Notes on Doctoral Research in Design

Contributions from the Politecnico di Milano

Luca Guerrini (ed.)

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This book is the first of a series of contributions that the PhD programme in Design of the Politecnico di Milano, under the direction of Francesco Trabucco, intends to produce in order to record its research and teaching activity.

DOTTORATO DI RICERCA IN DESIGN
POLITECNICO DI MILANO, DIPARTIMENTO INDACO

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Preface

The Politecnico di Milano was among the first universities in Italy to start a PhD degree programme in *Industrial design* in 1990, under the direction of Tomás Maldonado. The first years of its activity were devoted to strengthen the disciplinary core of design, to explore the relationship between technology and the artefact, to investigate the nature of design driven innovation: topics considered to play a central role within the disciplinary debate at that time. Then, under the direction of Ezio Manzini (1996-2009) the accent was put on methodological aspects and theory, while the subjects of research were gradually expanded to cover those new fields that design was embracing, such as sustainability, services and interface design. During this long period the programme expanded on the quantitative side as well, arriving to count up to fifteen students per year. It also gained international acknowledgment and started being attractive to foreign students, notably those coming from South America, Middle and Far East.

In 2009 Francesco Trabucco succeeded Manzini in the direction of the programme – now PhD in *Design* – and focused his attention on the nature of design, with its aesthetical, formal, performance and meaning values. In this sense the challenge has become to reconsider design activity, notably that related to practice, as the centre of investigation – in its processes, methodologies and outcomes. Since these values have been some of the main features of Italian design, this new path can be considered as an attempt to invigorate and renew our tradition.

This book collects the first results of this new direction of the research and educational programme.

Most of the contributions for this book have been provided on the occasion of the PhD programme 2010 Opening Ceremony, held at the Politecnico di Milano on March 15th and focused on the relations between

Design and Sciences. Keynote speaker was Chris Rust (chapter 4) whose talk was preceded by Francesco Trabucco (introduction) and Luca Guerrini (chapter 5) and followed by Paolo Volonté (chapter 6) and Marco Maiocchi (chapter 7). Trabucco's introduction outlined the new targets of the PhD programme, while Guerrini focused his contribution on Italian design heritage. Volonté and Maiocchi gave their interpretation of the role of scientific thinking within design research. The debate which followed among speakers, Faculty members and PhD candidates raised many issues, formalised in this book by Ezio Manzini (chapter 8), Silvia Pizzocaro (chapter 9), Silvia Ferraris and Lucia Rampino (chapter 10), Eleonora Lupo (chapter 11), Francesca Rizzo (chapter 12).

Heitor Alvelos (chapter 1), Nigel Cross (chapter 2), Ilpo Koskinen (chapter 3), gave their lectures to PhD candidates gathered in plenary sessions on May 25th, April 24th and July 6th respectively.

(*Luca Guerrini*)

Research and Design, an introduction

by *Francesco Trabucco*
  Director, PhD programme in Design, Politecnico di Milano

Today for the first time I have the task and honour to open the Inaugural Ceremony of the 25th cycle of Doctorate in Design. Please forgive me, but I'm a little touched to face with my predecessors Tomás Maldonado and Ezio Manzini.

When I accepted the assignment of coordinating this prestigious doctoral programme I undertook the commitment of doing a few things that I consider engaging: the first one was to shift the axis of research interests towards the "central design" issues, because this better corresponds to the educational and research aims of our school and our doctoral programme. This is in evidence of the fact that our doctoral programme should both open towards an adequate training of future professors and researchers of the school and answer to the needs of enterprises and public or private institutions: indeed, they seem to welcome the idea of the doctoral education as a professional qualification strategically useful in acting into a contemporary scenario that is even more complex.

It is important to clarify that "centrality of design" does not mean "centrality of product" – that should not be forgotten or considered *out of fashion* – but it must be intended as putting the nature of design, with its aesthetical, formal, performance and meaning values (that is what makes design a profession and a discipline that gives to the society a specific and well recognised contribution), in the middle of the various disciplinary themes, around which the contemporary design is framed.

Because of its abstract and theoretical culture, our school seems – to many people – too detached from the Design world, which remains the world where the factual culture of design develops – even if we do not share its frivolous and trendy behaviours.

I firmly believe that our doctoral programme can play a key role in our community looking for a rapprochement with design that evolves and changes outside our school. For this reason I consider it is necessary to

open a dialogue that is neither presumptuous nor "top down" with the criterions and values through which design is judged, interpreted, celebrated, certified, commercialised in the world of enterprises, global communication, professions, exhibitions and international prizes, within an historical and contemporary perspective.

I think, in short, that comparing our academic vision on design, especially on design research, with what happens in the world beyond the gates of our school could be an important contribution that we can, and should, offer.

The second issue that I committed to face regards the scientific nature of research in design. As a matter of fact, today's conference is dedicated to this theme. The thought I propose to you today originated long time ago, perhaps when Andrea Branzi began to state that design is not a science. We can develop this reflection through different points of view that bring to different interesting approaches.

Few days ago Luca Guerrini said to the PhD students that design can be a bridge between the aesthetic and technological experience. Does it mean that design permanently fluctuates between artistic intuition and scientific thinking?

Marco Maiocchi claims – often through fascinating arguments – that science is not that scientific after all.

Paolo Volonté has recently identified the risk of a downfall towards a fake scientific approach, suggesting the possibility to find an autonomous scientific nature of Design research.

I will not say more about this issue that will be discussed in depth by Chris Rust, Head of the Department of Arts and Design at the Sheffield Hallam University.

Before the next speech I would like to make a brief consideration: beyond the walls that separate us from the town, design is basically interpreted in two ways.

The first: design is often considered as a sort of ripe fruit of an industrial society that, after almost two hundred years of soaring technical and scientific development, seems to demonstrate the ability to spread wellbeing and increase the life span and quality of a billion people. Even in a horribly unfair way, because of the differences between rich and poor countries and the terrible structural contradictions (for instance the environmental exploitation, the disasters coming from the extreme financial liberalism, etc.), nowadays these goals appear achievable, thus we perceive them as justifiable and even as rights in a society full of oppositions: at the same time the rich and those in debt, the careless and the informed, consumerist and ecological, insured and insecure, young and aged, obese and fitness fanatics, inhabit a

world where knowledge and experience are almost completely virtual and yet they produce growing mountains of garbage.

In this landscape design is seen as something similar to a remedy for applying aesthetics to everyday life, in short, as a sort of decorative praxis able to emphasize the design inclination toward wellbeing and luxury. I have often thought that this role is, at least partially, the result of a frivolous interpretation of design: such an idea is embodied, in fact, by those who think – and they are not few – that design is something useful to make things more pretty, just as putting face powder and lipstick to artefacts to make them look younger and more attractive.

The idea of design as basically decorative, applied and added in a non-critical way to industrial products, from toasters to clothes, from digital interfaces to social services, together with an iconography that portrays a designer as a creative, absent-minded and always dressed in black person, is maybe the reason for a superficial judgment on design, also interpreted as an essentially superficial aspect of society.

I have often had the feeling that the public opinion basically shares a fixed idea of design, a design searching for limelight before contents, for success before value, so much that sometimes it gives the sensation of running after Dadaism - much like a behaviour of searching for survival in the busy broadcast of global communication. In a few weeks the Milan Design week will be inaugurated and hundreds of young and not so young designers, dealers and manufacturing companies will be moving from one cocktail to another thus contributing to sustain this opinion, as well as to balance the import-export of our country.

The second: design is considered also a competitive lever for the international trade; probably because of the large diffusion of design, which has passed directly from the economic study centres of complex systems to the Sunday magazines; in short, design is described as a kind of *deus ex machina* of economy, supported by the well proved idea that through design driven innovation it is possible to give a role, meaning, identity and competitive edge to the industrial manufacturing capacity of a company, or even of a whole country.

The large investments in design both at the cultural level (research, university, schools, centres of study, international conferences, prizes) and in the economic field (funds to companies, supports to designers and associations) that emerging countries such as China and South Korea are doing, in addition to countries with a consolidated industrial tradition such as France, Germany and Great Britain, demonstrate that the political and economic power in these countries is deeply aware of the value of design in the overall scheme of development in their industrial sectors.

Unfortunately, in our country also this field lives a sort of schizophrenia: on one hand design is drawn as an unavoidable opportunity for the Made in Italy phenomena, even if its excellence is widely attributed to a generic genetic characteristic of the descendants of Leonardo da Vinci and Michelangelo, and on the other hand design is mixed with Parma ham and Pizza.

I realise that this picture is upsetting for some aspects, but it is also full of promises for others. I believe that, regardless of the way we look at it, it is there that we can find a new role for Design research.

I am sure that through courage it is possible to believe that a society worried about the future but satiated with television, showgirls and lotto draws is really able to invest in a plan which someone calls the "new social sobriety"; the winning card, however, could really be found in design, because it has an inborn ability to interpret the desires of a complex and contradictory society through the research of formal and semantic product innovations (by "product" I mean not just those physical and industrial, but also those that involve all design fields from fashion to communication to services), not differently from the way cinema, television and music are able to invent and make crosswise intelligible and desirable new social values, lifestyles, behaviours and tastes.

Today design receives great – perhaps too much – attention by the press and famous designers are acclaimed as stars in the global *show-business*. The risk is that young designers fall into the trap of feeling called to create spectacular and photogenic objects that, however, do not add any new value of expressivity or knowledge to products that are already on the market. In this way design is reduced to a sort of minor art that easily sinks into a marketing tool, as Victor Margolin wrote long time ago.

On the contrary, design is a mediator to interpret the future in a positive way: through design the image of the possible future looses its dimension of anxious uncertainty to which we are used in our modernity, because of the rapid changes brought by the accelerated technical and scientific progress.

Design, as a physical artefact, a virtual product or a service, transfers this acceleration into a household world, which is comprehensible, comfortable and desirable.

In other words, design is able to give the future a comprehensible, acceptable and sometimes desirable image through its capacity of formal expression.

Starting from here, perhaps, a new great role for design may be traced, not just linked, on one side, to the return of investment and, on the other, to the making of new icons of present-day that are more or less consumerist, but more and more a learned sign, aware of a choice for a sustainable modernity.

1. Too Much by Too Many?
In search of a role for Design in 2010[1]

by *Heitor Alvelos*

*Professor of Design / Professor of New Media, University of Porto
Member of the Scientific Board of the Portuguese Foundation for Science
and Technology*

The phrase "too much by too many" was googled up on May 25, 2010, as a starting point for this attempt to keep the finger on the pulse of a rapidly changing and expanding activity: Design, it seems, is a buzzword everyone adopted, to the point of vacuum. I self-digest and regurgitate: the ongoing access to cutting-edge technology and the constant surfacing of ever-so-sophisticated creative tools often means that aesthetic and communication parameters are now taken for granted, seemingly employed by all, anytime, anywhere: so much so, that we often find ourselves wondering if Design as we have known it still matters. To add to the conundrum, Design seems to be the new interest of so many professionals situated outside its area of expertise. Design now speaks of street culture and web sites, museums and iPhone apps, just as it has spoken of campaign posters, haute couture, heavy industries, exercises in retro-kitsch and typography.
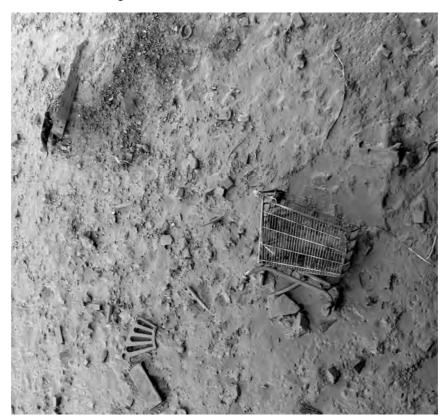
What came up under the "images" option of the aforementioned Google search interface would be an evocative, up-to-date tool for an analysis that was meant to be intuitive, as so much of contemporary cultural and technological production means to be, both at its root and in terms of its accessibility and use: the googling up of a given concept may thus serve as a ready-made exercise in rendering complex statistics into cultural syndromes.

Image number one that popped up on that day, under the aforementioned phrase, was a cartoon of Moses gone fishing, splitting the river in the process. Humour aside (in itself a very evident contemporary syndrome, a self-driven state of continuous entertainment), Moses gone

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1. This paper is based on talk given for doctoral students at Politecnico di Milano, May 25th, 2010.

fishing spoke of a core human activity (fishing), as well as the miraculous subversion of laws of nature and physics.

Where could Design be found in this seemingly innocuous exercise? One possible path could equate Design with fishing, not so much in a metaphorical sense as much as one could argue that Design could (should) belong to that ever-evasive list of core human activities: one could argue that we´re all designers, in the sense that we all communicate through media of one kind or another, and Design could simply be an attempt at perfecting that compulsion to reach out, to transcend contextual immediacy and linguistic determinism through affection, allure and metaphor. Yet this all seems simultaneously a bit too self-evident and far-fetched as far as Moses and the fishes go.

A more fruitful (albeit even more oblique) path could begin with Moses splitting the river. A biblical reference turned on its head may lead us to complex territories, infinitely more ambiguous, yet a lot more thought-provoking. It may refer us to the ways in which digital culture gradually

proposes a world without physics, a universe of "free signals", devoid of principle, meaning or intention, as long promised by Baudrillard. It may just as well invite us to the territory of Taleb´s Black Swan Theory, the territory of extraordinary events that irreversibly change a given historical paradigm to the point of seemingly defying the laws of physics. September 11, 2001 was such an event, no questions asked, the image of unthinkable catastrophe first printed then woven into our collective DNA.

If September 11 was most likely the black swan of our lifetime (and may it be so), it further rose to the status of a meta-black swan, casting an indelible shadow of the constant possibility of catastrophe and implosion, anytime, anywhere, its tangible impact on our fragile selves deemed irrelevant. Natural catastrophes have been abundant throughout History, yet our reading of them now feeds on a cultural perspective, political standpoints, a vague sense of social mission (often betrayed by the digital wonderland that supposedly turns wishful thinking into mission accomplished through the simple click of a Facebook "like" button – in our dreams, sucker). Catastrophe has come to be expected, a given, a sort of regular visitor we anticipate once a week, via BBC, front pages, newsfeeds of some kind or another, under a multitude of guises and narratives, ready (ready-made?) for speculation, conspiracy, catharsis, futurology, paradigm shifts, bad jokes, spirals of what-if and abysses of what-if-not.

For a while, in early 2010, anticipation rose high in face of the prospect of a world without planes (and the subsequent collapse of our world of RyanAirs, weekend breaks in Budapest, and G8 summits) due to the eruption of Icelandic volcano Eyjafjallajokul. It never came to be, as a Black Swan could never be anticipated, and certainly not in slow motion – but for a brief while it did invite us yet again to face the prospect of a socio-cultural and economic abyss.

This volcanic prospect was predictably and abundantly dissected on essays, blog posts, photos, anecdotes, news trivia. Catastrophe is no longer the exclusive of media tycoons, it is now covered in faster and more tangible ways by social media, anonymous footage, eyewitness reports. The allure of authenticity, one could argue... but that is a different path, we shall attempt to keep this short. From flickr to iReport, from Wordpress to Facebook, Eyjafjallajokul reaffirmed the Great Event as a collective delirium of sorts, a primal ocean of fears, allusions, projections, the stuff of psychoanalysis. It likewise reaffirmed this emerging paradigm of the anonymous citizen as content producer, of the production of information, knowledge and aesthetics vastly scattered throughout endless webs devoid of center, hierarchy or structure (in this sense, amateur photography was one of the first casualties of the massive rise of digital accessibility – digital

photography once called "the new nicotine" by yours truly, a catchphrase no longer applicable since virtually everyone seems to have quit smoking in the meantime. I digress.)

A more effective historical reference for the contextualizing of this explosion of content production by the average citizen could be the deeply anarchic, Do-It-Yourself manifesto of Punk in its British, 1970s incarnation. The classic Punk motto "this is a chord, this is another chord, now start a band" could easily be translated these days as "this is a username, this is a password, now broadcast your boring life for the world to see". Yet is anyone watching? In truth, it all became a bit stale and irrelevant in the process, but boy do we still pretend otherwise.

Back to Punk. A certain Mr. Rotten would soon enough explain that the only reason he wore safety pins in his clothes was to keep them from falling apart, since he was too poor to buy new ones. Whether this was simply an alibi, in order to distance himself from the bad joke Punk had become in the meantime, could be the subject of endless debate, but the evidence surfaces over and over again – D.I.Y. aesthetics and content tend to gravitate towards consumer gear, from haute couture all the way down to the tackiest bling. In a sense, it is quite ironic that bling becomes the final byproduct of lifestyle consumerism, as, often enough, lifestyle consumerism cannibalizes junkie narratives, extreme eroticism and sublimated suburban teenage solitude in order to produce consumer narrative, therefore closing the loop – bling cynically sold back to its original inspiration. And forward the teenagers march, the latest bling proudly worn on their latest youtube statement of solitary delusion of stardom. They become bling, one degree further down the spiral, ready to be celebrated among their peers (do they have any?), turned into caricature on mainstream TV if they ever get lucky (Chris Crocker, Katyzinha, Vicki Pollard, Star Wars Kid. Google them up AYOR. Time magazine did, South Park did – to great results).

Meanwhile, as teenage single mothers and Star Wars nerds become the talk of the week, graffiti writers struggle with the conundrum of selling their "keeping it real" ethos to soft drinks and clothing brands, while a fancy book called Guerilla Art Kit becomes a best-seller in hip London bookstores, and "reverse graffiti" (google it up) is itself appropriated by viral marketing agencies. The spiral proceeds as it would, slightly entangled by Chris Anderson´s "long tail", slightly blurred by overabundance and simultaneity. Banksy paints the Gaza Strip (either a symbolic redemption of sorts or the fulfillment of the proverbial creative need for "bigger, better, faster, more"), preceded by the crowning of Churchill as the ultimate punk on the London May Day riots of 2000, followed by Bruno Aleixo, a viral animation series that portrays Napoleon as a call centre operator. In the wonderful world of

Bruno Aleixo, a sort of Disney World gone bad, the Creature from the Black Lagoon is now a Portuguese university student on an Erasmus exchange in the Czech Republic, an amateur theatre group reenacts classic scenes from hollywood movies side by side with TV ads for laundry detergent, just as Bruno Aleixo himself, originally a Star Wars Ewok, subsequently subjected himself to virtual plastic surgery once his series became hot stuff and migrated from youtube to cable TV – the surgery a move designed to avoid trouble with Star Wars, one presumes.

Bruno Aleixo´s virtual plastic surgery is telling of the online legal ambiguity, loopholes still available, still possible (explore them while you can). His distancing from the Star Wars brand only occurred when Bruno became fringe mainstream – he could safely remain an Ewok on youtube for years to come, we would imagine. Likewise, music networks abundantly explore this ambiguous territory, often fueling this ambiguity to the point where we could sit down and discuss for days whether what the so-called online "Sharity" networks is in essence piracy, or a public service of cultural

preservation: Sharity devotes itself to digitizing and disseminating old vinyl recordings that never got released digitally, CD or otherwise. Technically speaking, these musical artifacts are copyrighted, but often the reason why they were never re-released is simply because they would not be profitable, thus doomed to cultural and historical amnesia if it wasn´t for a handful of online guardian angels. Thankfully, the labels seem to understand this and have so far turned a blind eye for the most part.

With a bit of intelligence somewhere along the line, the way Sharity operates could become a blueprint for a business model that could rescue the music industry from its current, slow, too-painful-to-watch, agony. Yet it all seems hopelessly noised up by iTunes, Lady Gaga, the vicious iPad and the like. Good riddance to them all: grime networks are too busy for iTunes, endlessly remixing each other around the globe, sharing it all continuously and freely, no strings attached. Ninety-nine per cent of their production could reinforce this malaise of overabundance, but it is still infinitely more exciting than Lady Gaga could ever aspire to be. Grime is to Punk as Lady Gaga is to bling. Get it?

So... back to Design. Given the overabundance of "things that make things look good", as well as the scope of said "things", we begin considering the possibility of regarding the designer as a strategist, if not a socio-cultural psycho-analyst. Following the ethos of participation, dissected somewhere above, and back to Design as a basic human activity, we have futurefactories; thingiverse; project H; oncologiapediatrica; memoriafutura. We have so, so many more. Google them up. Follow the links. Understand how all of the above ramblings translate into what Design is, what Design could be, what Design should be. This is the role that Design faces, the role of translation. It´s not about the profession: it´s about the work. So do the rest, will you?

2. Understanding Design Thinking[1]

by *Nigel Cross*

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> Our job is to give the client, on time and on cost, not what he wants, but what he never dreamed he wanted; and when he gets it, he recognises it as something he wanted all the time. Denys Lasdun

Everyone can – and does – design. We all design when we plan for something new to happen, whether that might be a new version of a recipe, a new arrangement of the living room furniture, or a new layout of a personal web page. The evidence from different cultures around the world, and from designs created by children as well as by adults, suggests that everyone is capable of designing. So design thinking is something inherent within human cognition; it is a key part of what makes us human.

To design things is normal for human beings, and "design" has not always been regarded as something needing special abilities. Design ability used to be somehow a collective or shared ability, and it is only in fairly recent times that the ability to design has become regarded as a kind of exceptional talent. In traditional, craft-based societies the conception, or "designing", of artefacts is not really separate from making them; that is to say, there is usually no prior activity of drawing or modelling before the activity of making the artefact. For example, a potter will make a pot by working directly with the clay, and without first making any sketches or drawings of the pot. In modern, industrial societies, however, the activities of designing and of making artefacts are usually quite separate. The process of making something does not normally start before the process of designing it is complete.

Although there is so much design activity going on in the world, the ways in which people design were rather poorly understood for rather a long time.

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1. Extracts from Chapter 1 "Design Ability" in Cross, N., *Design Thinking: Understanding how designers think and work*, Berg, London, forthcoming.