencing the influences of the Enlightenment, the French Revolution, the Industrial Revolution and the advent of technologies.

In this sense, Comte began studying theoretical possibilities about an ideal model of organized society, aiming to reorganize the society, the science, the religion and the human intellection in order to establish order to the existing chaos. Between his many

publications, the book “Course of Positive Philosophy”, completed around 1842, described the principles of the Positivist Society which has exponentially influenced the thinking of theorists worldwide. Comte became an erudite and performed a historical participation in the Independence of Brazil that, in its flag, appropriated itself of the positivism idea: “Order and Progress”.

The society designed by the positivism should be organically harmonious. The unity of knowledge should encompass individual and collective aspects through the union between practice and theory. Observation and analysis, to the detriment of imagination, should corroborate to the predictability of phenomena, thus promoting an adept science to the investigation of the real, of the right and of the indubitable. The political and social domains should rest upon the hands of scientists and scholars, while the material domain should remain under the power of the industries (Medeiros, 2010).

Alongside this picture emerges the natural hierarchy of phenomena through the fragmentation of knowledge in disciplines, such as: Mathematics, Chemistry, Biology, Physics, Astronomy, and finally, Sociology (Comte, 1978). Comte took hold of the peculiarities of specialization and asserted his fundamentals about a reality established by isolated parts by a segregated view of social phenomena, being against the idea of integrity and Hegelian dialectical transformation (Triviños, 1987).

Consequently, such philosophical aspects outlined the shaping of pedagogical and methodological positivist epistemology in academic and industrial context. These principles have been spread from the nineteenth century up to the present day. It has promoted advances in the development of knowledge through the communion between art and science, and the result of this union manifested pertinent to high spiritual and material development of the states, influencing social, economic, political and educational life.

However, the fragmentation of scientific knowledge, promoted by positivism, corroborated to the heightened spread of disciplines within the specialization of knowledge. The specialization is

presented, thus, opposing the synthesis of knowledge, culminating in the fragmentation of the educational and industrial epistemological horizon. The increase of labor specialization after the Industrial Revolution promoted in the social-industrial-academic sphere the loss of permeable framework of the whole, dissolving into small pieces of knowledge, thus causing a dissociative pathology within the modern unit of knowledge and consequently of contemporaneity.

## THE FRAGMENTED KNOWLEDGE OF DESIGN

The new discoveries of the Modern Age have revolutionized the production systems as well as the society socioeconomic aspects. Modern society found itself facing the vertiginous industrial mechanization, the process of capital accumulation and the proliferation of durable goods through technological political and cultural advances.

The material progress allied to the crescent freedom of speech of the post Industrial Revolution period and evolutionary thought provided the development of Positivism to the society as a whole (Faustino & Gasparini, 2001).

In industry the labor specialization separated the worker from the integrated knowledge of the production stages and promoted the arise of a new organizational philosophy which emphasized the social and technical division of labor, dissociating the manual work from the intellectual (Santomé, 1998). In this production process the person which works in front of the machine is supposed to obey it. The human being progressively loses its autonomy and independence to submit to the wishes of the machine (*idem, ibidem*).

Therefore, the capitalist exercise stimulated the professional disqualification and the atrophy of the worker autonomy. The Taylor and Ford's philosophies reinforced the pyramidal and hierarchic systems of the authority promoting the power and the prestige of the highest stratus in detriment of lowest ones. Such strategy presupposed the worker class privation in terms of discernment ability and decision about the industrial production stages.

The capital philosophy, thus, promoted the excellency of the production and the consumer goods mass offer. Aiming to stimulate the consumption and guided by pragmatism profit, mechanistic technologies were used focusing the functionality and the rationality of the objects, deviating itself from the decorative and ornamental emphasis (Heskett, 2006).

However, this rationality and functionality, often accentuated, as well as the disqualification and expropriation of the worker knowledge, resulted in the promotion of the critic thought that was contrary to this reality of some thinkers, democrats and progressives. At the same time, the positivist philosophy, imbued in the cultural context of the nineteenth century led to new industrial, professional and academic guidelines, guided by the search for development and for social and economic progress of states.

In relation to the critical thinking opposed to automated industrial system, this was intensified by the emergence of artistic movements adverse to the mechanization of the post Industrial Revolution and of the post First World War (Heskett, 2006). The loss of the artistic framework of industrial products during the nineteenth century, as well as the loss of the quality of its functional and plastics aspects have led to hesitation by thinkers of related art and craft areas, boosting the emergence of artistic and cultural movements, such as *Art&Crafts*, the *Werkbund*, the Futurism, the *De Stijl* or Neoplasticism, the Bauhaus, the Russian Constructivism, the Soviet *Wchutemas*, among others.

Much of the design schools that emerged from this period, such as Bauhaus, in the first half of the twentieth century, and later (after the Second World War), the Ulm School of Design, aimed the professional training, against the mechanistic movement of the modernism (first half of the 20<sup>th</sup> Century), as opposed to the alienation of the worker in this industrial process. Connected to the philosophy of professional awareness up to the whole automated production, these schools promoted the communion machine-art aiming the balance between them both.

Thus, these schools focused the conception and the offer of products with higher perceptual aesthetic value and usability to industries as opposed to the stiff models of the automation.

However, it is noted that, during the existence of the avant-garde schools, the reorganization of most academic curricula was required. These gradually required adjustments due to the new rules of the market and industry. According to Heskett (2006), a gradual formulation of the fundamentals and of new methods which allowed the designers to flexibly cope with the complex demands of technology and industry was needed. In this process, the technicality was promoted in detriment of aesthetics value.

The search for a methodology that able to feature the progressive needs of the industry and of the modern production was strongly influenced by the rationalism and by the evolutionist feeling of the Comte's positivism. The education, seen by Comte's philosophical epistemology, was evaluated as the primary means to liberate humanity from the ignorance and from the clutter of moral anarchy, and therefore, should promote the individual ownership of the values of knowledge (Faustino & Gasparini, 2001).

In this perspective, it is possible to realize, as much as it has occurred with the educational philosophy of Bauhaus, the gradual fragmentation of knowledge areas within limited and isolated disciplines, focusing mainly on systematic and on the technicality of the design conception.

Consequently, the adoption of scientific methods in the design methodology promoted the rupture with the artistic tradition of the production method of the artefacts (Cipiniuk & Portinari, 2006). The technological and operational advances and the profusion of new materials, intensified mainly in post-World War II period, have provided more complexity within the design process, which has spread to others areas of knowledge. This trend, which can be perceived from the affirmation of the American Styling in the post-Wall Street crash of 1929, when the concepts of marketing and advertising had already been inserted within the design area (Moraes, 1999). However, it was after the war that the complexity established itself exponentially at the conception thoughts of the design. Due to Moraes (1999), World War II boosted the permeability (even though it was shy) between some different areas of knowledge. Although, in favor of the constructive and

assembly simplicity required a formal design stiffness, over a longer growing decorative aesthetics.

This way, the changing and complex scenario of the design activity reflected, exponentially on the programs of design courses. Supported by the positivism, the design teaching characterized itself by atomizers and linear methods (Dias & Gontijo, 2006). In this process, the spread of expertise is firmly established, confirming the isolation of the concepts studied in the disciplines. A range of unique and watertight disciplines was instituted, and thus, promoted the “hyperspecialization” within the academy of design.

## **INTERDISCIPLINARITY AND DESIGN**

The fragmentation of the knowledge into disciplines made invisible the complex sets and the interaction and retroaction among parts. Due to Morin (2006b) because of the inconvenient context of “hyperspecialization” and disciplinary confinement, young minds lost their natural abilities to contextualize knowledge and integrate them into their sets.

Capra (2006), about this perspective, emphasizes that these paradigms were established over a holist worldview, which conceived the world as an integrated whole, not as a dissociated collection of parts.

The modern crisis adds new assignments to the field of design. The reduction of the design aspects to formal and functional issues turn to be no longer enough to satisfy the new socioeconomic reality (Cara, 2010). The globalization and the new postmodern economic views, outlined from the 1950s, determined new interdisciplinary guidelines to the design exercise. The human aspects and the effectiveness of the product becomes part of the conditional aspects to the conception of artefacts.

Therefore, the restrict character of the designer, on which the designer gets himself on rational conception of the objects, is overcome by the idea of integrated knowledge pertinent to the human environment molding. Therewith, new perspectives are opening up to the discipline teaching, in which interdisciplinarity becomes a substantial component of professional training

dedicated to industrial design" (Cara, 2010). After all, contrary unlike the Industrial Age period, when the design was closely related with the artefact, which is designed in the universe of tangible and material, nowadays, design resulted in intangible and humanists aspects, and, therefore, immaterial, assuming thus, a multifaceted and interdisciplinary character.

About the interdisciplinary nature of design, Fontoura (2011) emphasizes that it is a rich field for joint work with other areas of knowledge, inducing the designer to go through paths that were not related with his/her area at first moment. According to the author, to design the professional should go further beyond technical constraints by considerations about the universe of user needs, which implies an interdisciplinary system of knowledge. The rigid and tangible aspects of modern methodology of products development permeates then within the intangible and immaterial field, especially on the human aspects (subjective).

Therefore, the interdisciplinary character inherent to the designer exercise revealed the need for new reorganization of the academic teaching in detriment of the rigid and isolated means of the modern pragmatism.

In the 1970s, from the knowledge left by the interdisciplinarity, the concept of transdisciplinarity developed itself. The concept was initially created by J. Piaget, E. Jantsch and A. Lichnerowics during an international event occurred in France about the issues in teaching and research in universities. Later, the concept was built up by G. Michaud, E. Morin, B. Nicolescu, S. Lupasco, P. Weil, among others, that contributed not only to the wide-reaching of the concept but also with its deepening, applicability and dissemination in the academics means (Desidério, Rossi & Pinheiro, 2011).

In the contemporary scenario, the different possibilities open to production, to products and even to the choice of consumers, make the incommensurable universe of variables to be considered in the design of educational epistemology (Cipiniuk & Portinari, 2006). According to Cipiniuk and Portinari (2006), the various means of production and distribution of products, the vast range of materials for the manufacture and the

idiosyncrasies of fashion trends, promote the need of diversified and individual methodologies which do not dissociate theorists and practical knowledge.

The authors criticize the emphasis on the final result of, most designer courses, fact that underestimate the understanding of the acquisition process. Due to Cipiniuk and Portinari (2006), in most cases, the method, by which a result was obtained remains hidden or even implied in the presentation of the results, revealing clearly the hierarchy between ends and means.

Regarding the methodological approach of design, Coelho (2006) emphasizes that it is not a “cake receipt”, but implies in the scientific knowledge being applied to the reflection and not only to the technical reproduction. In this way, the theorist, practical and philosophic dimensions should be considered in the environment of research, being these applied by the conjunction of techniques and procedures that are developed facing the needs of each stage of production.

The complexity of design thinking implies, thus, communication and the communion of several knowledge areas, promoting the permeability information necessary to design and research. Nojima (2006) emphasizes that, in order to conduct a research or project in Design, it is necessary to understand the theories that support it, as well the projection methods that can be utilized.

## DISCUSSION

The complexity of dynamic contemporary scenarios implies the importance of interdisciplinary methodological epistemology in the practical, theoretical and philosophical context of the conception and research of the design area. The designer goes beyond the object and involves a wide range of interests and actions, not allowing reductive ratings (Coelho, 1999). So, it cannot conceive unique and hegemonic methods, once these methods are contrary to the logic of the vastness of the fields in which the designer acts.

The intangible character assumed large proportions of the exercise of design over the past few years. Established on the social and technological evolution, the action of design implied larger complexity before the holist and human character of the



environment-user-object relationship. The dematerialization established itself before the globalization and the emergence of virtual and information systems, promoting thus, to the amplitude of the design area range. By doing so, the field of design knowledge opened itself to large possibilities, embracing correlated areas and building links and relationships among the users, the objects and the environment.

Because of this, the evolution in teaching walked on the same direction of all this information. It emphasizes the importance of communication among the areas of knowledge by the interdisciplinary and by the disciplines programs integration, avoiding the hegemony of patterns and design. So, the design makes itself dynamic and hybrid.

According to Santaella, the hybridization is a consequence of the technological progress and of the discoveries in perception field, that made possible to artists the mix of materials, means and stands, that benefited the synchronization of handmade culture, industrial-mechanics, industrial-electronic and teleinformatics (Gomes & Pinheiro, 2010).

In turn, the interdisciplinary epistemology promotes the information permeability from one area to another and enables that the autonomy and critical thinking of the professional designer is established before the solubility of a given problem. Through such thinking, it can be said that the Universities must develop problematic situations and indicate path to students which corroborate that the student has an integrated and complete view of the inherent process to the conception of products, opposing to the mentality of multifaceted disciplines.

Although insufficient, discussions about the path of the design teaching must go in favor of an education that contributes to the production of science that meets humans needs, and promotes the formation of creative and articulated professionals with transformative spirit. The education must therefore awake the student to reflective awareness regarding disciplinary information acquired during the course. The permeability of information can promotes significant contributions during the conceptions and development of the products, going beyond the limits of the theory when injected into the practice. It is configured, then, a

liberating education and innovative spirit fueled by creative and inventive imagination of the student, which form individuals capable of reconciling the culture of the product with the orientation of the market.

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## MoB STUDIO

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### **ABSTRACT**

This paper presents the work of Middle of Broad (MoB) Studio, the community engaged design effort of Virginia Commonwealth University in Richmond VA. MoB operates on the belief that good design makes a healthier city where citizens participate more fully in their environment, their government and their culture. MoB is a partnership of three design departments of VCUarts, Graphic, Fashion and Interior Design. These departments operate an experimental design lab that realizes the potential of design to shape and reinvigorate its City. MoB has a non-profit community partner, Storefront for Community Design, Richmond's design assistance center that improves the quality of design in the city by facilitating access to design and planning resources. MoB+Storefront is a partnership between MoB and The Storefront for Community Design that joins the energy, enthusiasm and expertise of VCU students and faculty with Storefront's community connections. Together they design the city; from a bike rack to a neighborhood, from objects and spaces to events and processes, Students work with professional design mentors, faculty, and citizens in the studio to solve design problems ranging from dog park shelters, to cancer treatment garments, clinics and nutrition programs.

### **KEYWORDS**

Design. Community. Education



figure 1 MoB logo

## MOB STUDIO

### A COMMUNITY ENGAGED DESIGN STUDIO

#### TRANS DISCIPLINARY EDUCATION, NEW PEDAGOGY FOR STUDENTS AND FACULTY

MoB studio offers a model for community engaged and trans-disciplinary design education. MoB Studio brings faculty and students out of the university campus and departmental silos, allowing them to engage in “open innovation” where ideas arise from unexpected sources. This approach creates a true interdisciplinary environment where acts of creative disruption lead students to become agents of change without encountering rigid, academic parameters.

MoB studio makes design services available to a broad population in the city of Richmond, VA. MoB locates its practice in a blighted segment of East Broad Street between VCU's Monroe Park Campus and Medical Campus. Faculty created the studio in order to **take part in a new and disruptive way** of creating and thinking about design. As the Design for Social Innovation and Sustainability (DESI) notes: “Design-led innovation and practices such as co-governance, co-design or co-production where citizens, experts, and governments can work closely to provide better public services, hold a disruptive potential for public sector organizations, but the role designers will have in this context is still open for exploration and experimentation” (Manzini and Staskowski, 2013). MoB studio provides a venue and framework in which to explore the role of designers in social innovation.

MoB studio is a **student centered learning environment**, which allows for active experimentation, and creative freedom. It represents a new model for delivering the skills and expertise of university students and faculty directly to the community in partnership with a non-profit organization. MOB studio's projects show the role designers can play in changing the perception and experience of design in a socio-economically challenged urban setting.

#### NEW URBAN REALITY, RICHMOND AND VCU

Richmond, Virginia, is a historic, southeastern US city with a rich but challenging history. In the mid-20<sup>th</sup> century blacks and whites in Virginia lived in segregated neighborhoods. After the courts

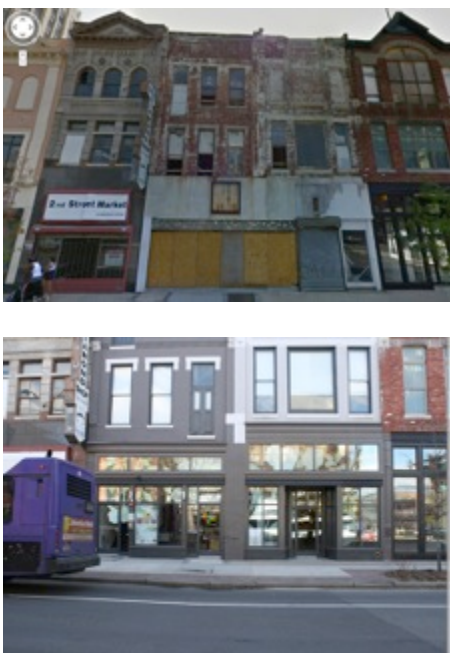


figure 2 MoB block before and after



**figure 3** Richmonds mayor at a MoB opening

ruled against segregation, middle class whites fled from the city to the suburbs.

This white flight created an economic downturn (mirrored in cities across the United States) which eventually undermined many retail and service industries that had made downtown Richmond their home. In the City of Richmond, 25% of the population lives below the poverty line (Mayor's Anti-poverty Commission Report, 2013) MoB's location between the two VCU campuses poses students to engage the community in an urban environment close to the university. The studios situation in the middle of a long-neglected (Fig. 2) stretch of Richmond's Broad Street corridor and has become a catalyst for creative and innovative community design that challenges the status quo.

### DETAILED DESCRIPTION

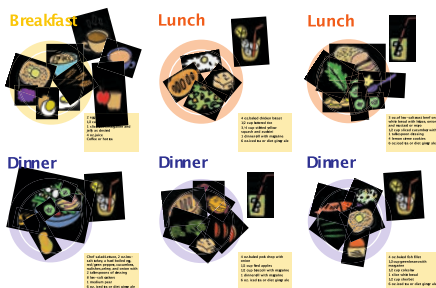
MoB studio delivers design assistance to over 30 clients/organizations per year and serves individuals from all economic backgrounds. The student make-up of the course is diverse and represents collaborative and original thinkers from the departments of fashion, graphic and interior design as well as students from film, photography, crafts, communication arts and printmaking.

Design professionals together with VCU faculty and staff from Storefront expose students to professional design management and model the co-design process for students. As students become project managers, they practice professional best practices, learning by applying the values of honesty, integrity and cooperation to their project work. The teams at MoB work collaboratively and across disciplines (figure 3). Outcomes from MoB are actual, applied design work that enhances the lives of Richmond's residents.

Clients at MoB range from VCU Health Systems units, individual citizens, business owners and civic organizations to the City of Richmond. The visiting critic program at MoB brings internationally known designers to work with students, faculty, city planners and Storefront on speculative design projects in Richmond.

In the first two years of operation, over 40 projects were delivered for a range of clients, including:

- City of Richmond, Bicycle and Pedestrian Coordination
- VCU Health Systems Renal Nutrition (fig. 4)



**figure 4** VCU Renal Nutrition dietary guidelines

- DaDas for Design, non-profit
- \*Visual Arts Center of Richmond
- Fences of North Church Hill, sponsored by Bon Secours
- VCU Health Systems Department of Medical Psychiatry
- The Historic Richmond Foundation
- VCU Real Estate Services
- \*The Massey Cancer Center
- VCU Health Systems Craniofacial Care (fig. 5)



**figure 5** VCU Craniofacial Center, client conjoined twins

## CRITICAL ANALYSIS

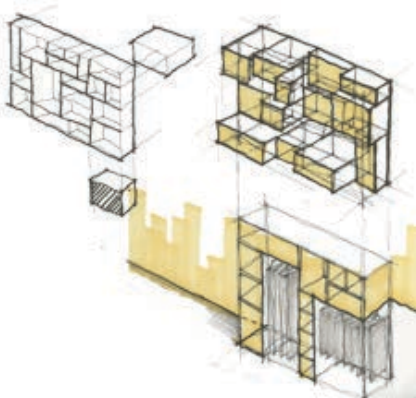
MoB Studio is inspired by Samuel Mockbee's pioneering Rural Studio, part of Auburn Universities College of Architecture, which provides design services to the poorest communities in rural Alabama. Conceptually, the MoB studio seeks to **adapt the Rural Studio model to an urban environment**. In an interview with online magazine "Fast Company", Andrew Freear (director of Rural Studio) uses key words in the lexicon of social experiment based on design. He refers to Rural Studio as the "town architect" and a studio that is "embedded" in the life and culture of Hale and its surrounding counties. Freear's words echo those of Rural Studio founder Sam Mockbee who stressed the importance of knowing a place and its people. "You can't just blow in. You don't have to be from here, but you do have to understand the community in which you're going to build." Freear importantly notes: "we're not going to solve poverty...because architecture can't do that." Freear has extended Mockbee's efforts from conducting ad hoc, resource intensive, client-centered efforts to making quieter, budget sensitive, 20k houses that meet the needs of an economic class rather than a specific family. MoB aspires to advance the original spirit of the Rural Studio by being responsive to client needs and providing an array of services that meet these needs.

MoB has successfully **adapted the former Rural Studio model** to its urban context while capitalizing on its cross-disciplinary nature and proximity to an urban research university. MoB's cross-disciplinarity leads to a broader program of activities, and our urban context leads to a wider range of design opportunities. MoB studio's relationship with non-profit partner, Storefront has allowed it to become connected to the city's civic, business, and neighborhood associations. This context enables the studio to pursue projects that are varied in scale, in type and in community connection, and to work with individuals, civic groups, non-profits, and university based clients.





**Thrift Store Renovation**  
ReEstablish Richmond Refugee Resettlement



**figure 6** VCU ReEstablish Richmond Refugee Resettlement site and recycled shelving plans

Two years ago, MoB's block was in trouble. The university and grass roots commercial ventures developed west of us. The City of Richmond and the University developed to the east. We were a no man's land in between. Developers were holding declining properties for the future. Since our occupation the block is changing. We replanted tree wells on our block and three months later, the City repaired three more. A high rise on the corner is now being renovated by a reluctant developer who needed a prod. While MoB is not directly responsible for the renaissance of this block, it provides a much visited block anchor and creates a space which is tenanted by students, clients, staff, visitors and faculty seven days a week.

MoB students began working with The Richmond Refugee Resettlement project in spring of 2013 (fig. 6). This project converted a vacant storefront building into a thrift store that benefits and employs Richmond's refugee and immigrant population. Students designed the space using materials from abandoned store fixtures found in the space. Volunteers are currently constructing the project. This success has led to two new MoB projects with the clients in adjacent storefronts. The Refugee Resettlement program is expanding and creating new community for it's clients and MoB's students have created low cost, sensitive design to facilitate this growth.

Students at MoB experience the satisfaction of seeing their design actions make a tangible difference in community as projects are built out; publications are designed and put to use, and client's return for further project assistance.

## DISRUPTIVE INNOVATION AND NEW DIRECTIONS IN UNIVERSITY-COMMUNITY ENGAGEMENT

MoB studio is an example of a **disruptively innovative endeavor**, challenging convention by blurring the line between educational programming and community engaged design practice, and eliminating conceptual and physical divides between an academic institution and the community in which it is situated. Clayton Christensen describes his model of disruptive innovation as a product/service taking root at the bottom of the market, enabling it to move up unexpectedly past competitors. MoB studio has actively "taken root" in an unexpected location and has created a new market for design services where none existed before.

MoB studio's approach to delivering projects illustrates the



**figure 7** Re-imagined city drawings and models displayed for public event



**figure 8** Broad and Grace pitch-book, cover and spread

potential of university-community partnerships to take on forms that respect the context of local cultures. As Kellett and Goldstein (1999) state, “communities are well-developed, complex entities that must be understood and accepted rather than required to adapt to university (or corporate) culture” (p. 32). MoB’s project with the VCU Real Estate Foundation and external university consultants RCLCo reflects this reality. These organizations contacted MoB to create a pitch-book for the newly assembled Broad and Grace Street Retail Merchants Group. The prompt asked faculty to envision a pitch book which could be used at real estate conferences to attract retailers to the largely un-tenanted storefronts along Broad and Grace Street downtown. Examples of pitch books were distributed as part of a client visit and the students of MoB were asked to take part in envisioning stories and images to communicate the potential of the neighborhood. Faculty assigned each student a half city block to study. These blocks were inventoried and defining characteristics (car storage, businesses, people) were collected. This study led to a drawing, which inventoried pattern, color and an abstracted visual rhythm of the block.

This exercise and classroom discussions, became the point of departure for each student to create a model for their half-block with an enhanced/ extended end use that could become an attractor for the neighborhood. A built environment of 12 full city blocks was re-created at  $\frac{1}{4}$  scale in the studio and an opening event invited all stakeholders to take part in re-viewing the plan city (fig. 7). Clients and members of the community were invited to review this hybrid city at a public opening with active discussion from all parties. From these steps, a pitch book pitch was formulated. The pitch book created is one that celebrates and represents the neighborhood as is. The final document will be printed in summer 2014 and has found an expanded audience in promoting not only the clients needs, but as a tool for the university to communicate it’s relationship with a city, and for the neighborhood to communicate it’s personality while attracting appropriately scaled development (fig. 8). The MoB pitch book disrupts the expectation of the genre by reflecting the culture, people and aspirations of a city neighborhood without co-opting its story with the stock photography and generic architecture of the typical pitch-book.



**figure 9** Elements of the MoB model

## **SERVICE LEARNING AND STUDENT EMPOWERMENT**

MoB studio represents a model of both service learning and experiential learning. David Kolb (1984) proposes a model of experiential learning, which is student centered. Kolb's model is a four-stage process. Students at MoB complete a similar cycle (fig. 9) with an expanded input of hours and project feedback. By aligning experiential-service with meaningful content, MoB students deliver high-quality design solutions to clients with a higher level of contact with and investment in the community. These class projects and workshops allow students to blossom as designers and seek new solutions as peers with faculty and mentors.

The first MoB class of each semester introduces students to the project portfolio, each project has a brief including outcomes and client background. Students discuss and select interest areas and teams are created. Within the first week, student managers meet with clients, talk with stakeholders and mentors, and begin research and ideation. Because MoB students are completing semester long projects, ample opportunity is given for reflection in the form of discussions, critiques, and project pin-ups. Students' abstract conceptualization is tested when student concepts are developed in studio and critiques. Unlike the Kolb model, learning at MoB has a concrete outcome in a client centered project which requires a critical process, including the community the projects is intended to serve.

Service learning at VCU is a credit-bearing experience in which students participate in an organized service activity that meets community-identified needs. Service-learning courses require completion of 20 hours of volunteer service in addition to course assignments. Students in MoB complete 55-70 hours of service or more each semester. This direct experience professionally managing, communicating, and creating design projects moves students into active learning. Data from VCUarts' participation in the Strategic National Arts Alumni Project (SNAAP) shows that the most important thing students needed to be successful is applied experience beyond course work. MoB studio provides this experience in tandem with design mentors from the city of Richmond's creative professions, including architects, graphic designers, urban planners, fashion professionals and others, who mentor students free of charge.

This service-based work is being recognized throughout the region and showcases the innovative pedagogy and practice of



**figure 10** MoB Song performance and opening

VCU's design programs. MoB students serve their community and create a new center for community design with their presence and engagement in the studio space. Students participate in weekly sidewalk sweeping, opening the doors to the community at large, or marching in self-organized parades (fig. 10) that raise the spirits of business owners, residents and visitors.

## **TRANS DISCIPLINARY BROAD BASED EDUCATION VS SPECIALIZED EDUCATION**

Trans disciplinary work typically occurs in two ways. In the first instance students are educated across disciplines in what might be considered a liberal arts model. Each student becomes a generalist, making connections across a broad knowledge base, able to listen fully and with greater empathy to the needs of a situation. In the second instance, a team of specialists in varying disciplines is assembled to tackle a project. Specialists bring deep knowledge from their specialty to solve a complex problem.

VCUarts operates 16 specialized departments, operating independently in ways that limit communication and collaboration. The mOb studio removes barriers between departments, enabling students to see the common ground of disciplines while enjoying the insights afforded by their specialization. This tension between the general and specific is an important aspect of the MoB experience.

Students in the MoB studio are empowered as project managers as well as designers. As project leaders, students must look at the project holistically, framing the problem, overseeing the diverse needs of the project and team. In this role, they become generalists, effective listeners and diagnosticians. This position is rarely addressed in a traditional design studio where team projects are usually developed as groups of equals, lacking the hierarchy to effectively move a project forward. Students enter into projects in the MoB studio at a level that might take several years to reach through the traditional entry-level position.

The opportunity for students to take a leap in project responsibility is achieved by projects that lend themselves to student engagement. Small projects may not be profitable in a traditional design practice and speculative projects are not frequently taken on. MoB students initiate projects where they observe the lack of design in their city or the need for improved





figure 11 Student/mentor meeting

design. In these instances, the projects are innovative by their nature, and bring unique perspectives from fashion, graphic, interior design, and other arts disciplines. This trans-disciplinarity realizes a model of open innovation, allowing individuals outside their usual disciplines to submit creative solutions. As the studio grows, students from more disciplines join the process. MoB's creative and collaborative environment can provide skillful teams empowered to explore solutions to client needs that exceed expectations and inspire engaged design.

The structure of MoB studio allows students to receive more guidance, mentoring and provocation from faculty, and mentors (fig. 11) than they would receive in a design office or traditional academic setting. The combination of lower risk projects with greater attention to the students provides an optimum situation for accelerated learning and creates conditions favorable to disruptive innovation. Students are given creative freedom while being asked to address real-life, community needs.

## SHIFTING RESPONSIBILITY FOR AN INSTITUTION

MoB believes in the **potential of design**, to grow a city that is connected and communicative. Only recently have urban universities begun to marshal their resources to address their own surroundings, realizing the huge resource their host cities provide. VCU, like other urban universities, has initiatives in medicine, social work, education and other disciplines that seek to study and solve the problems of their city. VCU has realized that Richmond's problems are its own and the university must be part of the solution.

Design at MoB addresses human and community needs and builds communication, trust and student and faculty investment. MoB advances many areas of VCU's mission but particularly in the areas of developing sustainable, university-community partnerships, interdisciplinary collaborations, and an engaged, learner-centered environment. VCU's strategic plan, Quest for Distinction, holds the highest long-term goals for the institution. MoB studio is in alignment with these goals and has been recognized institutionally for its success in furthering the universities mission.

Faculty at MoB are practicing designers who are committed to the health of Richmond and the power of design to create a better, more live-able city. Since the summer of 2013, MoB



faculty have used research funding to share best practices and travel to; the Rural Studio, Newbern, AL, Midred's Lane, Beach Lake, PA, Hero project, Greensboro, AL. MoB faculty are fleshing out new roles as they serve in direct, engaged roles with local city, community and design professionals. These new relationships have created a host of opportunities for faculty to present research, students to engage in internships and research, and to develop a faculty role as participants in Richmond's revitalization. This work is institutionally recognized by VCU's strategic plan, VCUarts Deans Office, and the Division of Community Engagement. The MoB project has received over \$100,000. In competitive institutional funding since it's inception.

## ASSESSING OUR IMPACT

The Storefront for Community Design, MoB's partner, manages clients, coordinates professional mentors and volunteers, and administers an exit survey that rates the quality of the engagement with students, storefront and volunteers. These surveys indicate clients are very satisfied with the services provided. MoB can measure it's broader project outcomes using Storefronts community surveys and focus groups as well as tracking an increase in project assistance requests specifically for MoB projects.

To date, the students in MoB studio have completed over three hundred thousand dollars worth of pro-bono design work. Most clients do not have the financial resources to obtain design services or access to design services. MoB educates new clients in the process and importance of design. This is achieved by structuring projects around numerous client and mentor meetings and charettes and working in a non-hierarchical manner where ideas are freely discussed and tested. At MoB, no one is an expert; all team members bring a strength to the table. Drawings, models, presentations and events are physical evidence of the work produced. Additionally, numerous clients are moving into project completion and the built environments (fig. 12), printed documents, and products which have been and are being created, evidence MoB's success.

Without the support of MoB students and faculty, Storefront would not be able to meet the needs of community members seeking to improve their stake in Richmond's re-emergence. Students and faculty not only provide design services for clients, but they bring a creative spirit and vibe to a long-reconciling city, bridging differences through design and engagement. The City



figure 12 Badge day

of Richmond has come to see the Storefront and MoB collaboration as a valuable partner for community engagement. Neighborhood workshops, where students serve as facilitators to help re-imagine communities, are booked solid through 2014 and the MoB client waiting list has doubled for the fall 2014 semester. The community counts on the MoB + Storefront collaboration to push the envelope while maintaining a trusted and fiercely independent brand looked highly upon by both local government and the private sector. As MoB grows, assessment data and project tracking will be designed to measure quantitative success of projects.

MoB studio has potential to become a model for national and international community engaged design programs. Already numerous visitors from academic institutions across the nation have visited the studio. MoB studio provides a model for community relations for urban universities where institutions often find it difficult to develop authentic, sustainable partnerships with the community.

## CONCLUSION

MoB is **Experimental**, empowering students to design the city they inhabit, with the freedom to dream of what could be and the support to realize it.

MoB believes in the **Potential of Design**, to grow a city that is connected and communicative. Design at MoB addresses human and community needs and builds communication, trust and design literacy in the process, creating a more live-able city.

MoB is **Disruptive**, unexpected, poetic, thoughtful, honest, and hopeful. Students at MoB are peers and partners, clients become friends and supporters, City Hall is an ally, neighbors, developers, academics, administrators, and businesses all are part of MoB.

**Student centered** learning at MoB is engaged, and productive. Students lead the way as their design solutions are actualized.

MoB has successfully **adapted (the Rural Studio model) to its urban environment** without creating a hierarchical system. MoB is flexible and open, supporting and encouraging its faculty, students, clients and mentors to work together to create design solutions.

The content generated by MoB's student, client, faculty and professional partnerships is unique, unexpected and powerful. The flexible structure, trust in student designers and adaptability

of the program is establishing a new type of design studio that is changing the fabric of the City of Richmond and has the potential to do so in other cities.

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## THE INITIAL PHASE IN THE DESIGN STUDIO

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### ABSTRACT

The paper examines the initial phase in the design studio. It begins by providing a theoretical basis for the conditions in the design studio. It then defines and elaborates issues and conditions that exist primarily at the initial phase of the studio. Some of these conditions do not reside predominantly at the beginning yet are uniquely manifested in the initial phase. The paper analyzes these conditions and their possible impact on the future of design education. The research then examines a case-study given in a design studio, and evaluates it in accordance with those conditions. The paper concludes by discussing the contribution and importance of consciously acknowledging the initial phase in the studio for design education, discusses some possible implications, and raises questions for future research.

### KEYWORDS

Design Education. Design Studio. Design Process.

## INTRODUCTION

"I love beginnings. I marvel at beginnings..." (Kahn, 1991, p.285)

Why does the American architect Louis Kahn points to beginnings?<sup>1</sup> What characteristics of beginnings make them important? What influence, if any, do beginnings have on subsequent outcomes? Kahn's words suggest he is attracted to the purity and mystery that may reside in the point of departure. Implied is the question of how to begin, assuming that the starting point will have a considerable impact on the solution. It represents the belief that the starting point can encompass all possible continuations and outcomes. The beginning paves as well as taints the way forward while at the same time serves as a reference for the resulting progression.

At the outset of a design studio, teacher and students meet and the first exercise, the starting point for a period of learning, research and design is presented.<sup>2</sup> What are the unique conditions of this initial phase? What are the possibilities inherent in it? Can we adjust our teaching methodology to incorporate an understanding of the initial phase? These questions and more have psychological as well as content relevance. Here we contend that the initial phase is of great importance and consequences, a stage that can and should be acknowledged, understood and properly positioned in the educational process. As contemporary trends are constantly shifting it is important to mine deeper into conditions abundant with potential in the design studio educational process, the initial phase is one such condition.

## THEORETICAL BACKGROUND

The early stages of design education have been the subject of a vast amount of research. This varied body of research in the field of design education is concerned with issues such as curriculum, relationship to the profession, first year and more. There is also abundant material on studio-specific issues, such as

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<sup>1</sup> Louis I. Kahn was an American architect (1901-74) renowned for his buildings and his poetic use of language.

<sup>2</sup> The term "design" is used throughout the paper in reference to all design-type disciplines. Most educational design curriculums use studio-type teaching in which design problem-solving procedures are engaged.

methodology, problem-solving, learning styles and more.<sup>3</sup>

Somewhat less research interest has focused on psychological and educational issues (Ochsner, 2000). Questions concerning how to begin a design studio and what is unique about the initial phase in the studio are of interest but remain neglected as a comprehensive field of research.

Examples for the interest in the initial phase are varied. One such example is Johannes Itten's approach. As a teacher at the Bauhaus, Itten was most influential in constructing its basic design course (Wick, 2000). Itten stressed the relationship between physical movement and creativity, the holistic connection between body and mind. Itten acknowledged the importance of the beginning period in the studio: "As a rule, Itten began his course with gymnastics, in order to 'enable the body to express itself, to experience things, to awaken these things in it.'" (Wick, 2000, p. 103).

The early stage of problem-solving process is referred to as "problem structuring" or the "analysis phase" (Restrepo & Christiaans, 2004). This stage and its implications are reflected in varied innovative studio exercises. One such example evolved at the Cooper Union School of Architecture under the guidance of the late John Hedjuck (Henderson & Diller & Hedjuck, 1988).<sup>4</sup> This approach encompasses ideas such as the analysis problem that takes the end product as the starting point rather than the other way around, or the cube problem, in which the problem is to define a proposal for a given form, a cube, rather than to give form to a design problem (Horn, 2006). Another applicable example was presented by Stefani Ledewitz. She refers to her model of teaching as "beginning backwards". In the first meeting in the studio, students are given 24 hours to solve a complex design problem. After that, the solution is reevaluated and used as a reference point. During the rest of the semester students work backward interpreting their accomplished solution. This method consciously makes use of the initial phase of the

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<sup>3</sup> For an example of a comprehensive critique on those issues see: Teymur N. (1992) *Architectural Education: Issues in Educational Practice and Policy*. London: Ruston Press. One example of design education focus can be found in these proceedings: Marjanovic I. & Robinson C. (Eds.) (2006) *Intersections: Design Education and Other Fields of Inquiry: Conference Proceedings*. Iowa: Iowa State University.

<sup>4</sup> Hedjuck presided as dean of the Cooper Union school of Architecture for 25 consecutive years until his death in 2000.

semester (Ledewitz, 1985).

A research study by Birer and Yazici provides an example of a multidisciplinary approach to presenting a design problem at the beginning (Birer and Yazici, 2011). The study explores the creative benefit of transforming concepts and methods from other disciplines into the studio, they conclude that introducing students to "fantastic fiction" early in the studio will benefit their creativity: "[It is] safe to assume that starting design process with fantastic fiction and gradually increasing information that would improve visual perception would enhance creativity." (Birer and Yazici, 2011, p.1102).

There are many descriptions of studio work and exercises in which the beginning is crucial and interesting. It cannot be said that the significance of the beginning has gone unnoticed, as this statement by an enthusiastic studio instructor demonstrates: "Our crazy laughter on the first day is one of the most important moments of the project." (Bermann, 2002, p.268). Yet the initial phase in the design studio as a specific and unique situation remains to be further researched.

### THE INITIAL PHASE

The initial phase can be defined as the period comprising the first sessions in the studio. Several issues arise during this period that differentiates it from the rest of the semester. Among these are psychological issues of human interaction and the way we process information. This is a tense period marked by anxiety and insecurity that can have considerable impact on the semester. Both the psychological and the content aspects in the initial phase are important to everything that occurs subsequently. This can be compared, metaphorically, to the role of starting blocks used by athletes (Figure 1).<sup>5</sup> Used properly it can become a powerful tool to better exploit advantages toward shifting conditions in the design studio process.

In the course of research regarding the initial phase in the design studio six issues were explored, they have unique importance in the initial phase in the design studio:



**figure 1** Starting blocks

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<sup>5</sup> Starting blocks are used by sprint athletes to hold their feet at the beginning of a race. This allows for a much faster transition from a static position to full acceleration. The starting blocks were invented by Australian Charlie Booth in 1929.

- a. Preliminary bias
- b. Problem definition
- c. Creativity
- d. Psychological/educational issues
- e. Problem structuring
- f. Directness and Indirectness

#### **a. Preliminary bias**

People tend to be biased toward preliminary knowledge. We tend to assign more significance to earlier information, while using later information to confirm what we already know. This is even more so among designers, who tend to jump ahead to possible solutions prior to receiving full knowledge of the problem (Restrepo and Christiaans, 2004). Cognitive and social psychological research points to issues of first impression, bias based on information primacy, and the primacy of information presented first. It offers three major explanations for the so-called primacy effect:

1. Fatigue or boredom leading to decreased attention.
2. The assumption that information received later is of less value.
3. People create first impressions and use later information in a biased way to reinforce it.

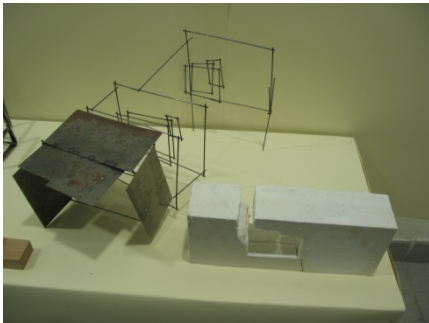
We tend to explain reality to confirm to our initial impressions, even to the point of contradiction (Tetlock, 1983). This is also indicated in a study by Rabin and Schrag:

"Psychological research indicates that people have a cognitive bias that leads them to misinterpret new information as supporting previously held hypotheses... [People] may come to believe with near certainty in a false hypothesis despite receiving an infinite amount of information." (Rabin and Schrag, 1999, p.37).

#### **b. Problem definition - uncertainty**

Design problems are problematic in their formulation and their meaning, even more in the educational format of the design studio (Buchanan, 1992). This is well put by Cross:

"It is also now widely recognized that design problems are ill-defined, ill-structured, or 'wicked' ... They are not problems for which all the necessary information is, or ever can be, available



**figure 2** An example of students' creation, uncertainty and creativity.

to the problem-solver. They are therefore not susceptible to exhaustive analysis, and there can never be a guarantee that 'correct' solutions can be found for them." (Cross, 1982, p.224). According to research in the field of design problem-solving, the state of uncertainty with respect to problems and their definitions is one that designers must learn to live with and even thrive under (Figure 2). Some researchers claim that designers even create uncertainty in situations where it does not exist (Restrepo and Christiaans, 2004). Further, some researchers claim that the ability to overcome the stagnation caused by uncertainty is essential to ensure an efficient design process, as indicated in this statement by Restrepo and Christiaans:

"The less successful students asked for large amounts of information, but for them, "gathering data was sometimes just a substitute for any design work" ... (it is) suggested that the need to gather information, to structure the design problem, is related to the inability of the designer to cope with uncertainty." (Restrepo and Christiaans, 2004, p. 1556).

Hence, the issue of how a problem should be stated and what problem should be defined in the design studio becomes essential.

### **c. Creativity**

One of the main goals of design education is to teach and enhance creativity. The teaching process taking place in the design studio is referred to as "reflection-in-action," a term coined by Schön to explain the unique way designers are educated (Schön, 1984). In the design studio the design problem should be creative, presented in a creative fashion, and encourage creativity. Creativity resides not only in the outcome of student work but also in the actions and definitions provided by design educators in the initial phase. As Wiley states, "Altering the instruments, tools, and the process used during design increases the students' awareness of the influences exerted by their method, and such awareness could further the expression of an idea." (Wiley, 2006, p.350).

### **d. Psychological/educational issues**

Most design teachers are experienced professionals not educated educators. In their teaching they depend more on

personal experience and less on theory and knowledge. Ochsner describes this situation:

"Given the relative lack of any developed analysis of design studio instruction or instructor-student interaction within the architectural literature, this essay will look outside architecture to the literature of psychoanalysis for clues to understanding the studio process." (Ochsner, 2000, p.194).

The importance of psychological/educational issues cannot be dismissed. The educational questions in the design studio should be raised not only about content but also about how a problem is presented. The "how" in psychological/educational terms is no less important than the "what" in professional architectural terms. This is most influential and relevant in the initial phase of the design studio.

#### **e. Problem structuring**

Research concerning problem-solving stresses the importance of the early phase during which the problem is structured. Given the nature of design problems it becomes essential to pay attention to this time frame, as Restrepo states:

"Problem structuring occurs mainly in the beginning of design process... early representations have a great influence on how the process continues." (Restrepo and Christiaans, 2004, p. 1556).

The relationship between problem and solution is not a logical one. The incomplete and changing information about the problem and its nature is such that research has defined the early stages of problem analysis as "structuring." This term indicates that not only is the problem evaluated and considered in linear and logical terms, but it also gets reshaped in the mind and it is structured and restructured until a solution is formulated (Figure 3). Some researchers claim that a solution can be formed prior to problem structuring, simultaneous with it or via a fluctuating process. Structuring condenses the essence of the creative process, a mysterious bridging process that transforms a design from an "ill-defined" problem into a solution-ready condition.



**figure 3** An example of students' exploration, an attempt to "structure" a design problem.

#### **f. Directness and Indirectness**

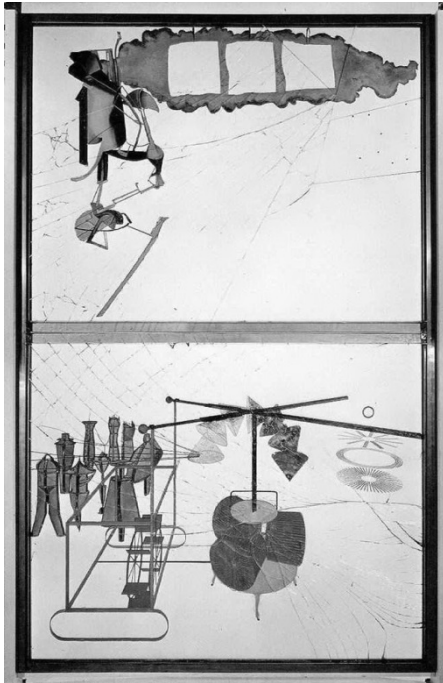
Some issues should be approached indirectly and in a prolonged

manner rather than directly. This notion proposed by educator John Dewey is rather philosophical and psychological in nature. The reasons and consequences of such an approach have been discussed by philosophers such as Merleau-Ponty and Walter Benjamin or writers such as Milan Kundera, yet this remains a matter of personal preference.<sup>6</sup>

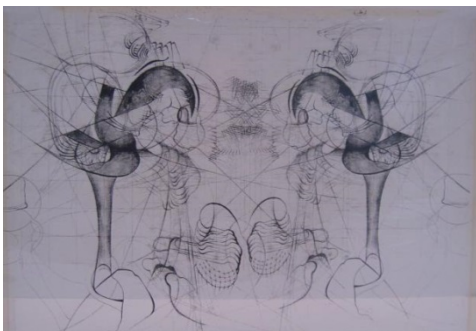
### CASE STUDY

In general, the design process is commonly described as a linear process. The design process can be simplified to three main phases: (1) **briefing** - presenting the problem; (2) **analysis** - structuring and ordering the problem; (3) **synthesis** - generating a solution (Johnsey, 1995; Lawson, 2006). The studio environment in design education largely differs from the actual practice environment. According to Schön, education in the studio takes place by means of constant reflection about solutions and processes as they are tested and executed. This offers the possibility of digressing from a mirror image of real-life by proposing that the uniqueness of design education lies in its process of experimentation, not in its ability to mimic existing patterns of operation (Waks, 2001).

In the case-study researched, students were given a starting object to reflect upon, rather than a direct design problem. This starting object can be a short story, a seminal art work, a movie, or a musical piece (Figure 4). After the object has been presented, the students are asked to react to it visually. The starting object is defined as a "trigger" or a "starter" which generates a reaction from the students based upon their associations and intuition (Figures 5, 6, 7). The idea is for the students to react rather than to research or to solve or to find any other logical interpretation of the trigger. Thus, right from the start the students are required to create. The concept underlying this methodology is to approach the design problem indirectly and to tackle the uncertainty found in the "ill-defined" nature of design problems. The goal is to generate equilibrium in the choice between logic and intuition during the structuring phase of the design problem.



**figure 4** An example of a start object: M. Duchamp's "The Bride Stripped Bare by Her Bachelors, Even." Also known as the "Large Glass" (1915-1923).



**figure 5** An example of students' reaction.

<sup>6</sup> See for example: Milan Kundera, *Slowness: A Novel* (New York: HarperCollins, 1997); or Fernando Pessoa, *The Book of Disquiet* (London: Profile Books, 2010).





figure 6 An example of students' reaction.

This starting trigger aims at facilitating non-linear process that will do not yield a solution or a conclusion. This initial reaction aims at generating a personal esthetic design language that students develop further in the process. The starting objects aim to opening up a bottomless ocean of associations and possibilities for the students to react to. It offers an action space in which no answer can be wrong and no creation can be the answer. The triggers given to the students do not constitute a specific design problem. Yet they do encompass enough visual and cultural content to generate a multitude of associations and responses. As a whole, the case study researched is a methodology that attempts to acknowledge all the conditions which were defined in the initial phase of the studio, as noted earlier:

**Preliminary bias:** Presenting non-relevant information in the preliminary stage challenges the importance of all subsequent data. It contests the tendency to be judgmental in a biased way toward prior information.

**Problem definition:** The approach attempts to reconcile the difficulties inherent in the definition of design problems. This method does not provide a better definition of design problems but rather places emphasis on its ambiguity and challenges students to respond to it.

**Creativity:** The approach emphasizes creativity. It requires students to make connections, associations, invent, and respond in creative manner. It does not begin with research or analysis but emphasizes a creativity. It puts the creative before the analytical.

**Psychological/educational issues:** The approach does not directly tackle psychological and educational issues. Rather, it acknowledges their existence and attempts to clarify them early on in the studio.

**Problem Structuring and Directness and Indirectness:** As Dewey notes, in education some issues should be approached indirectly. Education in design is one of these issues. The method presented proceeds indirectly and postpones direct and known response to design problems.



figure 7 An example of students' reaction.

## DISCUSSION

In this paper the initial phase in the design studio, was defined and explored. The specific conditions of this beginning period were evaluated, and the possibilities inherent in them were explored and defined. I proposed that the educational process in the design studio can benefit from placing conscious emphasis on the initial phase. Actually I contend that contemporary design education approach should not neglect opportunities and challenges that in previous decades might have been overlooked. Studio design educators need to define and reconsider their understanding and methodology in accordance with the propositions raised here in relation to the initial phase. The case study presented is an example which allowed an evaluation in context of the initial phase. We can all benefit and enhance our methods by acknowledging, understanding and responding to the initial phase in the studio. Most studio instructors have, or should, an established method of teaching and design exercises employed in their classes; some of them are inspiring and unique. Yet as we face ever growing complexity and variety of approaches and responses it becomes more and more essential for a better definition of each phase in the process.

Further research on this issue can explore some additional questions, such as: In what other ways can the initial phase be acknowledged and assigned importance? In what ways can we further explore the initial phase? Is there a difference of the importance of the initial phase in the context of different teaching and learning styles? And there are more questions that can be researched in relation to the initial phase. I believe that acknowledging this phase of the studio, understanding its unique position in the course, and responding to it in whatever way relevant to the teacher's individual teaching style will benefit us as educators and our students as future designers. As reality, which the design studio attempts to respond to, becomes ever more conflicting and ambiguous, an understanding of the initial phase in the design studio can offer the means to reconcile realities' ever shifting conflicts.

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## DESIGN EDUCATION THROUGH THE EXPANDED PHOTOGRAPHY EXPERIENCE

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### **ABSTRACT**

This article is focused on describing the experience of improving skills for the future designers through photography learning. Schools and universities that concentrate on Design Education usually have photography as a subject in their syllabus. How can photography be a revolutionary tool highlighting students' creative singularities amidst the tendency of Design Courses becoming mass courses? This paper aims to present the account of an experience in photography classes for design students where a different goal is to be achieved: to develop the students' imagination through sensitivity, visualization and a huge repertoire improvement.

### **KEYWORDS**

Visualization. Photography. Design

## DESIGN EDUCATION THROUGH THE EXPANDED PHOTOGRAPHY EXPERIENCE



Some of the schools and universities that focus on Design Education usually have photography as a subject in their syllabus. It is somehow already known that students who are dealing with photo skills can develop a hyper esthetic eye, which not always happens to those who are not. However, photography courses are very often underutilized when it comes to just learning how to deal with professional photography.

How can photography be a revolutionary tool highlighting students' creative singularities amidst the tendency of Design Courses becoming mass courses? This paper aims to present the account of an experience in photography classes for design students where a different goal is to be achieved: to develop the students' imagination through sensitivity, visualization and a huge repertoire improvement. In this project, no digital cameras are allowed. The students are stimulated to think, produce and see the world in black and white. Being challenged not only by the process of analogical photography and by handcraft copies, these Design students are encouraged to create their own language and style. To do so, they are introduced through a contemporary approach to a wide range of art photographers such as Cartier Bresson, Francesca Woodman, Jeff Wall, Diane Arbus, Ralph Meatyard and others, chosen for their importance as reference in establishing their own poetics.

The goal of this didactic approach is, first of all, to enlarge each student's repertoire beyond the banality of the photographic images that inhabit our daily lives. The method used to achieve this goal was to present different photographers who have their own visual language built between repetition and difference, as Deleuze's concepts highlight (DELEUZE, 2000). Therefore, the students are asked to analyze several images produced by the same photographer, thus they start to perceive that beyond the theme of the photographs, there are visual elements that working on repetition and difference make each photographer have their particular poetic language. Actually, this perception emerges after a persistent gaze over a whole set of images from the same

essay. For example, when I presented Cartier Bresson's photography, as the students were learning black and white techniques, they were encouraged to practice not only visual composition in photography, but also their sensitivity through the unseen, through elements that are beyond the visibility. In these lessons about Bresson, the students' eyes are challenged to perceive that his work is persistently driven towards issues of synchronicity between human beings and their surroundings.

The task of comprehending how photographer Francesca Woodman works and how her poetic is related to painting and to photographic issues is an exercise of opening the students' view for other creative possibilities. As a matter of fact, this class was not built only to make students understand long exposures, self-portrait, identity effacement, and other conceptual issues from Woodman's work, but mainly to stimulate them to be more connected to their own work singularities, making it possible for them to develop a more authorial design. Furthermore, the students cannot have a full esthetic experience of Francesca Woodman's photography and her long time exposure images only by learning shutter and aperture techniques or their usage of corresponding visual effects. At this point of the article, it is important to emphasize the fact that while learning the techniques above, they will be implementing a different tool to discover how photographers use those techniques to build particularities in their visual language.

It is supposed that a designer who is used to photography techniques will have in his hands a wider range of creative possibilities. Besides that, even if he is not taking pictures in the future, having studied photography will help the designer to better communicate his ideas to other professionals and to produce better collaborative works. It is not intended to deny the importance of technical knowledge, but just to make it clear for the students that it is necessary to acquire other kinds of knowledge to improve creativity and perception.

## **PRACTICAL EXERCISES AND THE DEVELOPMENT OF VISUALIZATION SKILLS**

The practical exercises start by encouraging group works and

self-knowledge, thus helping the students get to know the person seated beside them. Building alterity within a society which is driven to individualism is for sure our bottom line. Thus, before creating their own photographic essays, the students are stimulated to talk about things they like most. The theme could be the way they experienced a certain poem, book, film, or song that had drawn their attention. In this part of the exercise, they will try to explain to their classmates why a particular experience mattered to them. After that, they are invited to take notes about their own sensations and thoughts from which they begin to draw a layout for the image that would be the outspread of this inner sensation. This image synthesis will generate other new images that will become a group of images, repeating some of the visual elements of the first one. Only after taking the steps above, having their drawings in their hands, are they invited to get a camera to picture the ideas they had built. By doing these exercises, aiming to expand the time between having the idea and taking the picture, our goal is solely to provide the students with an authorial and humanizing sense. This way, a much more simple exercise is to get the students divided into groups of two. At this first moment, one of them is portraying the other. The lack of instructions on how to do so is a real challenge for them. This exercise I designated *In the Place of the Other*, which brings alterity to the scene once again, is based on alternating the experience of taking a photograph and being photographed.

Beyond reification and otherity issues, the concept of visualization as an expanded idea of photography stimulates the students to develop a sensitive gaze and to understand the presence of the unseen in images. The idea of expanded photography starts simply by perceiving how an image is “born” inside the camera - in a way that is not the digital one - and by developing the ability to see the world in black and white rather than in its own colors. As a teacher, I experienced that the students are somehow surprised with something that seems to be obvious but that we forget about. A student once said: “I chose picturing this red lipstick imagining that it could certainly be related to lust in the viewer’s mind, but I was really disappointed because obviously, the result in black and white made my strategy lose its meaning”. In this case, she was



working on a project theme based on the seven deadly sins. Definitely, as the lessons went on, she improved her capacity to translate colors into black and white tones. The process of visualization is stimulated throughout the course by observing the world and analyzing printed photographs. This student will soon be able to see the red color in the real world as a visualization of the dark gray.

### THE EXPANDED PHOTOGRAPHY EXPERIENCE

Another exercise named “Imaginary Object” consisted in creating an object that could not be consumed nor commercialized as it had no use but in the students’ imagination. The work by the Spanish photographer Chema Madoz as well as the critical analysis about his images as expanded photography were the references to that lesson. This research *A look through the visible: studies about Chema Madoz’s photography* involves investigating not only the way Madoz produces his images expanding the time between conceiving the idea and taking the photograph, but also making an analysis about the concept in which photographs go beyond the visible (SOARES, 2011). This photographer makes unreal objects, which are exclusively created to be photographed, by overlapping ideas and concepts. This way, the students’ challenge was to create an object that could only exist by being photographed. Therefore, only the decontextualization and the recontextualization of everyday objects would enable the creation of this photographic and imaginary object. The references to Madoz’s images were extremely important to understand the exercise.

Some of the works the students produced in this exercise were absolutely astonishing and revealed how rich the students’ imaginary could be when properly stimulated. Another important strategy to achieve this goal was to invite a group of young and talented photographers to talk about their work and also to talk about their creative process. Besides learning about expanded photography, the students were encouraged to have a critical view both of their work and of the artists’ works.

It is important to mention that although the project main goal

does not restrict itself to the creation of a well produced image regarded as being technically and esthetically perfect, we provide technical resources for the students as part of the course we are trying to develop. However, the techniques are always taught through the analyses of great photographers' major art works. Thus, every student was encouraged to discover their singularities, developing their own visual language. Their gaze was questioned all the time. The aim was to challenge their thoughts, logic, creativity and perception from their own life experiences, which made it always possible for all the students to bring new ideas to the class.

Apparently a backslide, going back to the analog camera, the roll of film, the darkness and slowness of the laboratory is actually a trigger that opens up new possibilities for students who had their repertoire limited to what comes from the media. Being alone in the darkroom, watching the image slowly form in the developing liquids and learning to see the world and its contrasts in black and white is a challenge for any student used to reading images instantaneously, automatically and literally.

It is amazing to watch the development of their perception, particularly when related to lumens. In order to achieve this goal, it is necessary to do a reinterpretation of a very outdated system, which is still the basis of photographic logic: the Ansel Adamn's *Zonal System* (ADAMNS, 2002). Observing the differences between light and shadow and their corresponding gradations with the naked eye, without a camera, enables the students' minds to work different segments of their ability of visualization. It is common to observe students in their first practical experiences trying to take photographs in areas covered by shadows, with very little light or with no light at all, being mesmerized by some event they are following. But little by little and through classes that enhance the learning of the ability to visualize the final result - what will be seen both in the negative and in the prints - each student begins to see nuances of light and may even produce intentionally overexposed or underexposed images.

Developing a gaze which is capable of translating color into black and white, differences of lights into tonal differences, while

realizing the possibilities of the focal field, the long exposures and their respective blur or the short exposures and their respective freezing, means, in fact, to activate brain areas connected to the vision but not only to the visible. In order to stimulate the translation of images that are not really present or visible as they are only visible in potentiality and can only be achieved through the process of visualization, this work of stimulating the perception of a potential image is a very important tool to improve the creative sensitivity of a Design student. The aim of this project is more closely related to trying to successfully achieve the "swap eyes" process than just to printing a good photo by being aware of the process from its beginning to its end, which somehow ends up occurring. But achieving the final results of a work that is based on the self-knowledge of the gaze and is full of references and poetic developments confirms that the greatest potential of teaching photography in Design programs is to create a humanizing gaze and an openness to different perceptions of the world, which are necessary tools for a more engaged design beyond the material, sustainability and aesthetic refinement that goes further invisible questions to the eyes.

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## THE ART OF REVERSE FABRICATION: Upcycling – from Waste to Taste

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### ABSTRACT

From Waste to Taste .  
From Mass-produced to Unique.  
From Industrial Design to Art .

Why create new product when an original can be transformed from man-made into unique?

The Reverse Fabrication project concerned the idea of improving the quality of 'a faulty product'. Upcycling takes this idea further, transforming the idea and adding value. Upcycling is more of an analytical and conceptual process that can also be an artistic action, whose aim is to increase the value of a given product and to transform a faulty mass-produced product into a unique item and designer piece.

1. How can ordinary and banal materials become a resource?
2. Can one expression (a ready-made) contain infinitely many, other expressions?

This also raises questions about what original and unique mean.

First a few words about downcycling and recycling:

Recycling is a physical process in which raw materials are extracted and reused to produce a new result.

Down-cycling involves combining raw materials that, as a result of various processes and techniques, cannot be separated and reused. From destruction to construction and brought back to life.

## FROM DESTRUCTION TO CONSTRUCTION AND BACK TO LIFE

Kjell Rylander did his PhD at Bergen Academy of Art and Design.

By cutting up and reassembling objects, Kjell Rylander transformed old, anonymous mass-produced products into unique art objects that point back to their previous use and thereby have narrative value.



**Figure 1** Kjell Rylander. Porcelain and metal. Photo: Kjell Rylander

In Ceramic Monthly August 2011, Glen R Brown writes about Kjell Rylander's art work under the title *The Anthropic Aura*. I can agree with Glen R Brown's use of the term 'anthropic' when analysing Kjell Rylander's work, but not the term 'aura'.

The concept of aura and fetish has largely been occupied by and set in religious contexts, but it is really an attempt to describe something unknown and invisible.

In 2001, Jack Lohman, now director of British Columbia museum, and I were responsible for five projects with a mixed group of art and design students at South Africa's National Museum. The main question addressed was how to attract a new audience. At this time, the museum's exhibitions and communication were mainly designed with a white audience in mind. From this work and from the project, I learned about the power of the object, and two different categories of objects were very interesting to me – fetish objects and no fetish objects. We wanted to discover and define the differences in power of these objects.

I use the meta value of an object as a conceptual dimension to describe the no fetish term. It triggers qualities that emphasise the search for connections. It is very often too easy to ascribe a religious meaning to these qualities.

We need to include the narrative in art and design, which in many way consists of transforming the meta and emotional qualities of an object. In the case of Kjell Rylander, his objects are moved from table to wall, from industrial design to art, yet they still invite the viewer to make the connection to their original use.



**Figure 2** Untitled . Artist and photo Kjell Rylander. 2001

## FROM MASS-PRODUCED TO UNICA.

The concept behind the project 'The Art of Reverse Fabrication' was based on taking imperfect rejects from the production process at the only porcelain factory in Norway, Figgjo, and reversing the process, giving a simultaneous nod to tradition. The aim was to transform trash into unique artistic objects. This is related to the modern concept of upcycling, through which objects are transformed and increase in value – from a mass-produced product to a unique work of art.

Quality in industrial design and mass production is associated with the properties of repeatability and physical similarity. Quality is often defined by a very clear boundary, and the untrained eye may have difficulty noticing what it is exactly that determines that the products are not physically identical to each other and therefore do not pass the quality test. Industrial design and mass production often provide us with sets consisting of many objects that can be juxtaposed with each other, making it easier to notice differences and flaws.

More than a hundred years ago, Thorstein Veblen, who was originally from Norway, wrote his most famous book, *The Theory of the Leisure Class*, in which he discussed what happens when machines multiply what was previously handmade. It was a discussion about aesthetics and values in which Veblen asks questions about the value of mechanical repetition. Many questions can be asked about the values associated with the multiplication or reproduction of a work of art, or a combination of many works, and the relationships between them.

The book includes comments on the original, on memory and a new original, about what happens when an original is multiplied. A hundred and fifty years ago, porcelain and glass were such exclusive products that the tradition was to repair things that were damaged. Good, gentle repair methods made the damaged objects even more unique. It was necessary to conceal imperfections in glazing, defects arising during the production or repair process, and it became a tradition and a custom to apply new ornament, ceramic decal paper or gold to repair. Figgjo



porcelain factory gave us ceramics they regarded as waste to use in our project. The project participants worked with plates, which had failed the strict quality test. The plates were reworked and different ideas were applied – as a result their quality increased and they could be reused.

‘Repetition is always a form of change.’ – Brian Eno  
What is an original and what differentiates an original from a copy and a unique object? In *Oblique Strategies*, Brian Eno concludes: ‘Repetition is always a form of change.’

Breaks and repetitions are valuable. In a production involving many repetitions, a change also takes place with regard to value. A duo consisting of two objects is another form of multiplication and whole, where one object depends on the other, which may be different, but represents a certain idea.



**Figure 3** Duo . From the exhibition *Copy Original Unique*. Two jars and one idea. An antique Chinese porcelain jar and a physical copy with a mirror surface. Artist and photo: Charles Michalsen

What changes occur when an idea is applied in mass production? Energy is consumed, but the product is not sold or used. This raises questions about the environment and living conditions.

Can such a product be sold or given as a present? Can the production be better adapted to environmental needs and less geared to making a profit? Can the idea of a product and its packaging rely more on local raw materials?



**Figure 4** Waste. From Jingdezhen, China Photo Charles Michalsen

Constance Kristiansen, design manager at Figgjo porcelain factory, wrote in the catalogue for the Art of Reverse Fabrication: 'If the product is cheap, we are often more tolerant about defects. But the relationship between the price and tolerance of flaws can be the reverse. People who buy more expensive products often accept imperfections, considering them to be something that results from the properties of the material. Sometimes, for instance, shades of a colour or small air bubbles in glaze can be regarded as indications of a "hand-made product", for which these customers are willing to pay. The so-called middle market usually makes the highest demands of manufactures as regards both price and quality.

Here, the customers pay relatively high prices but not high enough for them to feel that they are purchasing anything but an industrial product. And this industrial product should be perfect,

so that its price is justified. Customers may think that they have paid more than enough to expect perfection. However, the value is assessed on the basis of what the customer is willing to pay, not the item/product itself.'

In this context, the mug is for some reason at the bottom of the hierarchy.

Having less or no knowledge about the production process has also changed our perception. In the past, when production used to take place closer to the user, we knew more about how things were made. Nowadays, new technological processes and physical distance have deprived us of this knowledge. We are no longer aware that many steps in the production process may be performed manually and that not all processes are equally easy to control. This applies to mass production, but not the technology used in porcelain production.

From working with porcelain in China and Norway, I have experienced that production is very different, and, especially in China, 40 % less energy is used in the production of high-quality porcelain.

It affects our tolerance; our understanding of what is imperfect. There is a difference between lack of perfection resulting from the properties of a material, or how it is produced, and those caused by poor craftsmanship or production. Deformations arising during the firing process are a typical example of lack of similarity due to the material itself.

Today's users do not necessarily have the knowledge required to distinguish between values. This ability is a skill the designer can acquire by being mobile and gaining global experience. In my case, I have experience of Chinese and Scandinavian porcelain production.

In a few exceptional cases, Figgjo has sold products that were damaged or were basically waste. In these cases, they marked the defects on the surface using blocks of colour and turned them into decorations. They had customers who were interested

in the challenges represented by waste and second-quality products, individuals concerned with social and environmental issues. This is meaningful mass production.

## **FROM INDUSTRIAL DESIGN TO ART**

The experience gained during the project

The Art of Reverse Fabrication did not address people from a specific profession. Half the participants were art students and the other half were design students – from five different countries in Europe. The project focused on the manufacturing process, which was supposed to present human relationships, using visual stories and narratives. How do we live and what is around us? No distinction was drawn between designers and artists. The overriding idea was related to people's lifestyles and attitudes, and the environment, and the students could come up with unique ideas and interpretations.

The plates were delivered to us at the academy from Figgjo porcelain factory. They had a narrative, a well-known one that it was easy to identify with. In a few cases, it became the basis for the idea behind their reworking. Initially, the project seemed a bit like 'suicidal acrobatics', but it proved to be feasible and was implemented. The ideas were supposed to develop and transform for six days. The participants were to communicate and discuss, then the production process was to be carried out, and, to crown it all, an exhibition was planned.

In the middle of the week, as the project progressed, I was thinking about the contract with Bergen Art Museum, about the exhibition opening at 2 p.m. on Saturday. It was important for me to remember all the people who had volunteered to participate – about my colleagues who made up a team with diverse skills, which meant that enormous resources were available that would be helpful in preparing and organising the exhibition.

Design and fine arts are professions for individualists who are able to work as a team and aim for a common goal. These professions are very much about managing and executing projects.



**Figure 5** Student work. The Art of Reverse Fabrication. Photo: Charles Michalsen



**Figure 6** From the Art of Reverse of Fabrication studio. Photo: Charles Michalsen

From industry, the building industry and trash, we find plywood and hardboard that is defined as waste and regarded as *useless*. This material is a resource that can be transformed to construct a

new idea and, instead of being destroyed, it is recycled or 'upcycled'.

Wooden materials often contain traces of how they were made, and we often find such qualities in leftover or waste wood. Another example is Tuva Tjugen, now a second-year bachelor student at the Department of Design. For me she has developed a concept that combines a load-bearing structure with anthropological visual storytelling and uses machinery in the production process.

- The base material in a supporting structure (such as a stool) can be made from reused materials, locally wooden materials where the aim is to use a minimum of energy for their physical transformation.
- Contour lines that tell a story. Through interviews with people and collecting traces and remnants from the environment in which the wood is sourced, the contour lines of the material convey its local history and previous ownership.
- The reuse of materials in the stool has a spin-off effect, the surfaces, colour and text being recognisable and communicating the values its previous use embodied. Using material found locally or asking people to bring leftover material was a way of conceptualising values. They are graded through selection and use, and form a category based on local values.
- Another aspect of her project is the use of contour lines as a narrative resource. Laser cutting and water cutting are digital applications where machines shape and create contour lines. The visual story is transferred to these applications and cut into the desired material.



**Figure 7** Tuva Tjugen and her stool.

Tuva Rivedal Tjugen's originally trained and has experience as an occupational therapist, a profession that focuses on communication with people and on their creativity.

The materials is from the local community, identifies visual stories and has a design manual that focuses on people's creativity and local values.

Does this use of the original idea entail meta-formation? This is not how the idea embodied in the original object was intended when it was first designed.





**Figure 8** Photo and artist. Tuva Tjugen

*Vilterkrakken 'Vilter' is a collection of stools for both children and adults. It is inspired by Norwegian wildlife. The stools come in the shape of wild animals: foxes, squirrels and bears. They are based on a simple design consisting of three parts, a seat supported by two profiles. Everything is made from strong plywood.*

## **WHY CREATE NEW PRODUCT WHEN AN ORIGINAL CAN BE TRANSFORMED FROM MAN-MADE INTO UNIQUE OBJECT?**

The Art of Reverse Fabrication project, Kjell Rylander and Tuva Tjugen conceptualise, define and use the idea of 'waste to taste' and 'back to life' and bring it into art design. They bring mass-produced anonymous objects into the art field for critical reflection purposes.

They all cross traditional boundaries between design and art and bring objects we use and discard 'back to life'. Shifting the focus from the mass-produced and global thinking to the local, travelling short distances and using contemporary techniques, they upcycled their materials into unique objects.



With multiplication and mass production, the definition of the original is different than in the case of a unique item. The original is an idea that is associated more with something personal and thereby special. The terms original, copy, unique and specimen indicate what is different and what has more or less been multiplied.

What about an original and changes? In Norwegian, the notion of the original is a broad and ambiguous one. One of these meanings is 'source', as in 'source text', while another refers to people and describes someone with unusual qualities. Raising the question of the original also indicates a search for something primary.

The challenge of multiplying an original idea is something that, in a broad sense, can be found in memory, that goes hand in hand with the process and is part of the perception of the idea.

The Art Museum as a public space that places limits on contemporary values.

The Art of Reverse Fabrication project was exhibited at KODE , Art Museums of Bergen. I asked the director of the museum for permission to auction off the objects shown at the exhibition at the end of the project. The works of art were to be presented anonymously at the auction. Our idea was to make the process valuable and to present something more than the monetary value of an object. For example, we wanted to see whether people would want to bid in the auction because of the aesthetic value of the products, because they understood the style of the artist or simply liked a product.



**Figure 9** Installation with sound. Waste plate and red metal ball. From the Art of Reverse Fabrication exhibition at Kode, Art Museums of Bergen.

Photo. Charles Michalsen

Bergen Art Museum is a public space supported by public funds, and one of its policies is that the objects shown at exhibitions are not for sale. That is why the auction did not take place.

It is a public space, but can it be a space for experimental practice and debate about the value of this kind of activity?

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- <http://www.joshharrison.net/oblique-strategies/>



# NOTES ON THE EDUCATIONAL DIMENSION OF DESIGN FOR SOCIAL INNOVATION

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**ABSTRACT**

Increasing research in design for social innovation has influenced how education in design may change to deal with social problems. The educational dimension of design, in its turn, is commonly referred to as the relationship between professor and design students. However, when designers work together with communities, they suggest new ways of acting and, consequently, inspire changes in people's behavior. In this sense, they also play an educational role. This article presents a vision of designers as educators, not only in the relationship between professors and students, but also in the relation between designers and community. In order to illustrate this, the theme of ageing population is used as an example of a social issue, suggesting approaches to deal with this subject during a design course and as a project with an elderly community. As a result, it demonstrates strategies to work with social issues along with students and communities: in the first case, as a way to reflect and redefine problems, in order to design creative solutions; secondly by explaining practical applications of the designers' work and considering people's prior experiences, as a way to facilitate a process of local change.

**KEYWORDS**

Design for social innovation. Design education. Elderly.

## INTRODUCTION

Research in design for social innovation has gained importance in recent years. (Manzini, 2008; Seravalli, 2013). Consequently, it raises reflections on how design education may change to teach effective processes and techniques to deal with social issues in projects.

The educational dimension of design is commonly referred to as the relationship between professor and design students inside the classroom. However, when designers work together with communities, they suggest new ways of acting and, consequently, inspire changes in people's behavior. In this sense they also play an educational role. The identification of an educational relation between designer and community is essential in projects that aspire to social innovation, since they aim at stimulating new ways of thinking and resolving everyday problems. This article presents a vision of designers as educators, not only in the relationship between professors and students, but also in the relation between designers and communities. For that, the theme of ageing population is used as an example of social issue, suggesting approaches to deal with this subject during a product design course, at the Federal University of Rio de Janeiro, and as a project with an elderly community within this city.

## DESIGN FOR SOCIAL INNOVATION

Social innovations are new ways of doing and thinking, motivated by the goal of meeting common goods to satisfy social needs which have not yet been achieved (Mulgan, 2007; Manzini, 2008). Design for social innovation, in its turn, is an activity that aims to strengthen already existing social innovations or empower social actors to create new ones. Actual results of this perspective of design can be seen in the work of organizations such as La 27e Région (France), IDEO (United States), Design Council (England) and DESIS network (Hillgren, 2011). In all these cases, designers have been committed to the creation of new strategies of interaction among actors, in order to contribute to the solution of current social problems. Besides identifying

cases of social innovation and using them as research objects, working together with the researched community of social actors is also part of the design for social innovation process. In some situations, social innovation cases, used as study objects to train academic designers, complements this process.

Both work situations, with communities and students, characterize the educational role that designers may play. This is because, in both cases, design may potentially influence users' attitudes. Since social innovations "are driven by changes in behavior" (Jégou & Manzini, 2008, p. 29), when working with people designers may stimulate changes in behavior patterns using their knowledge and techniques. As a result, design for social innovation can be greatly enhanced by considering the educational dimension in its process.

## **EDUCATIONAL DIMENSION OF DESIGN FOR SOCIAL INNOVATION**

The educational dimension of design for social innovation is considered here as the set of activities along with a human group, that were created to introduce changes in the prior knowledge of a community. It enables learning and expression of new attitudes. This actually testifies Knowles (2005, p. 10) definition of education as "an activity undertaken or initiated by one or more agents that is designed to effect changes in the knowledge, skill, and attitudes of individuals, groups, or communities." In the case of the global process of design for social innovation, there are two situations where designers may act as an educator: with a community, object of research, and with a group of students, inside a classroom.

Margolin & Margolin (2002) assert that students willing to develop socially oriented projects must learn about the community's social needs, what can be boosted by the experiential immersion in its context. In addition, designers should search for complementary knowledge in other areas as sociology, psychology and public policies.

Comments made by Parker (2009) are more specific, regarding the university education of designers. For the author, designers must have a critical view about their profession, considering the consequences and the meaning of what they produce. Likewise, they need to learn the languages and techniques that facilitate their integration in this type of context, usually lead by NGOs and the public sector. Similarly, it is important to learn how to establish ethical relations between designers and the community, in order to co-design projects in the defined scope. Finally, a systemic view of the identified issues is important, in order to gain an improved perspective of the problem, what facilitates the decision of what solutions may be relevant to create. This also can help designers to have more confidence when defending their ideas against others.

To discuss these situations, either the teaching-learning relationship between **professor and student** and the co-creative relation between **designers and community** will be considered. In both cases, designers play an educational role, when stimulating a process to exchange ideas, promote change and co-create knowledge.

### **EDUCATIONAL RELATION IN THE CLASSROOM**

On the contrary of many classes where the instructor or the partner company propose a project with a pre-defined briefing (Margolin & Margolin, 2002), the same does not happen when working on the solution of complex social problems. It becomes essential to understand and define the problem situation, from observations and experience with the subject.

Designers willing to work with social issues in classroom should develop this sensibility and flexibility in the students, as future professionals. Therefore, they will learn to avoid pre-formatted solutions and, specially, be warned to reflect about them during design process. Schön (1987) argues that education can be reflective, in the sense that students can be encouraged to become aware of their actions during the design process. Thus, they are able to review their positions as they find necessary (the so called reflection-in-action). The sensibility can also help in the discussion of ethical issues during the project. It leads to the



identification of limits and research permissions to work with communities. Moreover, a dialogue between professor and student is created, generating a process of reciprocal reflection-in-action, that is, the professor can also review his/her statements during the process of teaching, in order to value experiences and skills that students already have.

Findeli (2001) claims that the design question should not be stated as a problem that must be solved, but as an initial system and another second system that may exist after designers' actions. This presents the idea that the project does not result in a definitive solution for a problem, but in a continuous process that may change along its course.

### **EDUCATIONAL RELATION WITH COMMUNITIES**

Regarding design's practice within communities, Manzini (2008) suggests three forms of interactions: bottom-up, top-down and peer-to-peer. Among these three moments, the stage peer-to-peer of interaction deserves attention. It is in this moment of immersion that designers research information about the community in loco. Within this context, the designer-researcher that meets people from the community must play an educational role, when intending to stimulate new habits and new knowledge. In this situation, the concept of Andragogy (Knowles, 2005) is useful. It refers to a form of education adapted to adult learning, which changes substantially when compared to the way children learn. According to Knowles (2005, p. 66-67):

Young children derive their self-identity largely from external definers—who their parents, brothers, sisters, and extended families are; where they live; and what churches and schools they attend. As they mature, they increasingly define themselves in terms of the experiences they have had. To children, experience is something that happens to them; to adults, experience is who they are.

This is interesting to the designer's co-creative action along with communities. When dealing with adult social actors, their experiences must be considered and not devalued, as this would imply the rejection of them as people, maybe jeopardizing months of work. Likewise, it is critical to know that adults are motivated to learn as they have needs and, therefore, must

understand design process as a way to solve their problems. Mostly, the applicability of what is being proposed must be perceived. Finally, individual differences in learning increase with aging, so the analysis of the group's profile is essential to define the strategy of the design process.

In order to illustrate these ideas, the theme of ageing population is used as a case to suggest how this subject can be worked in the classroom or with a community of elderly.

## **THE AGEING POPULATION AS A SOCIAL ISSUE**

According to World Health Organization (2013), population ageing can be seen as a success of socio-economic development and public health policies. Nevertheless, it also can be seen as a challenge of the contemporary society, regarding its adaptation to this new age group conformation.

Because of that, ageing can become a design issue, where it is urgent to rethink the role of the elderly in the society. It is required not only to stimulate preventive behavioral tendencies, but also to identify and explore an immense human capital not used in this age group.

### **USING THE AGEING POPULATION AS A PROJECT'S THEME IN THE CLASSROOM:**

The theme of population ageing is gaining a particular focus as a matter of design in response to the quantitative increase of elderly worldwide. However, it is worth noting that even though the elderly of the past are not the same elderly of today, they still carry the weight of the negative stereotype of what it is to be old: useless, ill, incompetent, unproductive and dependent. These stereotypes can lead to a rejection of the elders and social marginalization. They can also contribute to a misunderstanding of the concept of third age, what may cause confusion in people who are being introduced in this universe.

When bringing the concept of andragogy and experiences with design projects to the classroom, it is possible to formulate a set

of strategies to work on this theme. Therefore, one possibility is to show to students a set of cases where seniors are active actors, using images that illustrate their social participation and where their community is valorizing their skills. During an undergraduate product design course in 2012, at the Federal University of Rio de Janeiro, for example, the case of a program encouraging elders to exercise outdoors in Rio de Janeiro was presented. The physician and senior, Mr. Carlos Augusto Bittencourt Silva, spontaneously started it. The project grew naturally and today there are more than 35 centers spread out in the cities of Niteroi and Rio de Janeiro. At the beginning, the idea was only to exercise outdoors, but now it helps with the reintegration of elderly people into society, improving their lives in physical, psychological and social ways. The project also promotes intergenerational relationships, since it is open to people of any age. This program was one of the examples presented in the classroom. The goal was showing students that the elderly may have a role of leadership and tend to be self-organized to face the needs to improve their daily quality of life. The role of the designer educator at this moment it is precisely to broaden the minds of these students through practices that break their prejudices, already consolidated culturally.

In a second moment, it is interesting to question the experiences that the students already had with the elderly, in order to appreciate their existing knowledge and better position the professor's statements according to the profile of the class. In the presented course situation above, students were asked to talk about events where elders of their families were working actively. Many were the situations presented: "my mother does a lot of sports, she is more active than me", "my father became an entrepreneur after retirement", "my grandfather is a doctor and he is still working; he is an example for me". After many examples, the students noticed that active people in their advanced age are a reason for pride. This practice to encourage the sharing of experiences among students is interesting to evolve a class discussion on the topic more homogeneously.

In a third moment, students can be invited to complement their ideas through researching directly with seniors, in order to

encourage them to meet the elderly actual situation and design from their perspective. In the product design course presented, students were requested to make an anthropological research focusing on daily activities of elders in Rio de Janeiro. The suggested themes were housing, nutrition, transportation, communication, health and leisure. Within these themes, students were asked to identify issues for mature people and design a product or a service in response to them. The housing team created a prototype of a chair that helps seniors with difficulty to stand up. Moreover, they designed a service to give support to the house maintenance. The group working on the nutrition theme designed a cooking magazine, focused on suggesting recipes with appropriate nutrients to elderly health problems. The transportation project was a bus stop adjusted to the ergonomic needs of seniors. The communication group created a game to inform elders about the new social networks (akin to Facebook or Twitter). On the health theme, students designed a pillbox with a better interface, facilitating the identification of medicines and the time seniors have to take them. Finally, on the leisure topic, students created a car toy to be assembled between grandparents and grandsons. All these creative solutions were inspired by real situations where elders have to deal with difficulties in their daily activities. Ethical issues were raised to settle the best practices to relate to the elderly. At this point, it is fundamental to clarify that the design goal should be satisfying human needs, instead of creating new products to sell (Margolin & Margolin, 2002), which amplifies the possibilities of creation. The results of these projects should be validated along with the chosen elderly group and the best outcomes can be actually implemented. Regarding the students of the undergraduate product design course, their projects were not implemented. However, their classroom activities made them to be aware, identify and value a social group in constant growth in Brazil, which still has few solutions to suit its needs.

#### **IN A COMMUNITY:**

The situation of the elderly in society goes through transitions, presenting today distinctive features. The World Health Organization (2013) defines as elderly the inhabitants of a developing country with 60 years old or more and the inhabitants

of a developed country with or over 65 years old. Among those who are already in this age group, many do not like to be characterized as elderly, due to the pejorative sense of the word, which refers to the lack of credit, autonomy and, consequently, leads to social marginalization. One example that illustrates this situation of prejudgment is the story of an old woman, in the city of Rio de Janeiro, that entered a computer science course for elderly. Owing to this course, the senior got encouraged to buy a computer. However, her granddaughter was living with her at that time, and monopolized it. For the teenager, "computers were not a thing for an old person". The grandmother got frustrated and decided to let the computer with her granddaughter. In the end, the computer science course did not help at all the old lady. Our conclusion is that digital inclusion for older people is not enough without an awareness program with the family. On the other hand, there are those who like to be identified as mature people, because they interpret this as an achievement, for having reached the "old age" still active and independent. In another story, a senior told us that when she was young she used to work a lot; besides having a job, she was responsible for taking care of her children, her house and sometimes her husband. Nowadays she is relieved that her children grew up, she is retired and she has a lot of time to stay with her friends. She is proud of her actual condition: now she has time to take care of herself. Because of these different situations, it is necessary that the designer observes and identifies the group's profile that he is working with. This may help him to explain his ideas, as well as to indicate the practical applications of his work.

A good example that illustrates these ideas was the project to create a concept of a collaborative network to promote home care for elderly (Zanela & Cipolla, 2013). By identifying a network of local social actors within a community, it was proposed the concept of this collaborative service (Jégou & Manzini, 2008). A systemic approach was made with the most important factors that could influence a collaborative network of this type, resulting in the identification of constituent items of this system: the elderly, the caregiver, the relationship between this pair, the community, public policies and the possible collaborative processes among all of them. By identifying these factors, it

became easier to suggest a rearrangement of the system, in order to approximate pairs of seniors and caregivers of the same community. The purpose of creating this network within a common geographical area would be to facilitate and encourage a system of collaboration between people with similar demands.

The State has been suggested as the initial responsible for creating a space with activities for seniors to meet and stay in the company of some communitarian caregivers. But an NGO, or even an organized group of people from the civil society, could promote the same. This follows the potentials of design in promoting social innovation in different sectors of society. Designers would practice their educational role showing to familiar caregivers that they do not need to bear all the responsibilities in taking care of elders on their own, and that this charge could be shared with others in the same situation, from the community. Besides, this would be an opportunity to explain to elderly that they could enjoy relationship with other seniors, in order to socialize with other people beyond their families, as well as experience new situations that could lead to the expression of personal abilities and the stimulation of cognitive processes (through playing games, for example). Finally, this project was planned, so that designers could gradually transfer operations responsibilities to users, making them able to be self-organized and to naturally create links between caregivers and elderly.

## CONCLUSIONS

This article proposed that the understanding of the educational role of designers for social innovation should be amplified. It includes not only what happens inside the classroom, in the relationship between professor and students, but also how the relation between designers and community is established. It is therefore interesting to stimulate an ethical and reflexive approach to work with social issues in projects, in order to suggest critically and socially responsible results. On the other hand, understanding the context in a systemic view, as well as the prior experiences from people of this system, may represent a step forward to facilitate the dialogue and the co-creation of knowledge. In sum, the case of elderly illustrates how these

ideas can be applied. For next researches, other cases will be researched from this perspective, in order to bring other examples that prove how considering the educational dimension can enhance design process for social innovation.

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# POSTERS & PROJECTS

## POSTERS

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### // STRATEGIC DESIGN FOR URBAN PERFORMANCES: EMPOWERING COLLABORATIVE PLATFORMS FOR SUSTAINABLE CITIES

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#### // CONTEMPORARY ANTAGONISMS:

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#### // HEARING/SEEING THE MUSIC FROM AN INTERDISCIPLINARY PERSPECTIVE

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Cristina Amazonas Cabral [Brasil]

Cultural diversity

#### // TRASH TO TREND

Vilve Unt [Estonia]

Shifting Education

# WHAT'S ON: cultural diversity social engagement shifting education

SPRING CUMULUS CONFERENCE  
UNIVERSITY OF AVEIRO  
8-10 MAY 2014



## SINGULARITIES OF THE TERRITORY

Introducing new elements for the legible reorganization of the historic city centre of V.N.Gaia, Pt

The purpose of this research project, embraced by local administration, is to define, develop and design a new integrated system of urban visual communications.

Through new solutions we seek to promote legibility and citizen interaction with different spatial contexts, in order to solve the problems of information, orientation and communication of visitors and habitants with different needs, by combining the efforts between public transport, hiking trails and bike lanes.

We search to pursue a new balance between the definition of distinct visual identity from this territory and the intuitive universal decoding.

Seeking an effective balance between technological mobile development and the use of physical supports in a sustainable manner, through methodological and technological solutions applicable in the future to Portuguese cities.

At the historic city centre of V.N.Gaia, we seek to respond to real needs, supporting us in morphology, territorial identity and new tourist and cultural attractions.

This confined area of porto wine cellars is based on inherent conditions and exhibits a pattern by loose letters ads, perched at the roofs performing landmarks with great expressiveness and genuine character, in visual context.



**AUTHORS:** Alexandra Cebal, PhD researcher  
Adriano Rangel, PhD supervisor

**UNIVERSITY:** University of Porto  
Faculty of Arts

**TITLE:** Singularities of the territory  
introducing new elements for the legible  
reorganization of the historic city centre of v.n.gai

**KEYWORDS:** Design, Wayfinding, City image

**MAIN TRACK:** Cultural diversity

**AREA:** Design

more  
info  
here



through the way of finding  
and resolving a territorial visual problem

1.768 BUILDINGS  
6.731 RESIDENTS

600.000 TOURISTS/YEAR  
80% FOREIGN TOURISTS

### WHY TOURISTS GET LOST?

43% difficulty in orientation  
32% absence of signage  
25% difficulty in reading maps

### TOURISTS SUGGESTIONS TO IMPROVE SIGNAGE SYSTEM

46% more signs along the area  
22% use of more icons  
14% more historical/cultural info  
10% more transports info  
8% pavement signage



### WALKING ROUTES

This applied research aims to upgrade tracks and routes, owners of relevant visual interest, outside the common tourist and pedestrian circuits, through the core of territory, highlighting different typologies. We identified new elements of contemplation, observe spaces that remain through time and dissect the user interaction with the different spatial contexts.



### PAVEMENT SIGNAGE

This part of the project is now in the final stage for implementation. By that we aim to expand the visibility of the stores, cultural equipment, and tourist institutions, that can not be found in the marginal road. It was set a timescale, taking into account the importance of the time factor in relation to physical distance in a unknown territory.



### SHIPYARD

In order to identify the forms of appropriation of the territory, we enhance the shipyard, where are still manufactured the rabelas boats. A space that remains in time, a symbol and a single print authenticity in the landscape.



### LANDSCAPE AS THEATRE

Introducing the George Simmel's expression *city printed by the senses*, we have expanded the intervention area to the geographic last limit. The douro river estuary nature reserve confronts us with a landscape free of information.



### CONTEMPLATIVE PATHS

With this new orientation we have included the contemplative pathways project. By using the expression of Eugenio Turri *landscape as theatre*, where the man is an actor and spectator at the same time, we intend to develop a conscious intervention of the historical heritage and the intrinsic rhythms of the landscape.



### WINE CELLARS

Combining the plan of emotions, representations and perceptions, the wine cellars signs appear on the morphology of the territory as identifying specific milestones. Its structures composed of loose letters, having genuine character, reflect the territorial uniqueness. Is to enhance the impact and the pattern defined by the same in night canopy.

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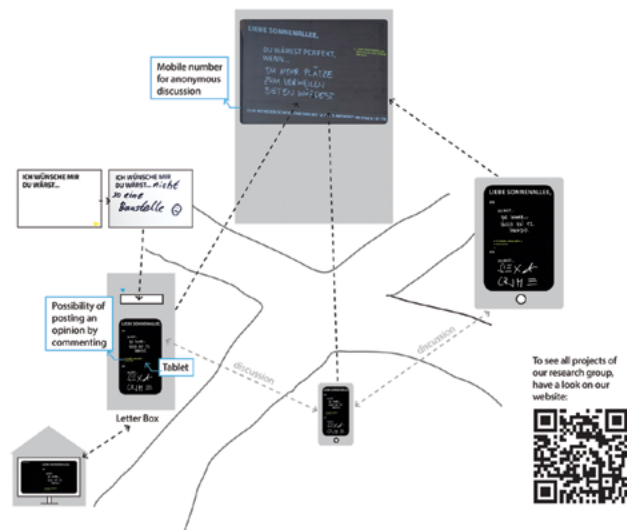
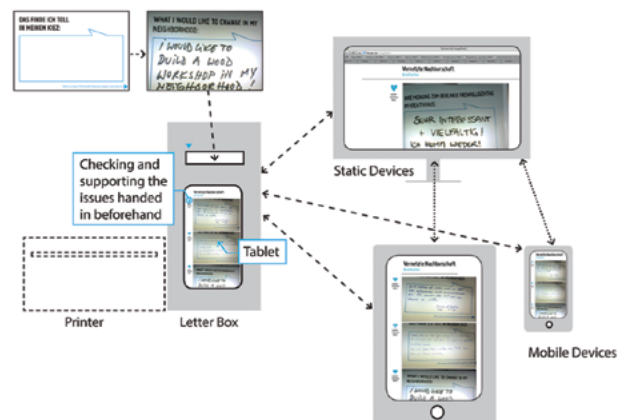
<b>AUTHORS</b>	Prof. Dr. G. Joost, J. Schubert, A. Untch, B. Herlo, F. Sametinger, M. Bergmann, L. Reiter, J. P. G. Sossa
<b>UNIVERSITY</b>	Berlin University of the Arts, Design Research Lab Berlin
<b>TITLE</b>	Hybrid Letter Box
<b>KEYWORDS</b>	digital-analogue, neighborhood, infrastructure
<b>MAIN TRACK</b>	Social Engagement
<b>AREA</b>	Design Research

## Enabling Civic Engagement in Local Environments

By transferring a hand written message to a digital platform we are creating a simple analog-to-digital interface. The digital space is necessary to spread issues effectively, so that citizens can take part in controversial discussions in order to form “publics”<sup>23</sup> by organizing around shared issues and transforming them into communal action.

- additional printer
- development of a construction plan
- smaller, cheaper, all-weather open source version of the Hybrid Letter Box

- 1 cf. Ehn, P. (2008). *Participation in Design Things*, PDC'08 Proceedings of the Tenth Anniversary Conference on Participatory Design. Bloomington, USA, 92-101
- 2 Untiedig, A., Sametinger, F., Schubert, J., Joost, G. (2013). *Neighborhood Labs: Building urban Communities through Civic Engagement*. Proceedings of the Participatory Innovation Conference, Aalto University of Technology, Finland
- 3 Dewey, J. (1927). *The Public and its Problems*. H. Holt and Company, University of California





# WHAT'S ON: cultural diversity social engagement shifting education

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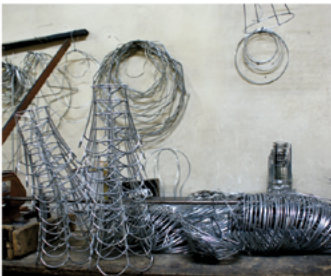


Şişhane is a neighborhood in Istanbul/Turkey which is known with several workshops for metal, neon and Plexiglas. Outcomes are mostly contemporary products through traditional craft manner. Some parts of the district are specialized on lightening both for production and trade. This street is where most of the lamp makers and shops are.



The neighborhood has been a part of the craft production structure of the city. For the recent decades it has been the meeting point of designers and craftsmen/craftswomen for knowledge exchange and team work (Kaya, Yagiz, 2011).

The lamps are mostly non-designer made. Dörtler Han is a 3-floor han which is significant with its ateliers. It can be seen as a school for potential apprentices since all the craft elements are transferred through making. It involves sustainable circle of knowledge, production practices, material use, relations etc. Making a lamp starts from building the metal structure at the workshops on the third floor. This is followed by covering on the first and second floors by hand, electrical equipment is assembled while covering if it is ready made. Otherwise shop owners will have a further step for that. Although these different ateliers work together they do not have partnership, it is a process of collaborative production. The designs mostly come from the shop-owners however there is also an increasing designer interest in the region. The most significant name is Aslı Kiyak İngin who is the owner of a lightening company and has been working in the region and organizing international workshops to promote the continuing craftsmen culture of Istanbul.



## Why is it important?

The han has a factory-like structure which is supported by individuals' collaboration. The anonymous spirit of the craftsmen/craftswomen evolves into a well-organized production line. Although all of the ateliers produce the same objects there is not a competitive condition which creates co-operational, solution oriented approaches. However craft nature involves benefiting from local sources and combinations of several disciplines (Bonanni, L and Amanda Parkes, 2010) contemporary paths should be linked to behaviors as well.



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İlgin Vayen ALACA

UNIVERSITY Koç University

TITLE Co-lightning

KEYWORDS Collaboration Craft Design

MAIN TRACK Social engament

AREA Design



Aslı Kiyak İngin's web page <http://madeinsishane.blogspot.com.tr/> (Accessed: January, 2014)

Bonanni, L and Amanda Parkes. "Virtual Guilds: Collective Intelligence and the Future of Craft." *The Journal of Modern Craft* 3:2( 179-190) 2010

Kaya, Cigdem and Burcu (Yancataro) Yagiz. "Design in Informal Economies: Craft Neighborhoods in Istanbul." *Design Issues*: 27:2(59-71) 2011

\*Han is a building with several rooms for individual work places.  
Contact via: meaktas13@ku.edu.tr

# WHAT'S ON: cultural diversity social engagement shifting education

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The CouchSurfing service, almost totally self-managed by users and highly scalable, is aimed to allow its members to find free lodgings around the world and, at the same time, sharing relevant experiences with other members. The free hosting is not an end, but a way to favor interpersonal encounters and intensive interpersonal interactions.



Image 1: Elaine Campos, 34, Couchsurfer - RJ, Brazil. (Source: Couchsurfing).

METHODOLOGY	OBJECTIVE
The analysis of the information available in the Couchsurfing platform, besides desk research.	Understand the CouchSurfing service process and how the trust is built between reciprocally unknown hosts and guests
A participant observation of the service and an interview done with the active user who lived both experiences, as host and guest.	Understand the motivations of hosts in opening their own private space to unknown people, since there is no monetization of the service

Frame 1 and 2: Methodology and Objective. (Source: Elaborated by the authors).

## PROCESS

### 1) REGISTRATION

A highly appealing resource offered by the CouchSurfing platform is the information about user's personal interests, required in the registration process, and through which host and guest are able to identify their common interests.



AUTHORS	Canda Ferreira Carla Cipolla
UNIVERSITY	Federal University of Rio de Janeiro
TITLE	CouchSurfing: Trust in a Relational Service for Lodging at Home
KEYWORDS	Service Design, Trust, Social Interaction.
MAIN TRACK	Cultural diversity.
AREA	Design.

## COUCHSURFING: TRUST IN A RELATION SERVICE FOR LODGING AT HOME

### COUCHSURFING: A SELF-MANAGED MODEL

#### 2) PRE-HOSTING

The process for searching a host is facilitated by filters were the guest informs the destination city, hosting period, trip reason and is able to choose between sending a public message to members of a specific city, sending a private message directed to the host or both.

Image 2: Search filter box. (Source: Couchsurfing).

#### 3) HOSTING

There is no direct interference from CouchSurfing in the interpersonal encounter during the stay.

#### 4) POS-HOSTING

When the hosting is ended, the guest must report a feedback in the host profile. The platform allows the guest to give a reliability certificate to the host, testifying its bona fide status.

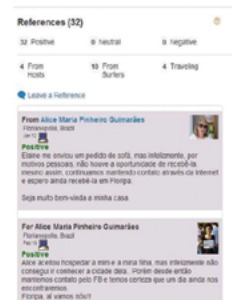


Image 3: References box. (Source: Couchsurfing).

## MOTIVATION FOR USE

Since a user do not need to offer a couch to order hosting, the currency exchange is not the couch, but the interaction. Therefore, all the service is not about to have a lodging (a couch) but the interpersonal interaction. The free lodging is a tool that enables and empowers more intensive interactions than the tourist would have in the usual service models.

## TRUST

It was identified an interesting resource to increase confidence in participating in the service: experience CouchSurfing bit by bit through the face-to-face meetings where it is possible to know active members who can share real experiences and reinforce the purpose of the community.

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**WHAT'S ON:**  
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shifting education

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Faculdade de Ciências  
e Tecnologia  
FEUP

# LOVE

# WHAT

# YOU

# DO



AUTHORS	Li Mengyuan
UNIVERSITY	China Central Academy of Fine Arts
TITLE	Tape Mad
KEYWORDS	Tape, Form of Design, Medium
MAIN TRACK	Cultural diversity
AREA	Design

The project takes tape as the form, discussing the subiect on "order and chaos". Tape is a product of industrialization, which is constantly being stucked, cut, torn, and ripped. I attempt to invent a new way of using tape that can link tape to some graphic design methods. Thus a new characteristic of tape has been built in a new environment, and a new order of graphic design has been set, and new possibility of graphic design is explored. As the industrial ready-made article, the tape possesses the restriction on the size and color, which makes my creation way different from traditional painting and designing tools as well as grants me with freedom brought by the creation space and possibility.

Tape is an extension of design and it helps the communication between people and the society on functions, aesthetic values and ordinary object, I can bring endless imagination.

Like many things around, tape is discovered and created with waiting.

**TAPE MAD**



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CUMULUS  
CONFERENCE

40<sup>th</sup> universidade  
de aveiro  
aniversário das ciências  
1973-2013

A ASSOCIAÇÃO DE UNIVERSIDADES  
DE AVEIRO

## 22 YARDS

/Self-made construction  
/Rituals/Everyday Urbanism/  
Urban appropriation - Social Transformation/  
Cultural Identity  
x 10 feet

"It is in society that people normally acquire their memories. It is also in society that they recall, recognize, and localize their memories." Halbwachs, 1992: 32

This poster aims to exhibit the collective memory of Sharjah through finding elements and spaces that are part of the everyday rituals. Therefore it was used as a vehicle imagery of the urban travelling of one of the arteries of Sharjah: University City road. This road was selected due to it connects two artistic, cultural and educational poles of Sharjah, University City and Sharjah Heritage Area. The visual images had two objectives: to show two faces of the urban elevation, facade and inner part, represented by the build environment and the local community activities and to portray how one object transforms a generic place into a context creating an emerging activity. Both objectives are essential in perpetuating the community's reality, but also in representing the point of entry for getting underneath and beyond their collective memory. Figure 1 shows the urban travelling from one pole to the other. The first point in the journey is the end of University

city [1.1]; the wall and warehouse [1.2]; entrance of the former presidential guard [1.3]; empty space in Darb Al Zalaq [1.4]; Al Manakh - Sharjah municipality park [1.5]; and the installation Oases by office at Sharjah Heritage area [1.6]. Figure 2 presents a floor plan of the urban travelling of University City Road. Then we have the generic place (Figure 3), the objects (Figure 4, 5, 6 and 7) and the context (Figure 8). The generic place is an isolated space in Darb Al Zalaq that is located beside a petrol station. The main object is a pitch [22 yards x 10 feet] that was built in this land plot to play cricket. The secondary object is the wicket (Figure 4); the cricket bat (Figure 5); the cricket balls (Figure 6); and batting gloves (Figure 7). Finally, it can be seen the players in action (Figure 8). These elements represent the rituals of a multiethnic society of Sharjah in a specific time slot and location and consequently a realm of the collective memory of Sharjah.



Fig. 1. Photographs of University City Road. Urban travelling elevation

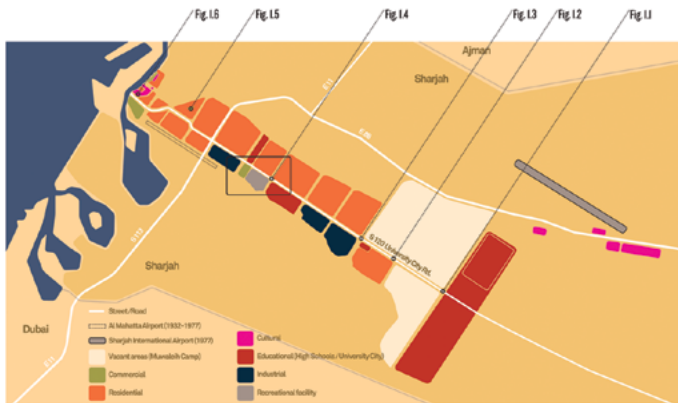


Fig. 2. Map of University City Road from University City to Sharjah Art Foundation



Detailed map of cricket pitches during an average Friday morning (Sun-Box)



Fig. 3. Self-made cricket pitch in Darb Al Zalaq



Detail of the self-made cricket pitch



"The city is borrowed by its citizens and their actions"



**AUTHORS:** Cruz Megchun, Beatriz Itzel;  
Roldán Martín, Juan

**UNIVERSITY:** American University of Sharjah

**TITLE:** Mapping through a visual  
archive the collective memory  
of Sharjah

**KEYWORDS:** collective memory, visual images,  
cultural heritage, urban sprawl,  
non-places, moving image, snapshot

**MAIN TRACK:** Cultural diversity

**AREA:** Contemporary antagonism



Fig. 8. The players



Fig. 7. The gloves



Fig. 6. The balls



Fig. 5. The bat



Fig. 4. The wicket



"Under the sand lies a concrete pitch"



# WHAT'S ON: cultural diversity social engagement shifting education

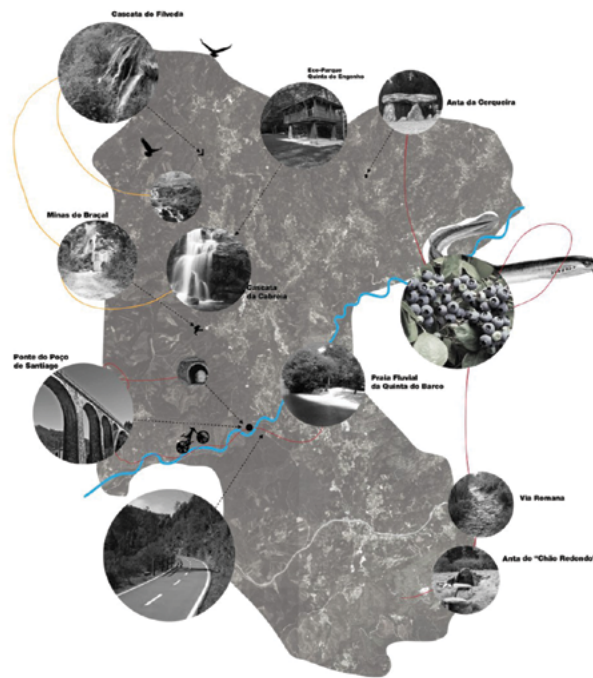
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## ABSTRACT

This work focuses in a design project for social innovation in the territory of Sever do Vouga, partnership with the Fundação Edite Costa Matos and the University of Aveiro. From the initial objective proposed, for the retention of youngsters in the territory, it was drawn a product-service system to support tourism and local crafts. Through the application of design processes (active ethnographic research), and analysis of case studies, structured a project scenario for the development of natural and cultural heritage of the area. This process allowed the approach to local entities such as artisans to achieve a collaborative workshop with the proposal of new craft products, resulting in a kit.

## Contributions of design to enhance the heritage in Sever do Vouga.



**Description** This poster describes an investigation of a Master in Design, resulting in the Projeto TAS: Turismo e Artesanato de Sever, an initiative action to build an interactive platform between local agents. The project goal is to build a sustainable rural community by linking the local resources both on the internal and external communities, and establish new business models to enhance the quality of life, through new scenarios to support rural tourism through a network of artisans, tourism services and promoting traditions and regional products.

**Methodology** A diverse set of authors and themes were studied, among which: the contribution inter/trans/multidisciplinary design, methodologies for social innovation, sustainable development, tourism and handicrafts. To construct the research scenario, it was developed through the methodology presented by Design Council (Transformation Design: Looking, Making things visible, Prototyping).

**Project design and results** The project started from the need to create and activate new tools that promote the local culture, sensitizing local stakeholders regarding the development of new inspirational products in

local legends (by a illustrated book) associated with the spaces of tourist interest, fostering a bond to trigger value. It appears from this experience that it is possible to approach the design of the territories and it is believed that it can replicate such initiatives in other times and in other territories. The interest of marketing a product already emerged, thus demonstrating the economic viability of this project scenario.

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Fig. 1- Visual representation of Sever do Vouga  
Fig. 2- Pictures from the workshop with artisans

# WHAT'S ON:

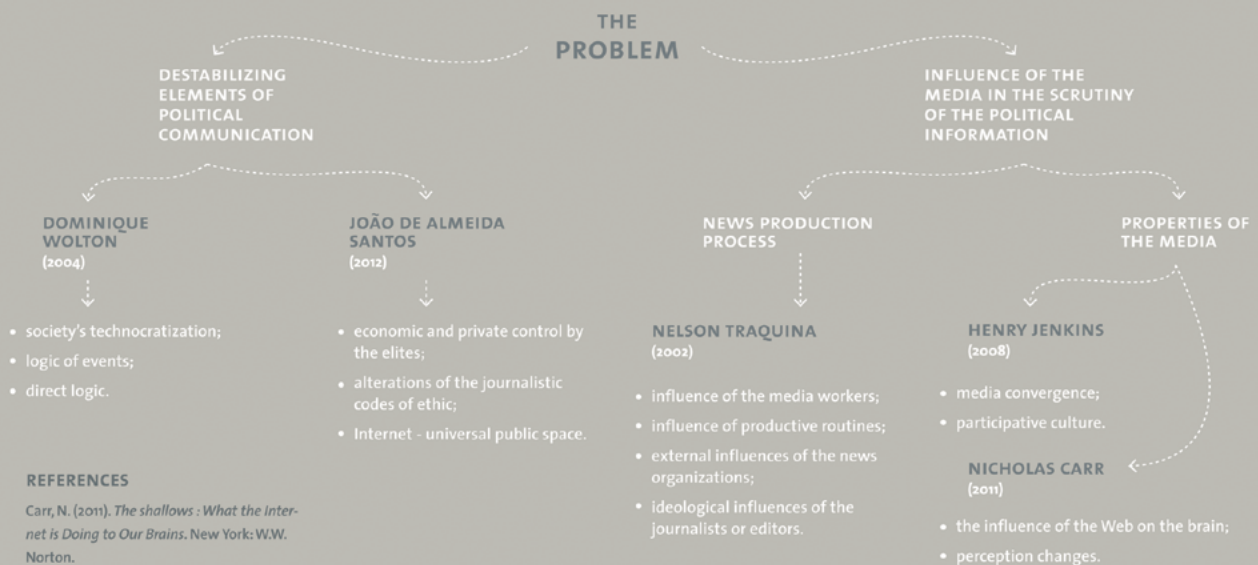
cultural diversity  
social engagement  
shifting education

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## PROBLEMS AND SOLUTIONS CONTRIBUTIONS FOR A MORE AWARE CITIZENSHIP

A STUDY DEDICATED TO THE DESIGN  
OF TOOLS TO READ AND ANALYZE  
POLITICAL INFORMATION, ONLINE.



### REFERENCES

Carr, N. (2011). *The shallows : What the Internet is Doing to Our Brains*. New York: W.W. Norton.

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### PROPOSED SOLUTIONS

- emphasis as a way to mark the most relevant sentences or paragraphs in the news;
- summarizing the content of news by hiding a few paragraphs;
- allowing the user to add tags;
- visualization of the evolution of news over time;
- following personalities;
- commenting and questioning the news content and identify those with the highest field propagation.
- and others in study ...

The media play an important role in the development of a common conscience. However, there are influences that hinder the communication process of political information and yet others that interfere with the ability of the citizens to scrutinize that information. It is fundamental to develop tools that reduce the capacity of these destabilizing elements and promote the interest of the citizens for these matters.



<b>AUTHORS</b>	Mica Sá (FEUP - UA) Miguel Carvalhais (FEUP) Francisco Providência (UA - DECA)
<b>UNIVERSITY</b>	Universities of Aveiro and Porto
<b>TITLE</b>	<i>Problems and Solutions: Contributions for a More Aware Citizenship</i>
<b>KEYWORDS</b>	Interaction Design, Design, News, Web, Politics, Social Media.
<b>MAIN TRACK</b>	Social engagement.
<b>AREA</b>	Design, Music, Art Studies, Digital media

This study focuses on the difficulties presented by the destabilizing elements that political communication and media properties create in the transmission of information, in order to assert the needs in the design of tools that help citizens to become more aware of these issues. As a practical project, the research proposes the design of a news aggregator that offers a set of features

capable of reducing the power of these influences while making the users more active and interested in political affairs.

In addition to the identification of the problems, the research will also present some of the features identified in case studies as possible solutions for noise reduction, distortion and information concealment.



# WHAT'S ON: cultural diversity social engagement shifting education

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## Background

Growing figures of dementia and the progressive amount of care needed makes this condition a current global priority in public healthcare. Dementia progressively affects cognitive functions such as memory and communication, resulting in a constant process of adaptation for people with dementia and those around them. As the disease progresses and memory weakens, communicating with people with dementia often becomes difficult.

## Objectives

The research focuses on the communication between people with dementia and their families. The main objective is to find whether strategies of codesign can be adapted to the context of dementia care, considering if communication design can empower people with dementia and their families to create their own personalised strategies to communicate and interact, and if this can have an effect on their wellbeing. Therefore, the aim is to create ways of enabling people with dementia and their close families to be codesigners of their journey through dementia.

As a second objective, the research is looking at methods, and how to possibly redesign them, to conduct primary research and include people with dementia in the participatory design process.

## Methods

Drawing upon ethnographic and participatory methods and with the support from dementia care specialists, primary research will be undertaken with those suffering from and dealing with dementia. The study aims to identify, test and analyse current designs for dementia in order to redefine the contribution of design for the personal and family experience of dementia. The qualitative information gathered will inform the design practice, that should be complemented with further codesign workshops with users. Stages of the research will be carried out linked to a practice-based, user-centred approach, where prototypes may be produced, and the testing, evaluation and reflection on these outcomes, and consequent iterations, will be a constant theme of all the research stages.



AUTHORS: Rita Maldonado Branco

UNIVERSITY: University of Porto

TITLE: Codesigning communication in dementia

KEYWORDS: communication design, dementia care, codesign

MAIN TRACK: Social engagement

AREA: Design

## CODESIGNING COMMUNICATION IN DEMENTIA

How can communication design empower people with dementia and their families to find personalised strategies to improve their experience of dementia?

GROWING FIGURES OF DEMENTIA  
35.6million people suffering from dementia, number expected to triple by 2050

DEMANDING CARE AND INCREASING DEPENDENCY  
cost of dementia \$604bn/ year

DEMENTIA

SEVERAL DISEASES, SEVERAL SYMPTOMS, SEVERAL STAGES that affect everyone differently

AFFECTS COGNITIVE FUNCTIONS  
memory, reasoning, communication

PROGRESSIVE constant process of adaptation

research focus  
COMMUNICATION BETWEEN  
PEOPLE WITH DEMENTIA AND THEIR FAMILIES

PERSONALISED STRATEGIES TO FACILITATE  
COMMUNICATION AND INTERACTION?

through  
communication  
design objects

codesign process  
adapted to  
dementia care

COULD PEOPLE WITH DEMENTIA  
AND THEIR FAMILIES BE  
CODESIGNERS OF THEIR JOURNEY  
THROUGH DEMENTIA?

drawing on previous related work:

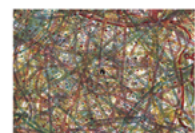
graphic interpretation  
of symptoms  
– empathy tools



Digging up the Past. The book was modified to reflect how memory is affected by Alzheimer's disease.



The Book of Genesis according to my grandfather. Progressive typographic changes represent 4 types of confusion: objects, people, places and time.



Disorientation map.

tools to facilitate  
interaction between  
people with  
alzheimer's disease  
and their families  
and carers



Tablecloth with silhouettes of crockery and cutlery to enable laying the table.



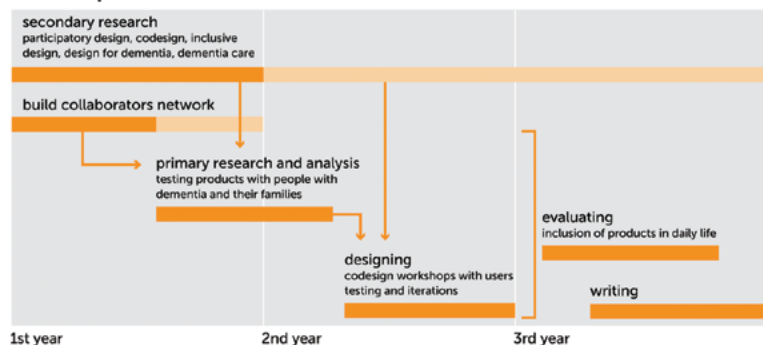
Card Game. Personalised set of visual and written cues to help conversation, allowing different levels of interaction.



Card Game. Personalised set of visual and written cues to help conversation, allowing different levels of interaction.

Maldonado Branco, R. (2013). How can communication design add value to the context of Alzheimer's disease? Paper presented at the Design4Health, Sheffield Hallam University, Sheffield.

## research process



# WHAT'S ON: cultural diversity social engagement shifting education

SPRING CUMULUS CONFERENCE  
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5.2% of Finnish population is from immigrant origin and speaks other than Finnish as a native language

5.4% of Finnish population are also Swedish speakers



Finland is officially a bilingual country, but Finns are also proficient in many languages. English is among the most popular.

## LEARNING ADVANCED FINNISH: PROFESSIONALIZATION OF LANGUAGE

### Language diversity in Finland

Finnish government offers various educational programs to integrate immigrants—currently 5.2 % of the population—with language learning courses that also intend to provide employment opportunities and cultural knowledge to all immigrants alike.

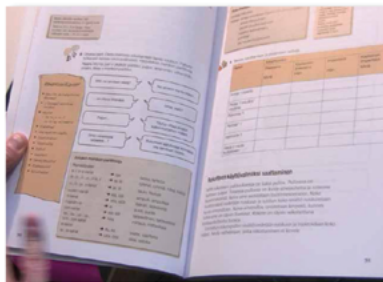
However, the programs' effectiveness on assimilation through language has been questioned. The offered courses cover basic use of language leaving more prepared/skilled immigrants to acquire language for professional purposes by themselves. Educated immigrants are expected to manage language and social codes proper to their fields in order to be considered candidates, because "It is more than just degree, language skills or social relationships [...] where a person assimilates into the society and society's requisites the right way" (Kyhä, 2011, p. 65).

The transition into advanced level or professional language use and cultural assimilation is initially explored by analysing language material and courses offered for beginners to assess its efficacy. Then through interviews we discussed with teachers and learners the dynamics of the courses and the design of the material to evaluate its effectiveness as scaffold for language advancement.

### Instructor and student interviews

We carried out a visual analysis of the overall design, images, visual clarity and content of language books. In specific we concentrated on *Sairaalan Hyvää Suomea. Terveystietoa suomen maahanmuuttajille*, the training book for the study of Nursing practices. We looked at how images provided cultural knowledge needed in the field and the use of professional language. We also discussed the use and impact of cartooned characters in the book as opposed to photographic images of immigrant minorities studying to become nurses in Finnish.

The books content depicts procedures, nurse-patient protocol and transcriptions of real conversations taken place in health-care facilities. It was consented among learners that the use of hand drawn cartoon was not as effective as the use of photographic material due to its lack of closeness and accuracy to the topic and that it failed to provide any additional information for the student. Cartoon representations were also viewed in a sceptical way since they were considered misrepresentations of the foreign student population. In addition, the use of common language is not standard procedure in nursing practices, and according to one of the teachers does not reflect accurate cultural information that should be taught on site.

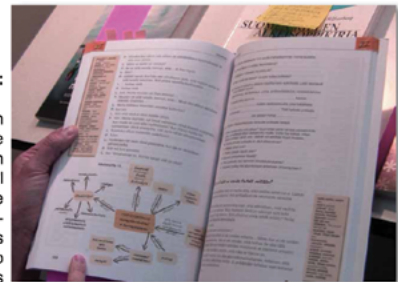


### Visual clarity:

- **Cognitive load:** The layouts have high cognitive load and are saturated
- **Ease of use:** Although sections of the layout are well demarcated, saturated layouts make the formation of rhetorical clusters (Schriver, 1997) difficult
- **Content relevance:** Photographic images vs. hand drawn cartoons help understanding of relevant information

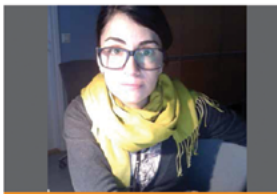
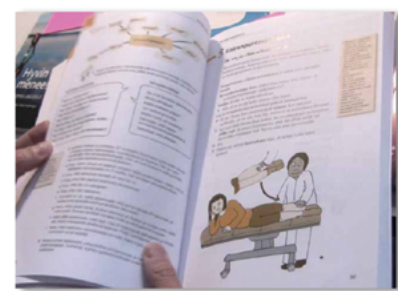
### Content:

- Promotes professionalization of language
- Cultural information that promotes cultural knowledge
- Reflects use of spoken language but not proper protocols
- Specifically oriented to Nursing studies



### Images:

- **Accuracy/closeness:** Photographic material that enhances key information
- **Information value:** Elements that broaden comprehension (dialogue bubbles, diagrams)
- **Photographic material:** Considered better for learning reflecting accuracy and informational value. Something extra to the text.



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**KEYWORDS:** Language-acquisition, cultural-knowledge, social-representations  
**MAIN TRACK:** Social engagement  
**AREA:** Design

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## PROJECTS

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[\[click here for screening\]](#)

### // CONTEMPORARY ANTAGONISMS: ANALOG/DIGITAL

Vesna Dragolov [USA]

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### // HEARING/SEEING THE MUSIC FROM AN INTERDISCIPLINARY PERSPECTIVE

Shao Xiao Ling, António Costa Valente [Portugal]

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### // PIXEL ESPELHO

Cristina Amazonas Cabral [Brasil]

Cultural diversity

[\[click here for screening\]](#)

### // TRASH TO TREND

Vilve Unt [Estonia]

Shifting Education

[\[click here for screening\]](#)

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### PROJECTS

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Inês Santiago
Shao Xiao Ling
Vesna Dragolov
Vilve Unt





ARAÚJO & SOBRINHO

**BEEVERYCREATIVE**



**LARUSDESIGN**

