CEPHAD 2010 // The border-land between philosophy and design research

Regular table sessions & master class sessions of the CEPHAD 2010 Conference // Copenhagen // January 26th – 29th, 2010

CEPHAD // Centre for Philosophy and Design
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Editorial: On the art of skipping to the main points

Per Galle // Editor of Copenhagen Working Papers of Design // Director of CEPHAD

Why are you reading this? As the oceans are beginning to threaten our coastal areas, it is time to realise that the academic world has long since become flooded, by words. Books, journals, preprints, reprints, web documents, reports, proceedings, e-mail discussion lists. All of them potentially relevant and important to one’s own work, to one’s own production of new words. To survive this global warming of research, one must develop and refine the art of reading selectively and skipping straight to whatever one considers the main points, if any. In my experience, texts are rare indeed, which one has the peace of mind to read from beginning to end – be it for pleasure, enlightenment or criticism. And of the tiny fraction of texts one has read in this way, how many were actually editorials?

But I am confident that on the following pages, you will find quite a few main points and quite a few readable texts to skip to. I also hope you will feel inspired to engage in discussion with their authors, face to face at the CEPHAD 2010 Conference, or in more permanent relations of correspondence or collaboration afterwards. I welcome you to the informal and cross-disciplinary community of CEPHAD, the Centre for Philosophy and Design, and urge you, as good ‘Cephadians’, to challenge and inspire the thinking of others, regardless of their subject and style, in precisely the way you would like to be challenged and inspired yourself. For that, more than anything else, is what still makes it worthwhile to write, speak, read and listen to words: their ability to stimulate our exchange of ideas, and bring us together. Much as, since days of old, the oceans have enabled us to exchange all sorts of goods, and to explore the world and meet its peoples.

CEPHAD 2010 – The borderland between philosophy and design research

The CEPHAD 2010 conference in Copenhagen (hosted by the Danish Design School, January 26th through January 29th, 2010) was designed to stimulate the flow of ideas between research in philosophy and research in design. Personal and institutional contacts are hoped to grow from the conference as a long-term effect. But why combine philosophy and design? What might they have to say each other? What kind of borderland do they share? – There are, no doubt, as many answers to that as there are contributions to the conference. So let me briefly suggest but one, very general answer; one that I think many of the contributions will exemplify and elaborate in their own ways.

As a field of intellectual inquiry, design operates in another borderland: the one between the possible and the actual. In this light, design may be broadly conceived of as the exploration of the possible, in order to prepare for a change of the actual, serving some human purpose.

This very notion of design poses philosophical challenges: what is the difference between ‘the possible’ and ‘the actual’? What, if anything, can we know about the possible, and how? If we cannot know anything about the possible, how can we change the actual, except at random? What does such change mean to other people, and how does it look and feel? All
of the traditional philosophical disciplines of ontology, epistemology, ethics, and aesthetics are evoked as soon as we begin to take such questions seriously.

And we should take them seriously. As a research-based field of enquiry, design is in the making. Hence, to understand what distinguishes design from other fields of inquiry, designers and design researchers need to address such fundamental and foundational issues. As for the philosophers, worries about the lack of ‘practical’ applications for philosophical knowledge and skills may not keep them sleepless at night. But for those of them to whom such applications matter, here are challenges to meet.

CEPHAD 2010 documentation

This issue of *Copenhagen Working Papers of Design* (2010, no. 1) constitutes a permanent record of the material accepted for presentation at the ‘regular table sessions’ and the ph.d. master class sessions of *CEPHAD 2010* (arranged alphabetically by author name). A companion issue (2010, no. 2) features the abstracts and papers presented by invited speakers at the plenary sessions of the conference. Further information is available at the conference web site: http://www.dkds.dk/Forskning/Projekter/CEPHAD/events/Cephad2010.

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A disclaimer on graphics

The *Copenhagen Working Papers on Design* (CWP) usually employs an overall graphic design carefully adapted to that of our publisher, The Danish Design School. However, the school recently changed its visual identity, and a coordinated design for CWP remains to be developed. A professional solution is expensive in terms of time and money, so for the purposes of the conference I decided to throw together a ‘quick and dirty’ version of CWP in time for us to hand it out to the delegates. While each component of the present issue is based on the new official stationary of The Danish Design School, the overall design of the publication is *ad-hoc* and does *not* represent state-of-the-art graphic design of The Danish Design School.
Regular table sessions
Dynamics of Architectural Design. A Position Paper

CEPHAD 2010 // The borderland between philosophy and design research // Copenhagen // January 26th – 29th, 2010 // Regular table session

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My research interest is in examining design as an epistemic process out of which something novel emerges. The outcome of a design process thus goes significantly beyond what existed at the start. A fundamental aspect of design is that it is a process of both creation and knowing, in which these two activities go hand in hand. Their interplay gives rise to the new: if the focus is on the epistemic process, it results in knowledge; if the focus is on the creational process, it results in artefacts. Looking at the design process in this way reveals two new perspectives, each with a different emphasis. The first perspective looks at designing as creating, developing, and producing artefacts. As a consequence, the focus here usually lies on the edifice in architectural investigations. The second perspective looks at design under the umbrella of the theory of knowledge. Here, the focus lies on designing as a cognitive process. In connecting these two perspectives, we can learn a great deal about the dynamics of design.
Here it is important to note that the results of the design process enter again into new design processes. The knowledge acquired serves as a basis for the next generation of design, and in this way, significantly influences new design processes. We find that the artefacts undergo a similar effect: they have a significant impact on our living environment, and, in turn, they influence ongoing decisions about future design processes. At the same time, several other factors enter into the design process that are constituted by the contexts in which the processes take place. There are unique individual components as well as a specific cultural and societal background. Due to this circularity, we can identify effects of reinforcement and multiplication.
Looking at the dynamics of design as described thus far, we begin to enter into the manifold processes of transformation taking place. It is helpful to distinguish between internal and external processes of transformation. Internal transformations are those which take place in the design process itself, and which lead to the creation of something new. External transformations are those which are set in motion by the results of the design process. A fundamental characteristic of external transformations is that they have an impact on our living environment. Both knowledge and artefacts trigger changes and modifications in the conditions of this environment. Through the feedback effect in the design process, they can bring about a broad range of developments. On the one hand, they can strengthen and stabilize existing solutions. At the same time, designing is very responsive to influence and change. As a result, either change or continuity can predominate depending on the openness to new developments or conservative tendencies. If changes occur, they can accelerate and multiply significantly due to the feedback loop, which inherently results in intensification.
Looking at the internal transformations, we can learn a great deal about the design process itself. The way I use “design”, the notion describes a comprehensive process. It starts with sketchy early ideas and basic demands and ends with the planning and revision of details, which usually continues until the building is constructed. When the planning starts, it often remains unclear what the actual building will look like. Early constraints include cost limits, ideas of the developer, and constructional guidelines. These early ideas enter into initial sketches that communicate a vague impression of the later building.

Designing is a long-lasting process of specifying, optimizing, and detailing. It can be seen as a complex process of negotiations in which the basic constraints and conditions are defined that will later enter into a solution. It is an active, creative searching and testing that tries out ideas and possibilities, identifies important factors and checks them; it involves weighing and ordering a huge amount of information. The challenge is to fit the criteria involved into a common framework. The new emerges through the process of shaping, reworking, and fitting. Usually, in order to find a solution that works, diverse conflicting factors have to be brought together and negotiated. Numerous modifications and transformations take place: promising ideas are pursued further; ideas that do not hold are dismissed. However, not only the design object is refined and defined; its determining criteria and constraints become clearer and more precise as well.

If the process is successful, the design object takes on sharper contours – although we will hardly ever find an absolute final ending to this process. The process of refinement could go on, but pragmatic constraints usually end the process due to a lack of time and money. If the design is sound and stable, construction can begin. Also in this stage of a building’s development, we find many aspects closely interrelated with the planning stage. Certain details need to be refined; mistakes and unclear aspects are identified and need to be solved. At this stage of the development, we still find revisions and reworking that are rooted in the demands of the building process.
For a provisional overview, we can differentiate six main dimensions that have an impact on the evolving design. The *construction project* itself has a formative influence on the design, describing the individual demands of the particular project. Aspects include the type of building at hand, the size and surroundings, the space allocation plan, ideas and demands of the developer, the budget, and so on. Also depending on the particular project, the design will have a *guiding idea*. Here, the style of the project leader has a significant influence, and her or his trademark will come into play. Then there are more general demands that do not depend on the particular design project. Here we find *design practices*, which depend on abilities, training, and experience. In addition, education plays an important role here. A significant feature of design practices is that the knowledge involved here is usually conveyed implicitly. Also, the communication and structure of the design team and office come into play as well as the role of external experts. But also *tools* have a significant impact on the evolving design. Since drawings and other instruments of visualization serve as a means for developing the design as tools of thinking, they also influence the output. Even the choice of drawing material for the early sketches, the materiality of pencil and paper can already represent certain aspects of the future building. Also the use of computer and software programmes play a role as tools and notational systems impacting the final design. *Knowledge stocks* describe the influence of several forms of knowledge, implicit or explicit, personal or manifested. We have the practical knowledge of the actual building process, techniques and craftsmanship. We have encyclopedias, textbooks, journals, publications of experts; we have databases, norms and regulations. Finally, there is a complex called the *social and cultural framework*. Here we find aspects like how the decisions are made, how the public is involved, how the approval of the administrative body is obtained, and what influence they have on the design. Important concepts here include the process of design and creation; aesthetics; but also ethical aspects, the question of the “good life”, of living, dwelling and working.
Manifestations in the Design Process

- Sketches & Plans
- Models & Visualizations
- Calculations & Descriptions
- The Built

An important element of the design process is the manifestation. As a process, designing is, in many respects, ephemeral. However, there are several aspects as well as certain stages of the design process which are manifestations. Manifestation means that unique, concrete physical forms emerge. These play an important role in the process of further developing the design. Additionally, they are very helpful for the further investigation of the processes taking place. For example, parts of the knowledge stocks are also manifest as sketches, plans, models, visualisations, calculations, descriptions, and statements. But also built structures can count as manifestations.
In order to explore these questions, architecture is a very fruitful case study for the dynamics of design. Both internal and external transformations become especially visible when we look at examples of architectural work.

On the one hand, designing architecture always takes place in socio-political contexts. Many interests have to be considered. Development and planning processes take place as multistage processes. As this process unfolds, the gradually evolving building is revealed. The design process in architecture is especially accessible because it is institutionalized in many respects. Interdisciplinary intersections are embedded in a multidisciplinary and multi-criteria process. As a result, the structures of decisions and processes that made up a particular development can be traced and investigated.

On the other hand, architecture renders the complex relationship between designing and the living environment particularly comprehensible. The dual character of the Lebenswelt, our lifeworld, as both Lebensraum and Lebensform, that is, as habitat and the structure and parameters of a way of life, manifests itself in the built environment. The built world significantly affects the living conditions of the individual as well as of the society or culture. Architecture is not neutral; rather, it shapes and defines our living environment. What we develop and build has an effect on us. The built environment influences how we live and how our way of life evolves.
Approaches to definition and resolving definitional disputes in design

CEPHAD 2010 // The borderland between philosophy and design research // Copenhagen // January 26th – 29th, 2010 // Regular table session
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In this paper I provide a survey of approaches to definition with the aim of making the process of definition more useful and productive (and less circular) for design researchers, educators and practitioners. Following this survey, I argue that designers use a stipulative and pragmatic approach to definition proposed by Edward Schiappa in his book *Defining Reality: Definitions & the Politics of Meaning* (2003).

This paper builds upon the arguments of Terence Love (2002), and Sharon Poggenpohl, Praima Chayutsahakij and Chujit Jeamsinkul (2004), who argue the need for greater clarity of, and agreement upon, key terms in design as it “emerges as a discipline” (p. 579). While both papers make strong arguments for why definition of key terms is important, neither provide a detailed account of the types and methods of definition. This is problematic as designers lack the philosophic background that informs these specific aspects of definition. This is problematic as designers lack the philosophic background that informs these specific aspects of definition. As noted in Poggenpohl, Chayutsahakij and Jeamsinkul’s paper, the process of definition is “full of complications” (p. 603), therefore, it is important that designers engaged in the dialogue about definitions understand how to formulate and evaluate proposed definitions.

To this end, my paper provides a survey of the types of definition and the methods and issues related to each type. This survey largely borrows from philosophy including ancient thinkers such as Plato and Aristotle (Chakrabarti, 1995) and modern thinkers such as Wittgenstein (Davies, 1991) and Richard Robinson (1968). In particular, I argue that the approach to definition proposed by Edward Schiappa (2003) would be the most beneficial to designers for two important presuppositions: first, definition is not a record of past usage but an act to persuade others of how to use the word in the future, therefore the person defining must provide a compelling argument for why other’s usage should be modified; second, definition is not a search for the ‘true’ or ‘real’ meaning of a word but instead a goal-oriented process and therefore dependent on the context and purpose of those defining. In the context of design research, education and practice these presuppositions are crucial since they shift the focus of the debate away from only looking at dictionaries which record common usage and toward analysis of proposed definitions that often take the form of complete theories of the term being defined (often in relation to other key terms). The strength of the proposed definition can be evaluated against the purpose for defining explicitly set by the definer.

The results of this research will help address problems created by a “lack of philosophical foundations” in design identified by Terence Love by providing designers additional tools to manage the process of definition (2002, p. 346). If definition is viewed as a foundational activity for a discipline, then illuminating the process of definition will by extension help
manage complex problems in design such as: resolving “theoretical conflicts”; identifying “sound epistemological foundations” for the field; and clarifying “the scope, bounds and foci of fields” in design (p. 346).

References
Abstract

In *Organisms and Artifacts: Design in Nature and Elsewhere*, Tim Lewens examines the role and value of the artifact metaphor for understanding the design of organisms, and to a lesser extent (as the title of his book suggests) the design of artifacts. Lewens sketches the “artifact model for organisms” and the “artifact model for artifacts”, aiming to show the similarities in design and selection. Indeed, Lewens says these models are “isomorphic”. In the recourse to metaphor or analogy, however, we can appear to find something similar to A in B because our view of A has already been shaped by our view of B. This is the thought I explore in this paper: the extent to which the artifact model for organisms may depend in some important ways on a prior understanding of artifacts in terms of organisms.

I also briefly consider the idea of ‘natural design’, as developed by Colin Allen and Mark Bekoff, from this same perspective. Natural design is a heuristic for the design-like features of organisms and their traits. Allen and Bekoff’s intuitions about the design of artifacts prove congenial to understanding the world of organisms, however, because that is their origin. Their view of artifacts has been shaped by their view of organisms, even as they see their project as one of employing ideas gleaned from what they have noticed about the former to illuminate the latter.

In relation to the design of artifacts, we can distinguish the design for an artifact from the design of an artifact. So the design for a new mouse trap may consist of a set of drawings, which we can distinguish from the design of the mouse trap once built to these specifications. I call the former ‘disembodied design’ and the latter ‘embodied design’. (In the former case, the design is embodied in the drawings but not, or not yet, in the mouse trap.) With artifacts, there are, accordingly, two modes of selection - the selection by the designer or maker of the design for the mouse trap and the selection by a consumer of a mouse trap made to this design rather than some other. Selection takes place in the former case in what Paul Griffiths has called a “hypothetical” environment and in the latter case in a “real” environment. But are there two modes of selection in natural selection, each with its own environment?

I explore Lewens’ models from this position, suggesting that the differences between artifacts and organisms are at least as significant as their similarities. So the design for an opera house is selected by or in a hypothetical environment that may include, for example, a local building code and some occupational health and safety legislation for performers in the arts - things which will themselves have been designed expressly for the purpose of
selecting such a design. Architects know this, and so they tailor their designs accordingly. Thus, a building code is both a limitation on the kinds of solution candidates that (are likely to) emerge and then a selective pressure on those which do emerge. This looks to be some way from the natural world with its undirected variations and its indifference to the organisms it has the job of selecting.

Other problems in the artifact model for artifacts have a similar origin. For example, the idea that the designers of artifacts select between ‘alternative solution candidates’, as Nature does between (embodied) variations. A photographer, for example, may choose between embodied alternative solution candidates – so she shoots twenty photographs of a subject and chooses one – but architects rarely enjoy this luxury. The architect’s skill has come to consist substantially in working with a solution field, perhaps with some selection between solution fields, to the point where the chosen field finally does constitute a solution candidate, the whole process being one of working in the domain of disembodied design. Utzon did not design (much less see constructed on Bennelong Point on Sydney Harbour) several alternative solution candidates for the Sydney Opera House in order to select his competition entry. The disanalogies here between artifacts and organisms are complex and go to the heart of the differences between the two kinds of design. A second problem is that, where artifacts are concerned, design problems have a subjective ontology, a point I briefly make in reference to some examples.

I conclude with a consideration of natural design. For Allen and Bekoff, “natural design entails both possession of biological function and a history of progressive structural modification under natural selection for improved performance of that function.” So the eagle’s wing, for example, is naturally designed for soaring because it has the function of soaring and there has been progressive improvement in the wing for the performance of that function. Allen and Bekoff suggest that although a found object like a rock can be assigned the function of a paperweight, we would not say that the rock had been designed for this function. However, we would say that it was so desiged if we were to (physically) modify it for better performance of this function. I argue, however, that we can design with such objects leaving them physically intact and, conversely, that physically modifying objects to better suit our purposes need not involve design. Objects can acquire semantic functions in design, for example, without the need for physical changes and in following a Jamie Oliver recipe for making a cake we are not inventing or designing this treat. Jamie Oliver did that, even though we will need certain skills to follow his recipe. Is Allen and Bekoff’s limited view of design a product of the fact that natural selection acts only on (physical) variations and natural design is confined to embodied design?


‘Design of’ can also be used to do the work of ‘design for’.


Allen and Bekoff, p. 3.


Allen and Bekoff, p. 33.
Abstract

In a paper in the *British Journal for the Philosophy of Science* in 2003, Pieter Vermaas & Wybo Houkes proposed four “desiderata” for a theory of function in technical artifacts. Their desiderata are briefly as follows:

(D1) to distinguish proper function from accidental function;
(D2) to permit malfunction in relation to proper functions;
(D3) to entail a relation between physical structure and function;
(D4) to permit novelty - innovative or atypical artifacts to have a proper function.  

A proper function of X is what X is supposed to do and an accidental function of X is roughly anything else that X does which (someone) counts as a function. So the proper function of a novel is to be read for enjoyment and an accidental function of my copy of some novel may be to prop up my laptop.

In a reply to Vermaas and Houkes, Beth Preston has taken issue with elements of their ‘desiderata quartet’, as well as with the general account of function they believe will satisfy this quartet. In short, Vermaas and Houkes rely on the designer’s intentions for their account of proper function, which Preston rejects in favour of a reproductionist account. On her account, proper functions are established “if the ancestor of a thing engaged in a particular performance, and if so doing resulted in their selection and reproduction, that performance is a proper function of their descendants [organisms, artifacts]. Any other performances of these descendants are accidental functions.”

I do not attempt in this short paper to resolve this dispute. But I do try to clear up a problem with the common unfortunate use of the term, ‘accidental function’, by returning to Larry Wright’s distinction between function and accident, from where I suppose the term has been derived. This clarification opens up a problem in Preston’s account of function, which enables us to see what is wrong with her principal line of criticism of Vermaas and Houkes. Preston’s criticism turns on the question, what’s so special about the designer’s intentions in establishing function? I suggest there is something special about designer’s intentions, in the process rejecting Preston’s criticism. I conclude by listing some general problems for reproduction accounts of artifacts such as Preston’s.

The first general problem for Preston’s account is that it fails to satisfy D4 above, which is a reasonable desiderata. Preston agrees that her account does so fail, but disagrees that D4 is reasonable which I suggest is counter-intuitive. The second problem is that many kinds of
artifact are simply not for reproducing - most works of architecture, original paintings, fashion collections or wine vintages, for example, fall into this category. Conversely, although prints such as woodcuts or etchings are reproduced, the process of reproduction is expressly organized such that it is not contingent upon the success (or failure) of the print. The third problem derives from the fact that, unlike organisms, artifacts have an external teleology and so conflicts of interest over performance, use or fitness abound. A type of apartment block that makes little money for its owners may not be reproduced, for example, despite satisfying the needs of its various tenants better than other available block types.

Lastly, a problem for bio-reproduction accounts, which is I think novel in this debate, is one which turns on the problem of induction. It is always an open question whether or not the reproduction of an artifact is warranted or rational, whatever the current or past performance of the artifact type. This is because it is an open question whether or not the future will be like the past in the relevant respects. In general, when we reproduce an artifact we do so because we believe or assume that it will satisfy some requirements in the future, as it has done in the past. Further, we suppose that certain conditions will obtain when this artifact is to come into use, under which conditions the above requirements would be satisfied, again as they have been in the past. Rationally, then, the reproduction of artifacts depends on beliefs or assumptions about the future, about future requirements and the conditions attendant upon their satisfaction. With organisms, however, reproduction is contingent only upon actual (existing or past) conditions. Nature is deaf to the future, unlike, we may hope, designers and their requirement makers (their clients), for example, in this age of global warming.

I conclude by returning to a taxonomy I once sketched for the designer’s various tasks in designing, in order to illustrate how a place for both novelty and reproduction can be found, and needs to be found, in relation to proper function.

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iii Preston, 603.
v This problem can be found in Wright’s (1973) account of function in which he argues that conscious selection comes very close to natural selection. I argue that the problem of induction creates a gap.
What is a poster?

CEPHAD 2010 // The borderland between philosophy and design research // Copenhagen // January 26th – 29th, 2010 // Regular table session
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Abstract

To answer this question, which is a categorical as well as a historical and an empirical issue, a mixture of design research, and conceptual and visual analysis may offer the tools to provide a more accurate response.

One of the problems in design is the way we apply categories and definitions to things that are often more complex in their functioning and roles than the category allows.

The concept of the “poster” is a good example of this. Today we apply a single category to a huge range of material, but the materialization of the artifact poster, at least as we recognize it as an object, precedes the pre-conceived idea of what we identify as an object. The aim of this paper is to try to recover the complexity of the work of designed things from over simple categorization.

The paper illustrates how the definitions of poster changed in time, from the historical perspective and demonstrate that the simple categorical sense of the word loses its meaning when we confront it with the idea of existence of a proto-poster or even a post-poster. Thus in spite the strong connection with the etymological definition and the definition of “poster” in the dictionaries as we know it, in fact the poster exists in other dimensions and performs more complex work.

Beginning historically the paper will show that before the poster has been known as a poster it underwent a lot of changes as an artifact. It not only changed its mode of visual communication but the poster had to adapting to a several constraints, mediated by external/internal factors related with cultural and technological issues, while searching for new ways of communication in coordination with the needs of each period.

By giving meaning to these concepts, less related to categories and more related with the artifact itself, in its material, shape, visual communication and his functions, it is possible to present an amplified vision of the meaning of the poster and therefore an enlargement of the definition(s) and understandings that we have of it.

The subject lends itself to a brief presentation followed by a collective discussion aimed at allowing participants to contribute to this wider understanding of this ubiquitous yet misunderstood genre.
Creative laboratories and the philosophy of cultural knowledge

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Here, they can do what they want. Here, it is possible to be crazy, to play around with ideas, to sketch and to build – one could think. However, the workshops of creative productions – the laboratories of designers – do not just work with colours and shapes anymore. The bringing out of form and visibility literally turns out to be not that easy. The process of designing and shaping proves to be highly complex since designers are determined to develop innovative drafts out of a context of numerous and often contradictory premises.

Designers face this complexity the following way: They approach the nature of the task (problem) by designing and the collecting of solutions. At the same time, designers tend to balance their interpretation of the problem with own solutions. "The development of the problem and its solution go hand-in-hand." (Cross 2007), is how design theorist Nigel Cross describes this connection, which he calls the “problem setting”. Alternately, the designer defines the focus of his work and its context.

This process has consequences. Designing and shaping change the cultural memory (Zierold 2006). In the course of its interpretive and shaping way of operating, Design constantly makes an addition (Setzung) in the culture programme (Schmidt 2000). According to Cross, designers not just design shapes or visual interpretations in the context of cultural prerequisite connections (Voraussetzung); they also continually develop new perspectives of cultural conditions.

With the terms addition and prerequisite connections, philosopher Siegfried J. Schmidt describes the connection between cultural distinctions which refer to already established distinctions, and enables new distinctions in the form of knowledge. “Whatever we do, we do it in the form of an addition” (p. 27), says Schmidt (2003). The decisions made in the process of designing basically serve the goal of a change (solution). The products of the designing process, the artefacts of design, are – no matter in which form – determined for use and reception. Creative laboratories produce and distribute changes. In the regular production of additions supposed to be perceived by the public, creative laboratories produce latently new prerequisite connections as cultural knowledge.

The relation between design and cultural knowledge has rarely been touched upon by science so far. To some extent, the role of design in the didactic distribution of knowledge or its relation to science (cf. Bonsiepe 2002) have been considered as a subject. The sociologist Andreas Schelske has tried to bring out the cultural significance of visual communication, but he sticks to the semiotic image description and reduces the visual
design to the “image” (cf. Schelske 1997). To understand the dependence of design on cultural knowledge, it is necessary to look behind the scenes of artefacts.

Therefore, the research project follows the questions: What does professional design practice do with cultural knowledge? To what extent does design refer to it and in what way does design change the knowledge of society? How is cultural knowledge used for the design-creative process and what knowledge is recursively transported through design?

Hence, the theories of design will be considered methodologically to discuss philosophical and cultural-scientific models on cultural knowledge and collective memory in a design context. Up to now being forced to decide between the exegesis of design-developed artefacts and the consideration of the process of designing, a philosophical reflection of design is more and more challenged to grasp designing processes in their cultural dependencies. Referring back to cultural prerequisite connections, the design-creating process links the appearance of cultural artefacts with the memory of the culture. With their work, designers not just transport the knowledge of culture and society. Following their designing ethics intrinsically, they change the cultural prerequisite connections and, by means of ever new sets, act as agents of culture.

Works cited
The case for deliberative design

CEPHAD 2010 // The borderland between philosophy and design research // Copenhagen // January 26th – 29th, 2010 // Regular table session
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Abstract

At the Include 2009 conference a discussion arose about the relationship between inclusive design and good design. In a session called ‘Chairs’ discourse’, one of the conference chairs observed that the inclusive design community has a tendency to focus on great design. In his view, however, also the worst of our design should be inclusive: “I’d like to see the crap design being inclusive.” This statement triggered fierce reactions from the audience. As one conference attendee formulated it: “if crap design can be inclusive design, what does that mean for what we mean by inclusive design?” According to the chairman, inclusive design is what we do, but the outcome may be different. Therefore, as a community, we are to think about what we mean by good design.

Although this discussion may seem but a ‘fait divers’, this paper takes up the chairman’s invitation and tries to shed more light on the issue by unravelling the more general questions underlying it. In fact, one question is central here: can crap design be inclusive? Or, in other words, what is the relationship between inclusive design and good design, between inclusivity and quality in design?

After defining what is meant by inclusivity and quality in design respectively, we will point out the more general question underlying this discussion, which, reduced to its general form, is relevant to every activity that has a normative dimension: who is to decide the standards? Should the norms of anything be decided by the best knower or is it to be decided by the people, however ignorant they might be? When applying this question to inclusive design, however, this leads to another fundamental question: who is the best knower?

In doing so, the paper provides strong arguments for design as a dialogic or deliberative enterprise that involves designers as well as the people they design for. It points out that inclusivity and normative objectivity—two prima facie opposed ideals—can be reconciled, by defining the norm of good design in terms of a dialogic, deliberative cooperation between designers and people. Design quality has been defined as being approved by designers, consumers, and participants. However, our point is that designers themselves cannot—at least not always—judge for themselves what is good without taking into account people’s point of view—designers have no autonomy in this respect; on the other side the people’s point of view should not be arbitrary and so can be questioned in respect of its appropriateness—people can go wrong in interpreting their response. What is relevant here is that the competence about what is good design is not an exclusive and inquestionable possession of anyone, but arises by deliberative cooperation of designers and people about
the issues at stake. Thus, we view inclusivity not simply as a matter of convergence of different perspectives, but as the cooperative integration of them in the definition of good design: a design is inclusive, not when it is appreciated by both the designer and the consumer, but when it is produced by exploiting the information and competences at disposal of the designer and the people s/he designs for in qualified circumstances.
Disabled by Design – Enabled by Disability

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Abstract

„To establish disability as a significant value in itself worthy of future development“ [1]

Schillmeier [2] sees disability less as an effect of bodily impairment, but more as a phenomenon of social construction. Oriented towards John Dewey [3] and Michel Foucault [4] as well as to Science, Technology and Society Studies (STS) he conceptualizes disability as an event. In this context he asks, who (when, where and how) becomes disabled or not. Schillmeier states ›dis/ability‹ as a “heterogenic, material event”, which connects “social and non-social relations of human and non-human actors, of things, bodies, technologies, sensorical practices” and becomes able to be experienced in the sense of disabling as well as enabling (›dis/abling‹ [5]) scenarios. [6]

„With the multiple objects of ›Disability‹, the parliament of things becomes obvious: the assembly of bodies, technologies, and things, as an articulation of reality of natures and cultures“. [7] By exploring disability from an ‚out-of-center‘ position, we aim to use it as a “knowledge-constituting moment, for the analysis of the (majority of) society”. [8]

What can Design learn from bodily Impairment or social Disability? Waldschmidt and Schneider believe, that exploring ‚embodied Difference‘ leads towards knowledge, that is relevant not only for the so called ‚persons concerned‘, but for the whole society. “Knowledge about disability, and the relation between difference and normality (…) gives fundamental information about the relation of the individual, society and culture”. [9]

In this regard, we assume, that disability occurs not least through influence by design and culture (e.g. built environment). As Caspers [10] believes: disability is the lacking ability to “deal with bad design”. Besides the assumption, that design provokes disability, we will furthermore describe how disability can inspire design.

In our paper, we claim that general human and artificial communication systems might be enriched by acknowledging and adding specifics of different ways of communication, perception and locomotion that refer to bodily impairment [11].

*This abstract is based on another pending proposal of mine, about how the social and the medical model of disability [11] affect the view on and the use of design.
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Keywords:
Design Research, Disability Studies, socio-cognitive dynamics.

Short bio:
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www.design-research-lab.org
Detour Over China – Chinese Philosophy and Aesthetics applied to Western Digital Art

CEPHAD 2010 // The borderland between philosophy and design research // Copenhagen // January 26th – 29th, 2010 // Regular table session
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Abstract

‘Shan-Shui-Hua’ is an artistic artefact named after the Chinese landscape painting; the three characters standing for respectively mountain, water and painting. Proceeding from Chinese philosophy and aesthetics the traditional concept of landscape painting is recreated within the new genre of the ‘video-painting’ as a single (flat) screen video installation; the main features of the traditional Chinese landscape painting merges with Western moving image practice creating new modes of ‘transcultural art’ - a crossover of Western and Asian aesthetics - to explore form, and questions digital visualisation practice that aims to represent realistic space. Confronting the tools of computer visualisation with the East Asian concept creates an artistic artefact counterpointing both positions.

Figures 1 – 3. Three video stills from ‘video scroll’ Shan-Shui-Hua, © Christin Bolewski 2008; Single screen video installation, 2D/3D Animation, HDV-PAL, Color 15,19 min video loop.

In his book ‘The detour over China’ (free translation of the French title ‘Un detour par la Chine’) the French philosopher Francois Jullien attempts to create a new approach to Western culture: A ‘local change of thinking’, a process of distancing from Western thinking as an effective strategy where Chinese philosophy functions as an ‘outside’ from which to see more clearly the values and preoccupation of Western culture. My video work ‘Shan-Shui-Hua’ is an individual response as an artist. In the sense of Francois Jullien I make a ‘detour over China’. Emphasizing to some extent pictorial concepts and practical aspects of
the Chinese painting process enables me to distance and to take a fresh approach to Western film and digital visualisation practice, but at the same time using software tools that generally have been devised to create 2D and 3D artefacts from a Western cultural perspective avoids the pitfalls of echoing and imitating Chinese landscape painting too closely. The concept of multi-perspective and the endless scroll are explored through digital filmmaking, video compositing and virtual camera, depths and particle systems.

Multi-perspective as well as temporality are important features for both East Asian aesthetics and the medium of film. The Chinese horizontal hand scroll is referred to as the first motion picture: it unrolls in time and space and is enjoyed as a progression while the painting is revealed foot by foot. Once the Russian avant-garde filmmaker Sergei Eisenstein was inspired by this commonality and by the Chinese open metaphorical language in the development of his theory of film montage. The employment of linear perspective is a major preoccupation of Western visual culture, whereas Eastern culture has a concept of using multiple vanishing points (‘San-e-ho’). So unlike the Western painting tradition, which under the strong influence of science emphasized proportion, perspective and realistic depiction of form, the Chinese artists never felt compelled to restrict themselves to this limited view.

From the perspective of a contemporary digital media artist and film maker it is very challenging to look closer to the relation between East Asian aesthetics and the medium film and to consider the early observations of Eisenstein in an approach to digital film practice and to apply it to the condition of digital visualisation technologies. Today many artists of the East incorporate Western aesthetics into their work, but the integration of Eastern principles into Western art is rarely investigated.

Chinese landscapes usually include small human figures that blend harmoniously into the vast world around them. In Chinese philosophy man and nature interact and complement each other to reach a state of balance and harmony. The ambient ‘video scroll’ transposes this traditional relation of man and nature into a different, more contemporary Western manner: it uses the figure of the Western mountaineer equipped with special tools and protective clothing to vanquish the highest peaks in order to conquer nature rather than searching for harmonious existence, thus counterpointing Eastern and Western ideals.

‘Shan-Shui-Hua’ presents two poems of the famous Chinese poet Han Shan. The poetry is open to varying interpretations and within the ‘video scroll’ it is presented as a reflection on the mountaineers fight against nature ascending and descending the highest peaks counterpointing the Chinese attempt of spiritual harmony. Challenging the Western preoccupation with narrative and distinct meaning the work also contains no complex narration and attempts to be a meditative open art work - a detour over China - combining and contrasting Western and Eastern culture.

The proposed project has been or will be published at other international conferences and digital media art events demonstrating the interdisciplinary approach of the project:

2008 EVA- Electronic Visualisation and the Arts Conference, London, UK
2008 FILE – Electronic Language Festival Sao Paulo Brazil
2008 Design Cinema Conference – Work Exhibition, Istanbul Turkey
2008 SIGGRAPH Asia - Art Gallery Exhibition Singapore
2009 Traverse Video: Interstice et Porosité, International Video Festival Toulouse France
2009 NORDES 09 Conference: Engaging Artefacts Oslo Norway
2009  ESPACIO ENTER project of ART TECH MEDIA Teneriffe Spain  
2009  Pixileration - New Media Festival, Providence Rhode Island USA  
2009  Transitio_Mx 03: Autonomies of Disagreement – New Media Art and Video  
        International Festival, Centro National de las Artes Mexico City, awarded with  
        Honorable Mention  
2009  THE ART OF RESEARCH Conference: Processes, Results and Contributions,  
        University of Art and Design Helsinki, Finland,  
2010  6th International Technology, Knowledge and Society Conference, January 2010  
        Berlin  
2010  CHINA EXPOSED, IMPOSED, PROPOSED*, 5th International Sinology Forum 2010,  
        Oporto Portugal  

**Technical Information 'Shan-Shui-Hua'*

Single screen video installation presented on vertical wall-mounted 16:9 flat screen; 2D/3D  
Animation, HDV-PAL, Color 15,19 min video loop.  

Further information and a detailed description and analysis of the project are available on  
request.
The design and the designer stance

CEPHAD 2010 // The borderland between philosophy and design research // Copenhagen // January 26th – 29th, 2010 // Regular table session
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Position paper

When introducing his three stances towards describing the behaviour of systems, D. Dennett describes first the physical stance, then the design stance and finally the intentional stance (Dennett 1987, pp.16-17). The ordering seems to reflect the pragmatic choice that governs their adoption but also the strength of the assumptions made in the stances. So, when applying the physical stance, one assumes that a system’s behaviour can be described by its physical structure and the laws of physics. The design stance adds a teleological perspective that tells what behaviour the system is designed for. And in the intentional stance one assumes that the system is a rational agent, with beliefs, purposes and desires. A more detailed look shows however a more complicated relationship between specifically the design stance and the intentional stance. In many of the analyses and examples Dennett gives of the design stance, elements of the intentional stance are mentioned as well. We introduce the design stance as defined by Dennett and as used by Dennett in his examples, and develop our analysis from the observation that there are actually two ways of spelling out this design stance. We distinguish between a weaker version and a stronger version of the design stance. We reserve the name “design stance” for the weaker stance as introduced by Dennett (1978, p. 4) in which one only assumes that an entity has parts with functions relative to some purpose, and let “designer stance” refer to the stronger version that figures in the examples of Dennett’s writing and in which one also assumes that designing agents exist. In its weaker sense, the person adopting the design stance proceeds with his or her reasoning on the basis of the physical structure of the item (hereafter we restrict just to artefacts) and the assumption that it has a purpose and that its parts can be ascribed functions. Moreover, the person adopting the design stance assumes that the functions the parts of the artefact have are optimal (e.g., Dennett, 1995, pp. 212-213) for letting the artefact realise its purpose. When the reasoning on the basis of these assumptions is successful in terms of the predictions generated, the person adopting the design stance also has determined the particular content of these assumptions, and thus determined the purpose and functions that are to be ascribed to the artefact. Using our recent analysis of the concept of function in engineering (Borgo et al., 2009a, b) we give evidence that philosophers need to consider more carefully the stronger form of design stance, the designer stance, studied in design research, as central in the analysis of artefacts. The aim of our analysis is to show the extent to which intentional choices are part
of those analysis. In one of the approach to functions considered – the Functional Representation approach (Chandrasekaran and Josephson 2000) – engineers relate functions of devices or technical artefacts to behaviours of devices, and then relate these behaviours to structural-physical descriptions of the devices. Two kinds of functions are distinguished. A device-centric function of an artefact is the behaviour of the artefact that is selected and intended by some designer or engineer. An environment-centric function is in turn an effect of this behaviour on the artefact’s environment, that is selected and intended by an agent, who may be the designer but also an user. In order to capture with the design stance the behaviour for which an artefact is designed, these selecting and intending agents should be considered, which implies applying the intentional stance to those agents. Our analysis of function for artefacts shows that functions are ascribed to artefacts and their parts not on the basis of only the structure of the artefact, moreover the assumption that artefacts have a purposes and functions relative to these purposes is at work. Also intentional considerations by engineers who have defined the artefacts are part of those function ascriptions. On the basis of the above analysis we propose that intentions of designers and users are not derived in the application of the design stance, but are rather presupposed. Prima facie, one may reject the original design stance and replace it with the designer stance. The designer stance then includes the intentional stance, meaning that the purposes and functions of artefact are to be determined together with the beliefs of their designers or users. The designer stance should be added as a fourth member to the list: we successfully predict the behaviour of entities with the physical stance, the original design stance, the intentional stance and the designer stance. Yet, what counts against this manoeuvre is that the designer stance is not really a separate stance: when adopting this stance, one actually combines the original design stance and the intentional stance. This suggest another approach, namely to add the designer stance as a composite stance in which not one entity is described as an entity with an assigned purpose and assigned functions, but as an entity that has that purposes and those functions assigned by an agent.

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Meaning: Making sense also of non-sense

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The fine line between philosophy and science?

Philosophers speculate, as opposed to observe, and try to understand the grounds and concepts underpinning our fundamental values and beliefs. They are in popular terms trying to make sense of life by compiling knowledge from the different subject domains of the humanities and draw plausible conclusions.

Neuroscience has the last 20 years developed tools, which have allowed them to learn much more about the functioning of our brain than we earlier thought possible (Bastick 2003, Bennet & Hacker 2008, Damasio 2000, Gärdenfors 2005, Lave 1988, Pöppel 2007, Ramachandran 2003, Sternberg 1996, Whitfield 2007, Wilson 2002). This includes the important role of the right part of the brain, the emotional, as it acts almost like a filter for all information we take in (Cullberg Weston 2009). It has also the role of providing storage for everything that does not make sense: the information and the experiences we cannot process and further verbalise. It seems, according to some researchers, as the right half of the brain also acts like some kind of ‘waiting room’: what we currently do not want to process because we do not have use for it or room for it, can be called into consciousness from this ‘waiting room’ or anti-chamber (Wilson 2002). Psychotherapists has borrowed the term ‘pre-conscious’ from the neuroscientists to name information that is not immediately conscious but still quite easily accessible in their sessions (Cullberg Weston 2009).

Therefore, when philosophers try to make sense of humans and society, how much of their own experiences can they really access? Our sense-making is obviously very dependent of the experiences we have stored in the brain but this does not warrant that we find the meaning we are looking for. Our experiences might not be sufficient and/or some experiences are blocking our ability to make sense (Gärdenfors 2006, Norman 2004, Wilson 2002). Is it these efforts in vane that sometimes have brought philosophers to depression and desperation?

When cognitive scientists talk about ‘the meaning seeking human’ and sense making, they are obviously focusing the left part of the brain where we process visual and other information and verbalise or at least register the outcome (Gärdenfors 2005, 2006) What is stored in the right part of the brain is non-sense. In popular language this would mean: of less importance, but this conclusion would in the context of neuroscience be completely wrong. What we cannot make sense of is apparently having a major impact on our lives as it affects most of our decisions. “I feel, therefore I am” as famously formulated by Damasio

Bringing this discussion into the realm of design is interesting from two aspects:

1. Objects or environments which we cannot connect to emotionally and which thus do not result in affection are not cared for and often wasted (Desmet, Hekkert & Jacobs 2000, Desmet & Hekkert 2007).
2. Objects and environments which should rationally not make sense seem to arrive at creating meaning against all odds. We normally call this irrational. Perhaps it is just non-rational in the same sense as nonsense is not equal to non-sense (Borjesson 2006)?

For design theory to move on: Do we first of all need to adjust our language and, moreover, realise that philosophy is more correctly understood when informed by neuroscience?

It is evident that some fairly opaque subject borders have to become more transparent. The traditional exclusion of everything technical, practical and purely scientific from philosophy appears less evident than when these limitations were set up. The intent was of course to allow non-rational thinking to develop without restrains, which already Kant realised posed theoretical complications. The more tangible confusion resulting from non-rational thinking is probably best illustrated with re-occurring discussions concerning ‘Wicked problems’ (Rittel & Webber 1973), not least in academic circles.

Where we are.

Cognitive science is informed by rational as well as empirical knowledge. It has since quite long contributed to the development of interface design, but why should its impact be delimited to this area? Is it because this is where its application appears very rational and based on ‘regulatory principles’. Earlier research has shown that impact from the mundane (thus from experience) in design informed by cognition theories has been important (Gerdenryd 1998). This was less well received by cognitive scientists, at least at the time, almost 10 years ago. This is probably to no surprise as regard to experience, which includes influence from the mundane, complicates advanced design tasks, like interfaces. Designers have to take into account not merely how their own way of thinking and working is influenced by the mundane, but also how the user is the subject of influences of this kind.

Neuroscience, has, among other things, allowed us to better understand and de-mystify intuition Bastick 2003, Love 2002). Psychotherapists have started to be increasingly informed by neuroscience, which brings their knowledge base closer to psychiatry than traditional psychology (Cullberg Weston 2009). It is less and less contested that all information passes our right half of the brain and thus becomes emotionally processed before it becomes part of our rationality in the left half of the brain (Bennet & Hacker 2008, Frith 2007).

To focus on human centred design sounds very relevant in this context but also familiar, established and little provoking (Fulton Suri 2005). The actual challenge lies in that we have succumbed to design for human ways of living as opposed to human ways of being, which has rendered us short-termism, un-sustainability and a strong belief that we are able to
change nature. We have not found our way in Kant's compromise: the balance between regulating principles, being, and a variety of experiences, living.

Multidisciplinary research which combines design, body and mind, ought consequently to attract more attention, from researchers as well as from funding bodies. At stake is a continued positive development of design theory and thus the sustained relevance of design as one contributor to durable improvements (Blackman 2008, Johnson 2007, Krippendorf 2006, Punset 2007, Ticento Clough & Halley 2007). Philosophy and science are still well separated in the world of design, which prevents us to make sense also of non-sense.

Where we go.
The main aim with this paper is not to draw attention to the curiosity (?) that Kant's philosophic reasoning almost 300 years ago has got new relevance through the advancements within cognitive psychology and neuroscience. The overall aim is instead to emphasise the importance of exploring and combining existing knowledge within several disciplines to generate new design knowledge.

My position is consequently that understanding of human decision-making can be further enhanced by multi-disciplinary research on how human consciousness and decision-making is related to respectively lived and learned experience.

Bibliography


Industrial design, industrial design engineering and design engineering: Different perspectives of a PhD in design

CEPHAD 2010 // The borderland between philosophy and design research // Copenhagen // January 26th – 29th, 2010 // Regular table session
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Introduction

It is not unusual, that as soon as you begin to carry out a brief review of theses in design from any database such as Index to Theses [1]; a high number of theses’ titles appear containing the word ‘design’, or claiming in the abstract that their outcome will be based on the creation of a ‘design’. This may mislead the reader to think that all of them are using this word to convey the same meaning. However, a deeper investigation into the content of these theses appears to show that they present subtle, if not striking differences indeed. It is not that they are trying to confuse the reader purposefully; the problem is that the word design can, and is used to convey different meanings depending on different contexts. Thus, although different disciplines use the word design to define their design-based activities, their purposes and design parameters are different, and so are their design outcomes. This issue become more confusing when different researchers from different disciplines use the word design to define different types of design research outcomes. It is then, when the word design, especially as a design outcome, can be subjected to misinterpretation, with the subsequent negative consequences for definition, classification and evaluation purposes. A very representative case of this situation can be found in three well-known design-based disciplines, which boundaries are in some cases blurred, thus making difficult to identify the intrinsic qualities of their respective design parameters and outcomes. These disciplines are: Industrial design, industrial design engineering and design engineering.

Definitions

Definitions are necessary in order to create a language to allow a conversation. Buchanan [2] mentions, that although settle definitions of a field can create lethargic, dying or dead fields, they also allow an investigator to clarify the direction of their work and move ahead, thus confirming the need for definitions to establish a conversation in a discipline, and establish its foundations.

Although all disciplines use design activities in order to achieve their purposes, in some of them (called design-based disciplines), the close similarity of their design parameters and purposes have led to group, consider and study them as a different group of disciplines with their own particular nature. In the past, it has already been discussed and pointed out the particular differences of design activities of these specific disciplines, from other disciplines from sciences or humanities [3, 8]. However there still are subtle differences between disciplines within this area of similar-design-based parameters and purposes that has not been properly addressed and defined clearly, and that it might have led to confusion in the past and present.
In order to recognise and differentiate these similar, but nonetheless, different disciplines and their outcomes, it may be useful to define design and the design parameters and purposes of each of them.

One valid definition for design is the following:

“Design, is a plan for arranging elements in such a way as to best accomplish a particular purpose” [4].

In the present article I shall refer to these ‘elements’ as design parameters. Thus, according to the previous definition, design consists of planning a specific combination of design parameters in order to achieve a specific purpose; and as it will be shown in this point further on, these design parameters and their purposes will be different depending on the design-based discipline, thus confirming that although they share design-based activities, these disciplines are nevertheless different.

**Industrial design:** It is an interdisciplinary discipline, and as such, it is generalist. It is interdisciplinary because in order to achieve its purposes rely on many different disciplines that are necessary to produce the final outcome. It can be considered to be grounded between arts and engineering, as it inherits the aesthetic and experiential sensitivity, the creative attitude and creative methods from arts; and the science of materials and technological knowledge from engineering. However, although it shares knowledge, methods and tools with the arts, its design activities are aimed to achieve a clear purpose defined in advance; whereas arts activities are mainly aimed to fulfil self-expression. Industrial design also nourishes from engineering knowledge, tools and techniques in order to achieve their purposes (or briefings), but unlike engineering activities, industrial design activities’ purposes and design parameters are mainly related with experience, and their role is usually to provide the embodiment of the artefact [5]. In effect, industrial designers’ role consists mainly in designing the experience of people/consumers that will use the products stated in their purposes. It is for this role, designing the experience of products, and not the function, that industrial designers have been trained for. Although it is possible that some industrial design activities may be aimed at the achievement of purposes that involve design parameters related with function, this is not the usual case, and only occurs when the purpose of the design activities do not require highly technical knowledge, or skills. i.e.: A decorative luminary or a chair, may sometimes be designed by industrial designers without the need of technical knowledge and skills from engineers, however, a washing machine, due to its technical complexity may require the input from different type of engineers at the same time in order to be designed and achieve the purpose of their design activities.

Industrial designers need to understand how people perceive and respond to different type of stimulus (visual, acoustic, tactile, taste) through design features in order to be able to achieve the purpose of their design activities. For this reason, traditional industrial designers have been usually skilful in working with design parameters related with form, colour and finish, which can influence consumers/users’ experience. Other non-engineering design subdisciplines such as graphic, interior and interaction design are also aimed at designing experiences, and working with similar design parameters, although the format of their outcome or purpose may differ from discipline to discipline.
Design engineering: It is an interdisciplinary discipline, and as such, it is also generalist. It is interdisciplinary because in order to achieve its purposes rely on many different disciplines (Maths, Physics, etc.) that are necessary to produce the final outcome. Design engineers also carry out design activities, but the outcomes and design parameters of these are different. Design activities carried out by design engineers have mainly a functional purpose, that is, they are aimed to achieve purposes related with function aimed at the creation of new systems and principles that usually are embodied within artefacts [5]. Thus, their knowledge and skills are suitable for designing the functional part of products, but they are not so well equipped to design the experiences of the products they make function. Likewise non-engineers designers, they also have different sub-disciplines (electrical engineering, mechanical engineering, etc.) which are focused in specific engineering sub-fields. The type of work they carry out is mainly focused on problem-solving of functional issues. Although design engineers can also design experiences, as the skills required to design any type of experience are not so demanding, the knowledge and skills they have achieved during their training are not fit for this purpose. Here it is important to note, that although design engineers can, and in fact do, design the experience sometimes, industrial designers cannot design the functional features of some technically complex products because they usually lack the skills and knowledge required to do this. This is an important point to note because in order to design the experience of a product, the skills required are not very demanding to achieve any experiential outcome. However, an industrial designer usually will not have the skills to make a functioning product so he/she will not be able to achieve any functioning outcome at all.

Design engineers do not have the need to understand how people perceive and respond to different type of stimulus through design features, because their main role is to make the product function properly and efficiently. Other people-related disciplines, such as ergonomics, will make sure that this design fits the cognitive and physical characteristics of the user, and industrial designers, that it satisfies the experiential needs and wishes of consumers.

Industrial design engineering: Industrial design engineering is a discipline grounded between industrial design and design engineering. The design parameters, purposes, and design outcomes of this discipline are blurred between these two disciplines, and sometimes it can be difficult to define if a design outcome is a product of design activities from industrial design engineering or industrial design. Design outcomes from industrial design engineers might be similar to those of industrial design, but usually are more technically complex. However they do not arrive to the technical complexity of design engineers’ design outcomes. It might be said that design outcomes and activities from this discipline are more concerned with designing functions than designing experiences. However they do not aim at creating new systems or principles of functioning, but only to combine existent ones in such a manner as to provide a new functionality through a new typology of product.

PHDs in design
The definitions mentioned in the previous point show that all these design-based disciplines, although may share design activities, use different design parameters, and most importantly, produce different design outcomes.
If we ‘translate’ the differences shown between them into the research arena, that is, into the
design research activities and design research outcomes in the respective disciplines, the
issue of differentiating them gets even more complicated. This is so, because of the specific
nature of the research endeavour, in comparison with the more general nature of the
professional work carried out in all disciplines. In effect, any type of research in any
discipline requires an in-depth investigation of a topic that only can be achieved by
narrowing the scope of the search. It is important to note this point, because it is here where
the problem with design in research begins, in particular with industrial design research or
with PhDs in industrial design.

As research in design\(^1\) disciplines is a relatively new field with no solid foundations where to
look at for reference, it is only too natural that people carrying out research in the previously
mentioned design-based disciplines, have to ‘borrow’ methods, tools and techniques from
other more established disciplines with more tradition in research. And it is also very
understandable that, the lack of specific evaluation criteria to judge what represents addition
to knowledge of these disciplines’ research outcomes, will led also to ‘borrow’ evaluation
criteria from other more established disciplines in research, albeit not suitable ones \([3, 6, 7]\).

As mentioned in the previous point, industrial design engineering and design engineering
design activities and design outcomes might very similar to industrial design. And we have
to remember that these engineering-based disciplines have longer and more established
tradition of research than industrial design. It is not surprising therefore, that due to the
similarity of these design-based disciplines and the lack of references to look at of industrial
design, has led to the adoption of: research methods, techniques, tools and evaluation
criteria from these more established disciplines; and are being applied to a different
discipline: Industrial design. As a result, it should not surprise us to find in theses’
databases, PhDs in industrial design engineering and design engineering as PhDs in
industrial design\(^2\). In these theses, it is clear that the purpose and design parameters used
are not typical of industrial design, but of industrial design engineering or design engineering
disciplines. The emphasis and weight of the addition to knowledge is usually focused on
function rather than experience; and due to uncertainty of what represents \([7]\) addition to
knowledge in industrial design research, theses end up using ‘more rigorous’ methods,
techniques an tools from engineering disciplines. But, are these PhDs, and their addition to
knowledge, involved with design parameters and purposes from industrial design? Or are
we carrying out PhDs in industrial design engineering or design engineering and calling
them PhDs in industrial design?

It has been already mentioned in previous literature the risk of design researchers to be
drawn into research of other fields \([2]\), and the paradox of the creation of an interdisciplinary
discipline \([3,8]\); and all these factors might be affecting the definition and differentiation of
the PhD in industrial design from other type of design-based PhDs.

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\(^1\) Non-engineering design disciplines such as: industrial design, graphic design, interior
design, interaction design, fashion design, etc.

\(^2\) Industrial design here would comprise: product design, furniture design and vehicle
design as sub-fields of industrial design
It is clear that a different evaluation criterion to evaluate the novelty or addition to knowledge of PhDs in industrial design is required. One more suitable to the design parameters and design purposes of the industrial design discipline, that is, one more focused on the understanding of experience through industrial design parameters in relation with users. Could we be talking of evaluation criteria adapted to assess new typologies of products, instead of new mechanisms or materials embodied within products?

Conclusion

Research in design still developing its foundations, and there is still a lot of confusion about what can be considered addition to knowledge in Art and Design subjects, specially, about the content and role within a thesis of non-text based outcomes, among other issues. In addition to this, as I have argued briefly in this article, there might also be some confusion regarding the definition and differentiation of design-based disciplines and their respective design research parameters and design research outcomes. The boundaries of these disciplines nearly overlap, and this is more visible within their research activities, where disciplines with no established foundations, like industrial design research, have to rely and be evaluated with the same criteria as other similar disciplines whose purposes and design parameters are different.

Although there still many theses that could be considered as PhDs in industrial design with no reservation, still there are a lot of PhDs in industrial design with no trace of industrial design parameters and purposes within them. This is an indication about the need to define and differentiate the different type of design-based disciplines, especially in their research areas, where the blurring of boundaries and lack of foundations of industrial design might lead to the adoption of design parameters, purposes and evaluation criteria form other more established design-based disciplines; thus confusing future generations of industrial design researchers. Industrial design research could have their own evaluation criteria in order to demonstrate the addition to knowledge required in any type of research assessment; however ‘borrowing’ methods, tools, techniques and, what is more dangerous, evaluation criteria from other disciplines, can confuse present and future researchers about the very nature of research in industrial design.

References


From the meta-physical to the physical: Reuniting existential and hermeneutical phenomenology in design

CEPHAD 2010 // The borderland between philosophy and design research // Copenhagen // January 26th – 29th, 2010 // Regular table session
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Introduction

“Ian Coxon’s PhD necessitated the development of new research methods and new forms of qualitative analysis to help us understand why certain forms of personal transport were less than successful. He demonstrated that success related directly to the experience of using these forms of transport. Because experience is felt it cannot be quantified (attempts to do this flatten the results), so while qualitative analysis is the best method of analysing experience it still generates suspicion (how can we trust what we can only see!). Coxon overcame our rational tendency to invalidate qualities and produced two remarkable new research tools – a taxonomy of experience (ToE) and the SEEing process”

Professor Joseph Giacomin, Human Centred Design Institute, Brunel University, London.

Research question

Hermeneutical phenomenology has shown to be helpful in understanding meta-physical aspects of human experience for design – can existential phenomenology also be useful in helping to understand the physical side of human experience in new ways – and could a combination of these two understandings of lived experience lead to new avenues of truly human centred design?

Background

This proposal is based on an earlier project utilizing hermeneutical phenomenology to understand the experience of New Mobility Vehicles\(^1\) (NMVs). Field research was conducted in Europe with designers and drivers of NMVs. The most interesting outcomes from the research (other than vehicle related findings) were two new research methods; the first being useful for the modeling of everyday experiences (ToE) and the second for deep analysis of qualitative textual data (SEEing).

The Taxonomy of Experience (ToE): A model of experience

This hierarchical model is useful to researchers and decision makers as a general method or tool for guiding the collection, processing and categorisation of qualitative field data about an everyday experience. It utilizes a meta-structure of experience based on Sensorial, Affective, Cognitive and Contextual factors\(^2\) within which there are further sub-themes and themes.

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\(^1\) New Mobility Vehicles are small vehicles designed to satisfy new urban patterns and modes of personal transport

The *ToE* effectively provides a fluid ‘check list’ for studying any experience that a researcher wishes to understand and provides a starting point for categorization or coding of data in qualitative analysis.

**SEEing: A multi-level qualitative data analysis method**

This method employs nine sequential steps through which information contained in the *ToE* of an experience being studied, is reduced by a process that allows a researcher to see the meta-physical\(^3\) ‘essences’ within the experience. The *SEEing* processes distil and make visible the strongest and deepest layers of meaning that uniquely define the experience for what it is.

Utilising methodological theory from both Phenomenology and Hermeneutics it provides a semi-logical (fuzzy) process of reducing volumes of qualitative data in such a way that not only is deep meta-physical understanding explicated about the experience studied but there is also evidence of a significant transformative effect within the researcher applying it. The research projects\(^4\) developed so far have focused on the value gained from the meta-physical component of the experience and in this conference proposal I suggest that the potential within an existential insight may have been overlooked. By addressing this we have the possibility of not only gaining interesting new perspectives on the event but a philosophical elegance might be achieved if this new understanding is re-combined with the meta-physical component, such that a third entity might be evolved.

**Position paper - Table session proposal:**

The research question proposed for discussion at this conference is intended to explore an extension of the design research methods (*ToE* and *SEEing*) developed in earlier research. These methods have since been employed in the academic sphere to answer design questions across many disciplines. The methods have been found to be useful in qualitative research particularly at the data gathering and analysis stages, as they assist a researcher to structure an approach to ‘seeing’ within an everyday experience such that the meta-physical or more Authentic (Heideggarian) aspects of the experience can be ‘seen’. The research work done so far while useful in making these meta-physical layers more visible has not fully explored the physical (form, functional, contextual - existential) aspects of the experience, that have been internalized by human and other sources in the experience but are reflected in the research material derived from them.

At this conference I would like to discuss the proposition that an existential phenomenological approach might offer useful ways to explore this untapped layer of experience, in quite a different way to the ‘user’ studies applied in contemporary design. I suggest that this layer within human lived experience if viewed existentially might offer new forms of understanding for a designer to draw upon.

I further propose for discussion that these two streams of philosophical understanding based in lived experience (Existential and Hermeneutical); having common foundations in phenomenology, hint at a sympathetic partnership that may be two halves of a greater understanding. I am firstly a design thinker and have at best a working understanding of

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\(^3\) The term ‘meta-physical’ is used in this situation to mean those aspects of the experience that are beyond or over and above physical factors within the experience.

\(^4\) Trials of these methods have been successfully conducted in Australia and Germany with students in interdisciplinary design courses from undergraduate to graduate levels.
Heidegger and Gadamer's hermeneutical phenomenology. My basic understanding of existential phenomenology is not sophisticated enough to artfully investigate these questions on my own. The questions I would like the conference delegates help to explore are these; can existential phenomenology be useful in understanding the physical side of an authentic human experience (as partially explicated within the SEEing process) in new ways?, and could the Existential and Hermeneutical understandings of a lived experience so developed lead to new avenues of truly human centred design. I believe that conference delegates having diverse strengths in linguistics, design theory or existential phenomenology will find this topic as challenging and interesting as I do.
Functional beauty and looking fit

CEPHAD 2010 // The borderland between philosophy and design research // Copenhagen // January 26th – 29th, 2010 // Regular table session

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Abstract

This paper argues for two conclusions about functional beauty, as this notion has been understood by Parsons and Carlson in a recent book by the same name (Functional Beauty. Oxford: Clarendon Press, 2008). First of all, it is argued that functional beauty either is not a distinct kind of beauty or that the members of this kind are not all and only instances of the property of looking fit. Second, it is argued that functional beauty is relative only to categories corresponding to essential functions. The second conclusion contradicts what Parsons and Carlson write about functional beauty, but the first conclusion does not, since they agree that looking fit is not necessary for functional beauty. However, their agreement on this point is based on reasons that can be shown to be mistaken. Moreover, contrary to what Parsons and Carlson claim, looking fit can also be shown to be insufficient for functional beauty.
Biological and medical information is often designed with a combination of visual and linguistic elements. I am interested in examining the differences between these communicative formats as well as the advantages that visual formats, particularly those that are image-based, may offer. Why are images a preferred form of biological evidence, even when other options are available? I want to very briefly sketch a couple of possibilities that seem to be particularly important. These are: 1) the historical importance of visual evidence and images in medicine and biology, and 2) our affinity for and attraction to images together with the rhetorical power of images. These may also be supplemented by epistemic advantages.

1. Historical Preferences

N.J. Berrill has claimed that biology is and has always been an “eminently and inherently visual” science (1984, 4). Evelyn Fox Keller claims that, while various branches of biology take different forms of evidence to be explanatory and there has often been conflict between those that, in the tradition of natural history, give preference to observation (whether direct or via imaging technologies) and those that are more theoretical and give preference to mathematical models, there is a common attraction to the use of visual representations that resemble what we get by direct observation - i.e. naturalistic images (2002, 202). Data that is the output of mathematical models – cellular automata, for example – becomes more acceptable to a broad range of biologists and gains persuasive power when the results are displayed in ways that bear visual resemblance to the objects and processes they are supposed to represent (2002, 272). Essentially, it seems, most biologists like to watch natural objects doing things. Advances in biological imaging, including confocal microscopy, in the 15 years or so are widely considered to have revolutionized cell biology. While this claim is true simply in virtue of the enormous advances that have been made in the types of questions that can be asked and the ease with which they can be addressed, it is often justified at least in part by making reference to the fact that these advances have allowed us to watch events occurring inside cells. It is not only that we now have the ability to easily ask many questions that were previously difficult or impossible to address: it is that we can see – or watch – things happen.

Some forms of biological data may not obviously present alternatives in terms of preferred data display format: with confocal microscopy, for example, you see an image if you look at the specimen through the eyepieces or on the monitor. In the case of PET (positron emission tomography), however, the choice seems less obvious since the data exists as numbers before it gets converted into an image. However, just as current cell biology may share some preferences for visual observation with the natural history of past centuries, PET also belongs to a lineage of technologies with a particular preferred format of representation.
We can trace a direct line from the X-ray to CT (computed tomography) to PET. Originally, X-rays were necessarily photograph-like, being produced by the direct interaction of X-rays with the film. No mathematical processing goes into the production of an X-ray and while it can be measured after its production (e.g. by densitometry) and the data presented in some other format, the X-ray is essentially pictorial. CT is essentially a tomographic, 3-D X-ray format that requires image reconstruction to regain spatial information just as PET does. In the very early days of the technology the representational format made explicit acknowledgement of the mathematicized nature of CT. Instead of a picture with each pixel assigned a color or shade of grey, the data was displayed as a two-dimensional array of numbers. The number indicating the intensity of each pixel was displayed in an arrangement approximating that of the brain (the early use of CT was for brain imaging). Very soon however, CT data began to be displayed in a standard pictorial format, like an X-ray. This might reflect the preferred representational style of the researchers and clinicians using the CT images as well as the undoubtedly greater ease of gathering information from the straightforward image. So it might be that the naturalistic style of PET images reflects the pictorial preferences of a discipline in addition to (or rather than) conferring any particular epistemic advantage.

2. Affinity for and rhetorical power of images

The source of the preference of biologists for visual access to the world that was discussed in the last section is not entirely clear. One plausible way of accounting for it is by reference to the fact that, when used under appropriate conditions, visual perception is usually reliable. We learn to trust the results of our eyes, under most conditions, and ways of investigating the world that seem to be like straightforward, unaided visual observation may more easily be taken to also be trustworthy in virtue of this apparent similarity. In essence, seeing is believing and if we can come up with new ways of seeing then we might at least be inclined to think that we should believe what we see in these new ways too. While of course no scientist naively believes that our eyes or imaging technologies always produce veridical data, the phrase “seeing is believing” appears in several paper titles as well as in a recent letter to the editors of Nature in which the author suggests that our natural tendency to go from seeing to believing is now being inverted through the use of digital manipulation of image data.

The editorial on which the author of this letter is commenting, brings up another reason why images may have persuasive power: we are simply drawn to attractive images. We like to look at them and we like to make them: “Tweaking images is also seductive in a way that adjusting statistics is not, because of the natural human desire to create an aesthetically pleasing picture” (Pearson 2005, 953). This sometimes leads us into questionable digital manipulation practices, but it also leads to such things as the calendars of extraordinarily beautiful scientific images that are often put out by companies such as Zeiss that make microscopes. The beauty of the images may, in some cases, be an end in itself, but it may also serve other purposes. In 2003, the American Academy for the Advancement of Science together with the journal Science organized the first annual Science and Engineering Visualization Challenge. The report on the outcome of the 2004 version clearly states that the contest was designed to foster “the ability to convey the essence and excitement of research in digitized images, color diagrams, and even multimedia presentations” since this increases public attraction to and understanding of science and
since it “the general public that ultimately supports the global research enterprise … everybody benefits” (Supplee and Bradford 2004, 1903). Joseph Dumit, an anthropologist of science, suggests that images can do this in virtue of their ability to serve multiple purposes and hold several different meanings simultaneously. A single PET image can represent not only the actual blood flow in a slice of a specific individual’s brain over a particular time period, but also the pattern of blood flow in some type of person (e.g. schizophrenics), the viability of PET as a research tool for certain disciplines and types of questions, and (perhaps most importantly for the public perception and support of science), the value and importance of research in neuroscience more generally (2004, 4).

As suggested by the multiplicity of meanings and roles they can play, images are important not only for the reception of science by the general public, but for the evaluation of individual pieces of research and research projects by journal editors and grant review boards. One feature of naturalistic images that potentially contributes to the authority that they may hold outside of a very specific scientific or medical context is their resemblance to photographs. Despite the enormous complexity of producing a PET image, by or for the layperson such images are often interpreted as being essentially photographs of the brain. As such, they inherit the presumed objectivity and reliability of a photograph and serve as persuasive evidence for the (multiple) claims that they are used to support. The combination of presumed objectivity and reliability together with the ease with which these images come to hold multiple meanings gives them enormous power.

References
Affirmation as Critique / Critique as Affirmation

CEPHAD 2010 // The borderland between philosophy and design research // Copenhagen // January 26th – 29th, 2010 // Regular table session
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Abstract
One of the sharpest differences between the social sciences and design concerns the status of critique. In the social sciences critique is a nay-saying: it is placing the claims that something makes (a social system, a hypothesis, a model of economic activity) against the reality to which the claims refer and measuring the gap between the two.

In design, critique is quite different. In design, critique does not make sense without affirmation. More, critique arises out of affirmation. In Simon's famous definition—that design is devising courses of action to move from existing to preferred situations—it is the presence in mind of the possibility of a 'preferred' (or better) situation that relativizes the existing. The gap between these two notions of critique is perhaps one of the major difficulties in linking design and the social sciences broadly considered. From the point of view of the latter, ‘affirmation’ cannot be critique. From the point of view of the former, only the fact that one can assert—and demonstrate, in a new artifact—the possibility of doing things better, is critique valid.

This situation is so ingrained that it rarely raises to consciousness as such. Yet the dominance of the social science model of critique has baleful effects, and on both sides. For the social scientists, and for designers who implicitly take up this viewpoint, affirmation cannot be critique. In social sciences this leads to the irony that the most critical critics feel unable to posit alternatives (for fear of losing a critical edge). For designers, the overall idea that affirmation is not critique reinforces the tendency to see design as an a-critical activity.

In this discussion I would like to open the idea of affirmation as critique. The wider basis for this is that the question of what it is that affirmation critically achieves is central to design understanding; to be able to articulate what design achieves requires the ability to understand the critical discriminations and apprehensions that are translated and made evident in the affirmative artifact. In a broader sense, to raise this question is to open the wider question of the critical in design and hence to re-open the notion of the critical per se. While we often speak in design of drawing on philosophy and the social sciences this may be one occasion where the roles are reversed; that the understanding of what is achieved critically in affirmation in design enables a wider (and more useful) understanding of what the ‘critical’ might be across the social sciences as a whole.

[This session will be based in part on a work in progress, The Critical in Design of which the first part has been published as “The Critical in Design: Part One” Journal of Writing in Creative Practice, Vol. I, #2, 2008, pp 177-189. To be re-published as the keynote paper for
a special issue on the ethics of design of *Les Ateliers de l'Éthique*, Université de Montréal, 2010.
Thinking the condition of being and acting in an artificial world — and the role of design within it

CEPHAD 2010 // The borderland between philosophy and design research // Copenhagen // January 26th – 29th, 2010 // Regular table session
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Abstract

Over the last sixty years, beginning from the end of WWII, the world has entered into a new condition. The simplest formulation of this condition is to say that it is one in which the artificial now provides the horizon and medium of existence. Of course, artifice has always been fundamental to human beings. It is after all the conjunction of artifice and self-consciousness that marks the onset of the human: no society on earth has operated without artifice. And historically too, in local circumstances, the artificial has effectively constituted world—one thinks, for example, of the extraordinary artificial world that is Venice. But not until the onset of the true ‘mechanization’ of the world, meaning the world made over as artifice does the artificial play more than a mediatory or facilitative role in human affairs and not until after 1945, with the development of the capacity effectively destroy worlds, did we begin to enter into world-as-artifice. Today, the onset of global warming marks the second stage in this development. Accompanied by the ubiquity of advanced technology, not only across the ‘developed’ world but as the underlying condition permeating all societies, this sets up the artificial as, in effect, the horizon and medium of existence.

It is scarcely surprising that thought, which always lags behind invention, has scarcely caught up with this development, nor, that as a result, even design and those disciplines most concerned with the acute question of how we give shape to, calibrate and attune this world, find themselves still dependent on a conceptual framework that has not yet taken on board the implications of this shift.

In a discussion around this theme, addressed as a series of questions, I would like to explore the implications for thought, and above all for how we think of the role and functioning of design, of this epochal shift. I would like to take up, somewhat systematically, the ‘revolution’ that is portended by this shift and I would like then to explore, through dialogue, the implications for how we can understand the roles and capabilities of design in relation to this new setting.

A sketch paper offered to participants, will chart the overall conditions of this new world and the global implications for thought and praxis, and will offer some pointers towards how we might think about design in ‘the epoch of the artificial.’

I stress some pointers both because no definitive understanding of this new condition can be reached at this stage of its development; second, because the development of such understanding should in any case be a collective effort. I would like to open such a discussion at the CEPHAD conference.
[The presentation will be part based on the chapter “Sustainability as a Movement of History” forthcoming in Design and Sustainability, edited Barbara Predan and Cvetka Pozar (Ljubljana: Architecture Museum, 2009)]
Two legacies of ignorance, or why we find understanding things so difficult

CEPHAD 2010 // The borderland between philosophy and design research // Copenhagen // January 26th – 29th, 2010 // Regular table session
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Abstract

In part of a recent post on the PhD design list serve I said this:-

“What was ‘un-scientific in reducing everything entailed in the phrase ‘human-centered design’ to ‘styling’ is that it refuses to see the real complexity of interaction which was always entailed—though never satisfactorily articulated—even in styling. The problem here was that those in design who have played with styling intuited, but did not articulate, the nuance of that with which they were involved, i.e., things as mediation. On the other hand the tragedy of engineering design since 1840 has been that it is has sacrificed understanding of things-made for performative advances. This has given us technologies that, within their stipulated task boundaries, perform exceptionally well, but it has also given us technological systems that are profoundly destructive in their larger consequences and costs. This suggests that styling was always more intelligent, and engineering design less intelligent than adherents of both believed.”

One result of this situation, I went on to say, is that in 2009 we find ourselves with, in effect, two legacies of ignorance—one that stems from the inability of those who have dealt with the ‘styling’ of things to understand mediation; and one that stems from the technological inability to comprehend the way that human artefacts, even the most ‘technological’ operate only in the context of establishing relations between humans and their environments (natural, social, psychological). What we lack then is adequate understanding both of that on which we operate (the artificial) and that through which we operate (the capacities that design deploys). This is why the splitting of ‘styling’ and ‘engineering’ or of ‘language’ versus ‘operational praxis’ is not helpful to advancing understanding; it repeats a set of conceptual patterns that one would have hoped that we would have grown out of by now. What is required is a new central focus on both sides towards grasping what mediation, resonance and attunement mean in terms of artefacts and hence for the understanding of interaction in particular and design in general—understanding which now has to take on board comprehension of that ‘on which we operate (the artificial) and that through which we operate (the capacities that design deploys).

I would like to use this statement and what it entails as the starting point for a collective discussion about the ‘legacies of ignorance’ on both sides of this equation. The focus would [be (ed.)] first on the traditions that have led, on each side, to the failure to know things well (and to be articulate about that knowing) but second, and more importantly on the question
which is more acute for the future as to how we begin to know and to understand interaction as (designed) mediation.
Design and Possibility

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Abstract

Within studies in the cultural impact of design, designed objects are normally considered materially stable, whereas ‘culture’ signifies a sphere of transformation of meaning through the use and consumption of design. Ontologically, then, design is often regarded as artefacts with fixed entities. This doesn’t mean that design objects are ideal artefacts, not to be altered by interaction, purposeful modification and decay. Instead, the paper points to a tendency within much theory to regard design as unproblematic artefacts that just ‘work’ within culture. The paper argues, then, that it is productive to alter the ontological notion of design as fixed and to focus instead on the dynamic dimensions of meaning inherent in design objects.

The paper states a dual thesis:

1. That it is productive to ‘destabilize’ design’s ontology and to speak of the possible in design as something that not only exists before the actualization of the design, but is an inherent structure of design. As a tool for actively organizing the mode and appearance of reality in the modern world, design indicates was is possible and what is not. Design gives models of how to perceive and filter reality and can thus itself be a medium for a transformation of meaning.

2. That the ‘imaginary’ in its non-physical flexibility can be productive as a category to question how objects in their present materiality can contain a dimension of the possible; i.e. the concept of the imaginary may be applied in theorizing the inner dynamics of possibility in design.

The paper proposes a phenomenology of the imaginary as a theoretical framework that is informed by phenomenological theory in J.-P. Sartre and M. Merleau-Ponty, and which at the same time must encompass concrete design objects. Through the description of two cases, the web design solution Tilbygningen by Oncotype (2006) and Louise Campbell’s chair Veryround (2006), the paper discusses how designed objects in their inherent structuring of imaginary meaning are objects of cultural possibility and potentiality.

Key words: possibility, imagination, phenomenology, cultural theory, representation.
Design as Ethical and Moral Inquiry

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The paper investigates the possibility to use design as a medium for inquiry into questions of practical philosophy and the human relationship with technology and artefacts. With design, however, I mean design in a narrow sense centred around the design artefact and not design in an extended sense as a process or activity of planning or structuring.[1]
Furthermore, I am not referring to mainstream design practice, but rather to a form of design, which produces artefacts for thought rather than consumption or practical use. Within the discipline of design, this form of design can probably best described as “design exploration,” as opposed to “design practice” or “design studies,” since it is neither driven by commercial interests, practical design problems or by how well the outcome fits into an existing context, nor by an investigation of the process of design, but rather by the exploration of ideas and possibilities. The exploring designer follows his own agenda and is not trying to solve pre-existing problems or narrow goals. The outcomes of such a design process can be subversive, provocative or critical artefacts, with the capacity to facilitate thinking and critical reflection on social situations.[2]

The paper is divided into three parts. In the first part I shall investigate what distinguishes design from other fields of inquiry such as science, philosophy and art. I shall argue that we should conceive design not as science but as art, which is based on Gilles Deleuze and Felix Guattari distinction between science, philosophy and art.[3] In the second part, I shall outline an epistemological framework for an explorative design inquiry. Here I shall focus on the epistemological qualities of the design artefact to generate knowledge rather than the design process, which is based on cognitive theories of art such as those of James Young and Martin Seel.[4] In the third part, I shall outline approaches for this form of inquiry, such as design fiction, material thought experiments or staging situations, based on three case studies. The questions design can ask in this context are questions about the “good life” which links design to practical philosophy. This exploration of the good life, however, is less concerned with normative judgements but rather with exploring possibilities of existence. Explorative design is not asking “what ought to be” but rather “what could be” or “What would be if ...?” Normative judgements are replaced with explorations of possibilities of existence by “trying out” these possibilities – similar to the way literature explores these issues. In this conception, design could explore different social norms and value systems and even morally problematic matters – the normative judgement, however, has to be done by the audience. The aim of this paper is to evaluate to which extent design can be used as a medium for inquiry, and particularly what kind of philosophical questions can be asked, what kind of knowledge it can generate, how the results differ from those of other modes of inquiry and how they might relate to each other.
Notes


Trespassing Design and Social Research: the Methodology of Sincerity

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Abstract
Research that trespasses the fields of art & design and social science, and the issues of rigor and academic propriety, are at the epicenter of this discussion. It is not a comprehensive effort to inquire into methodological matters, but rather a tentative account of anxieties concerning scientificity within the relatively new and exciting field of design research.

Herewith, I would like to discuss sincerity as a methodological tool to unravel a research narrative in its full richness of victories and defeats. Social sciences, demonstrate similar explorative tendencies towards disciplinary border-crossing and methodological hybridity. Researchers of design better get advantage of these discourses and articulate our own voices. This could inform our work, sincerely and open-mindedly. With the brief analysis of sincerity in literature and social research I would like to demonstrate the necessity of sincerity when conducting socially informed art and design research. The methodology of sincerity advocates that a holistic account of one’s research and its trappings, better accommodates alternative ways of acquiring knowledge, instead of a self-serving reproduction of academic and other norms. In this I lay down certain methodological tools, and discuss the importance of the “I” of the researcher. Finally, I would like to discuss my argument that existing academic power structures need not deter researchers from a methodology of sincerity, and if indeed we aim at democracy in research, such a methodology may prove handy in challenging these structures.

Keywords
design research, methodology of sincerity, academic rigor, authorship
Ruins in Nineteenth-Century Romanticism:
A Case of Hermeneutical Distanciation

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Architectural students, educators, and professionals are all enthused about the recent
technological developments and the opportunities they afford. Like a weather vane that
responds decisively to a strong wind, they have veered their attention to materials and
techniques of sustainable design. The cloud of self-doubt seems finally lifted, which has
been with the profession ever since Modernism failed to fulfill its promise of a better, richer,
and fuller life for everyone. Postmodernist concession to banality and consumerism and
Deconstructivist deferral of meaningful environment had left little to praise architecture for,
other than as a spectacle merely on the basis of its novelty and visual effect. With a clear
sense of purpose to fulfill environmental consciousness, the profession seems finally to have
revived its raison d'être. Behind this enthusiasm, however, is a danger associated with
anything that comes with positivistic clarity. With sustainable design it is easy to understand
the achievements because the conservation of resources, the generation of energy, and the
reduction of pollution are all positively measurable. There is nothing wrong in pursuing these
goals, and saving the earth in particular is an urgent task. It is problematic, however, when
we pursue only those goals that we see are attainable and whose degree of attainment is
clearly measurable. Architecture should, in addition, contribute to our understanding of the
world and the self, although its attainment is difficult to measure. This is where philosophy,
with the knowledge of and the method to deal with the principles of human behavior, can
assist in thinking about architecture.

This paper will examine the ways in which architecture contributes to the understanding of
the world and the self. Architectural ruins present exemplary cases. Each year all over the
world tourists flock around ruins from Acropolis to Jerusalem and from Angkor Wat to Machu
Picchu. The physical state of ruins entices the observers to contemplate on the lives of the
people who are long gone, displaced for political, cultural, or unknown reasons of the
bygone era. It ultimately draws the observers’ attention to their own world and the self, to
their infinitesimal occupation within the time’s continuum. Architectural ruins then, diminutize
human existence but at the same associate it to a larger and greater entity of which it
partakes. This paper will focus on this nature of architectural ruins, identifying its pedigree in
nineteenth-century Romanticism. In particular, the paper will discuss selected works of two
British literary authors, namely, William Wordsworth and Sir Walter Scott. The paper will
refer to Paul Ricoeur’s discussions on the hermeneutical function of distanciation, in order to
understand the literary authors’ engagement in architectural ruins as a paradigm of
interpretation.
By examining the ways in which architectural ruins contributed to the understanding of the world and the self, this paper will introduce a theoretical stance rarely taken in architectural history and criticism, namely that of diachronic interpretation. The discipline of architectural history always has been comfortable with studying synchronic interpretations, in which the meaning in discussion is of the time of the object's fabrication. As David Leatherbarrow observed in his recent book, *Architecture Oriented Otherwise*, “So much writing about architecture tends to evaluate it on the basis of its intentions: how closely it corresponds to the artistic will of the designer, the technical skills of the builder, or whether it reflects the spirit of the place and time in which it was built.” We do not require a reminder from a Poststructuralist to realize an architectural “place” often outlives its designer and supporting *zeitgeist*. This postulates a way of thinking on the basis of diachronic interpretation. While the 1970s’ application of semiotics discussed the architectural multivalence, this paper is not concerned with the change of meaning through time. Nor does it build a Deconstructionist argument for deferral. Instead it will focus on a specific nature of architecture, that which assists in associating the present to the past and then to the future. This discussion on architectural ruins is a part of a larger study on the architecture that promotes participatory interpretation. Here “participatory” is used to specify the type of interpretation in which observers and inhabitants engage themselves in understanding the piece of architecture, reflecting on its world and ultimately furthering the understanding of the self. Such interpretation is to be distinguished from the type that aims to arrive at the original meaning by the author.

In order to understand the participatory interpretation of architectural ruins, it is helpful to refer to the French philosopher Paul Ricoeur (1913-2005) and his discussions on “The Hermeneutical Function of Distanciation.” Ricoeur began the article by rejecting what motivated Hans-Georg Gadamer (1900-2002), that is, the opposition between “alienating” distanciation and participatory belonging. For Ricoeur, distanciation is “positive and productive,” and as such not an obstacle but an essential condition of communication. In order to demonstrate this, Ricoeur discusses the nature of the text. He characterized the discourse as an event, as compared to the language as a system. When a discourse turns from speech to a written text, it gains autonomy, away from reference or context that may otherwise give primacy to the original meaning either by the author or the society. What must be interpreted of the autonomous text then is not the original meaning hidden behind it but is “the world of the text” in front of it. Ricoeur goes on to say that such a world of the text is something that “I [the interpreter] could inhabit and wherein I could project one of my ownmost possibilities.” As such, the text is self-reflective of the interpreter. A third kind of distanciation, while the first being Gadamer’s distanciation to be overcome between the interpreter and the author, and the second being Ricoeur’s own notion of productive distanciation between the author and the text, then is that between the text and the reality, in the sense that through the interpretation of the text, the everyday reality is “metamorphized by what could be called the imaginative variations which literature carries out on the real.”

Architectural ruins promote “positive and productive” distanciation in at least three ways. Firstly, just as the text fixed by writing, architectural ruins like any other built objects have textual autonomy, which separates them from the original meaning. Secondly, architectural ruins carry in their physical properties what Austrian art historian Alois Riegl (1858-1905) called “the age value.” To compare with his “historical value,” “age value” is based first and foremost on the signs of age by way of natural, or intrinsic representation. It does not rely on
the significance of its original purpose or context, on which the “historical value” is based, nor does it require such knowledge from the viewer. Age-value therefore is accessible disregard of the viewer’s education or taste. Ruins’ features including missing parts of the buildings, decayed stones, and growing vegetations indicate the time passed. This is a special quality of architectural ruins, although there can be other non-ruinous building that have the similar value by way of patina or weathering on the building. Thirdly, the obvious lack of any use or purpose of architectural ruins further emphasizes the distance. These three aspects promote distanciation between the original context that necessitated the building on the one hand and the interpreter on the other.

Figure 1. Myles Birket Foster, “The Deserted Cottage,” an illustration for William Wordsworth, The Deserted Cottage (1859).
In William Wordsworth’s works, the architectural ruin is a recurring theme that relates to the loss of life. “The Ruined Cottage” (1797) is a story of a cottager and his wife. Misfortune befalls, and the husband leaves home to join a troop of soldiers. The wife waits for his return till she dies in increasingly wretched situation, and the cottage falls into ruin. In “Michael” (1800), a story is told at the site of a ruined cottage (fig. 1), of Michael who used to live there. Faced with family misfortune and to evade the loss of the land, he decides to send his son Luke to the city. There, Luke disgraces himself and disappears abroad. Michael dies in grief. “Elegiac Stanzas Suggested by a Picture of Peele Castle, in a Storm, Painted by Sir George Beaumont” was written in 1806 in relation to the loss of Wordsworth’s youngest brother John at the sea in the preceding year, who was a captain of East India Company. It refers to the ruins of Piel Castle, located in a small island off the shore of Furness Peninsula of Cambria. The poem’s beginning lines carry the tone that whatever governed the original building is long gone:

So once it would have been … 'tis so no more;  
I have submitted to a new control:  
A power is gone, which nothing can restore;  
A deep distress hath humanized my Soul.

And further on, the castle’s old solidity is contrasted to the nature that now attacks the building:

And this huge Castle, standing here sublome,  
I love to see the look with which it braves,  
Cased in the unfeeling armour of old time,  
The lightning, the fierce wind, and trampling waves.

Sir Walter Scott (1771-1832), a Scottish poet and novelist, was the most successful writer of his day, both in popularity and critical acclaim. A prolific writer, he invented the literary genre of historical novel, riding on the great wave of the nineteenth-century historical consciousness and demonstrating the understanding of one’s nation through its genealogy. Scott’s novels are different from the earlier, “so-called historical novels of the seventeenth century” including Horace Walpole’s Castle of Otlanto, for which the past was an unfamiliar setting to entice the reader’s curiosities. To compare, Scott’s works provided a “new sense of history and a new experience of historicity,” by incorporating the actual historical events and characters with those imagined for the purpose of exuding the essence of a historical epoch being portrayed. If anything, Scott’s works brought the past closer to the reader.

Familiar from the childhood with stories of the region, Scott published in 1802-1803 Minstrelsy of the Scottish Border, a collection of ballads. His original works were first in the form of poetry, beginning with The Lay of the Last Minstrel (1805). Scott then moved onto the prose romance. Scott produced more than two dozens of works drawing from Scottish history, now called the Waverly novels, which include Old Mortality (1816), Rob Roy (1817), and The Heart of Midlothian (1818). Some of his later works deal with English history, of which Ivanhoe (1819) portrays the enmity of Saxons and Normans during the reign of Richard I, and Woodstock (1826) is set in the year 1651 during the English Civil Wars and revolves around Charles II’s escape from the country. Scott was the most successful and greatly admired author of his day, and his works were also great sources of inspiration in
other artistic forms – operas, plays, and paintings – up to 1890s.

In 1821 Scott published *Kenilworth: A Romance*. It took only four months since he began writing the first words. The story evolves around three historical individuals: Queen Elizabeth, Robert Dudley, Earl of Leicester and Queen’s favorite, and Amy Robsart, Dudley’s wife. The first half tells about Amy Robsart staying at Cumnor Place. As Amy decides to visit Dudley at Kenilworth Castle, the story also shifts its place in the second half. Shortly after Amy’s arrival, Queen Elizabeth makes her royal visit to the Castle. Amy encounters the Queen but cannot tell her what she really is because the marriage between her and Dudley is kept secret from Elizabeth in order to advance Dudley’s position in the court. Amy eventually is taken back to Cumnor Place, and there she is murdered by the order of Dudley, who suspects her disloyalty to him. Contemporary reviews, both Scottish and English, praised the work for the “brilliant and seducing” (*Edinburgh Review*) or “vivid and magnificent” (*Quarterly Review*, London) characterization of Elizabeth. The book had a great appeal among general readers, popularized the Elizabethan age, and ushered in nationalism.

Architectural ruins played an important role in Scott’s construction of historical novel, providing means to mark a clear distance between the past and the present and at the same time to give a clear sense of the real to that distant past allowing readers to identify themselves with the past. Scott used two modes in the text: one, of the storyteller, who narrated the sixteenth-century events as if they had been taking place presently, and the other, of the antiquarian, who historicized the past from the nineteenth-century point of view. As Scott oscillated between these two modes, architectural ruins supplied a long passage of time.

Firstly, just as protagonists in his stories were actual historical figures, Scott used actual buildings as the setting of the novel. He referred to the specific names of the parts of the building and the spatial relationships between them, sometimes restoring them to the time of the events and other times describing the state of ruin (fig. 2). For example,

> We cannot but add, that of this lordly palace, where princes feasted and heroes fought, now in the bloody earnest of storm and siege, and now in the games of chivalry, where beauty dealt the prize which valour won, all is now desolate. The bed of the lake is but a rushy swamp; and the massive ruins of the Castle only serve to show what their splendour once was, and to impress on the musing visitor the transitory value of human possessions, and the happiness of those who enjoy a humble lot in virtuous contentment.

Secondly, just as he included the genealogy of the monarch and the nation in the narrative, Scott gave genealogy to the building, referring to the parts of the building that bear the names of historical individuals and events. He even came up with his own nomenclature. An example is Saint Lowe Tower, referring to the historical Saintlowes who once tenanted the Castle. Another is Mervyn’s Tower (fig. 3), referring to a figure of Scott’s own creation, whose murder in the Castle foreshadowed Amy’s. Scott also described the building’s ornamentations, whether actual or imagined, that referred to the building’s past occupants and events.
Figure 2. William Dugdale, “The ground plot of Kenilworth Castle,” *The antiquities of Warwickshire illustrated* (1656).

Figure 3. “Kenilworth Castle as it stood in the reign of Queen Elizabeth to illustrate the romance of Kenilworth, 1575,” after the publication of Scott’s *Kenilworth*. “A Strong Tower” of Dugdale is now called “Mervyn’s Tower” after Scott.
Thirdly, just as he often described the manners and costumes of the story’s personalities, Scott described the architectural styles of the buildings, in order to give specificity of the particular time of the story. For example his description of the Castle’s Great Hall (fig. 4) reflected the typical style and furnishings of the day:

… the Queen … found her way to the Great Hall of the Castle, gorgeously hung for her reception with the richest silken tapestry, misty wit perfumes, and sounding to strains of soft and delicious music. From the highly-carved oaken roof hung a superb chandelier of gilt bronze, formed like a spread eagle, whose outstretched wings supported three male and three female figures, grasping a pair of branches in each hand. The Hall was thus illuminated by twenty-four torches of wax. At the upper end of the splendid apartment was a state canopy, overshadowing a royal throne, and beside it was a door, which opened to a long suite of apartments, decorated with the utmost magnificence for the Queen and her ladies, whenever it should be her pleasure to be private.v

Figure 4. John Britton, “Kenilworth Castle, Warwickshire, View of Part of Hall,” The Architectural Antiquities of Great Britain (1835).

In all these instances, architectural descriptions helped Scott bring the story vividly to life, and lend his work the power to allow the reader identify with the past. The concrete details of the buildings in which the story’s events take place, and the concrete states of the buildings with which to remind the passage of time – these two modes in combination earned Scott the popularity, and enticed many readers to visit these buildings. The weaving of the building’s glorious past and its forgotten present must have been highly effective in enticing the imagination of the nineteenth-century readers.

The discussion on architectural ruins has a wider application to that on architectural design in general. While architectural ruins drew the nineteenth-century literary authors and their
contemporary readers, there are other types of architectural designs that encourage participatory interpretation in different ways. With Tadao Ando and Peter Zumthor, for example, the observer’s attention is drawn to the few carefully selected and superbly constructed forms and materials. Either through distanciation or minimalism, architecture’s physical properties engage the observers and inhabitants in the participatory interpretation. Thus architecture has a way of contributing to the contemplation on the meaning of life.

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iv Scott, *Kenilworth: A Romance*, Chap. XXV.

v Scott, Chap. XXXI.
Rethinking everyday experience through design

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Abstract

The Shower Project was developed in the Designing Integrated Experiences class at the Herron School of Art & Design in responding to Designing Water’s Future initiative by the INDEX: | AIGA Aspen Design Challenge. The initiative aimed at generating creative design thinking to raise awareness of the emerging global water crisis. The complex and abstract nature of water problem required the designers to identify their disciplinary competence in engaging the initiative. What is the nature and scope of the problem that designers can solve?

Design is linked to everyday and the ordinary. Shower is one of the most dominant everyday experiences in interacting with water. Adopting shower experience, the author examined the concept of everydayness, which reflects the inherent structure of human relations with the world in ordinary, and inquired values and boundaries of design specifically from visual communication design perspective.

The presentation based upon a case study of the Shower Project comprises of three components: 1) the concept of everydayness and every day experience in designing, 2) design artifacts for bracketing and rethinking, 3) inquiry and action in design
Analysing the Evolution Revolution in Design
Or: How philosophy helps to sniff out false promises and untapped potential

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Progress report / Position paper
The aim of this paper is to show that a systematic, philosophical analysis of designing is useful in finding false promises, true innovations and untapped potential in evolutionary design processes.

More than a decade after the first efforts (e.g., Dasgupta and Michalewicz 1997; Bentley 1999), evolutionary design is becoming an established practice and expanding its scope. Evolutionary algorithms are no longer just used to solve problems in industrial engineering and computer science, producing timetables and data compression routines; they are also applied in solving design problems in, e.g., electronic engineering, mechanical engineering and industrial design.

Generally, evolutionary design processes involve a number of steps. First, a set of parameters is specified that spans a space of possible solutions to a design problem; and a set of performance characteristics is specified by which possible solutions can be evaluated. Many algorithms are furthermore based on a distinction between the solution space of possible designs (phenotypes) and a search space of a compressed bitstream representations of the designs (genotypes). The evolutionary algorithm starts with a random population of elements from either the design space or the search space. The performance characteristics of these elements or their phenotypical expressions determine their reproduction rate: better solutions delegate more copies of themselves to a mating pool. There, a new generation is built by combining parts of the copied elements, with a small possibility of random change (mutation). The members of this new generation are added to the existing population and often old solutions are removed. This cycle of reproduction, replacement and possible mutation repeats until a termination condition is fulfilled.

Like many innovative practices, evolutionary design is accompanied by highly visionary claims. On the process level, evolutionary design (ED) is supposed to yield solutions without interventions by human designers: the algorithms “will do the designing for you”. On the product level, ED promises to yield innovative solutions: evolutionary algorithms might explore fruitful portions of design space that are ignored by or somehow inaccessible to human designers (see, e.g., Thompson et al. 1999: 167). In both ways, one more nail is put into the coffin of the idea that designing is an expression of individual human creativity.
Many engineers have their doubts about these visions. However, critics typically take a “wait and see” attitude. They assume that ED will sooner or later run out of steam because of a lack of true innovations – or that it, when the dust settles, will be a type of computer-aided design: useful in optimisation steps, but not in conceptual design.

The aim of this paper is to show that (philosophical) analysis can be used to assess more systematically the revolutionary potential of evolutionary design. In particular, the use-plan analysis of designing (Houkes et al. 2002; Houkes and Vermaas 2006; 2010) is applied to examine the impact of evolutionary algorithms on various steps of the design process. This impact may take the form of merely ‘automating’ the step to significantly modifying or even eliminating it.

The use-plan analysis makes a conceptual distinction between plan designing and product designing. In plan designing, it distinguishes three steps: goal contribution, plan construction and communication. Product designing is analysed as an iterative setting of design tasks, involving task decomposition, task fulfillment and integration steps.

An application of this analysis to ED processes indicates several things – all sufficiently fascinating and practically important to study in more detail. First, it indicates that ED can quickly deprive itself of revolutionary potential by not considering goal contribution, and focussing immediately on a single design task, formulated in terms of technical performance criteria. This focus has the practical advantage of decreasing the size of the search space, but the disadvantage of preventing innovative contributions to practical goals. Indeed, one report of truly ‘creative’ evolutionary design – the evolved radio (Bird and Layzell 2002) – involves novel goal contribution rather than fulfillment of a design task. Second, it indicates that ED might be innovative in not containing any task decomposition (and, consequently, integration) steps. Surprisingly, however, many regard it as beneficial for practical purposes if evolutionary algorithms emulate top-down decomposition – although some reports of creative ED argue that the resulting device is innovative precisely because it does not seem the result of decomposition steps. Thirdly, and most tantalisingly, the analysis suggests untapped revolutionary potential on the level of plan designing: could evolutionary algorithms be applied to the construction of action scripts for users as well as to the design of artefacts?

The results of this first exploration are, of course, tentative. They need to be developed in detail, confronted with alternative philosophical analyses and informed by the dazzling detail in which engineers apply evolutionary algorithms. Still, the exploration shows that a potentially fruitful meeting of philosophical analysis and innovative design practices is possible. It avoids both ex ante skepticism and wishful thinking in favour of a systematic inventory of possibilities. It sets an agenda for future research in the philosophy of design, and it may show how researchers in ED may avoid false promises and even find untapped potential.

References


Visual Philosophy: An approach towards interpreting and mediating philosophical ideas through visualization

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Abstract

Most philosophical ideas can not be identified by the properties they have or through a fixed methodological reference framework but rather relate to subjective experiences with the theory they express and to the ability to connect this experience with the ideas presented. As many practice oriented fields, design research today faces the challenge of reflecting philosophical ideas without having a firm theoretical fundament. However, what designers do possess is a quick comprehension ability and a creative mind. Here the proposed project takes place. Our goal is to mediate between subjective experiences and reflexive understanding with help of film, in order to facilitate the comprehension of difficult philosophical texts and promote new ways of understanding these.

The transition of philosophical ideas and mental images to film attempts to meet both representational states involved in seeing and representational states involved in thinking about something. “Visual philosophy” is an important and pioneering project on the interface between humanities, arts and design and can provide a unique forum for students and researchers for cross-disciplinary inquiry about alternative media of and for philosophizing.

The main objective of the project is to link intellectual understanding to visual experiences. Its approach is to perform philosophical reading and thought by means of visualisation. This approach provides means to explore in which way such a form of visual philosophy is possible and how far it can contribute to teaching philosophy. “Visual Philosophy” will interpret ideas of Gaze and Cognition from leading philosophers such as Plato, Aristotle, Descartes, Kant, Hegel and Heidegger. In creating a set of film visualising passages from such different philosophical texts it will firstly try to give an interpretation of these texts and hint on relations between them. Secondly it will examine the possibilities of visualisation as a form of interpretation better. Thirdly it provides films which might allow a new approach towards perceiving philosophy.

Visual Philosophy is NOT about creating an image language for philosophy or explaining philosophy by pictorial representation. It will not deny the crucial role of language for philosophy and the unique qualification of language to convey abstract thought. Instead it wants to provide a new access and entrance into philosophy by creating visual equivalents to certain aspects of philosophical texts. This may allow the observers to find a new playful and designerly approach to the texts and the particular language philosophy is written in.
Abstract: Externalism in philosophy of technology, design studies, cognitive science, technologystudies, and material culture studies, has taken theoretical center stage. It is increasingly fashionable to assert that agency is not exclusively a quality of human beings, but an intrinsically distributed quality - inescapably of both humans and material things (devices, artifacts, technologies...). It is a case of externalism regarding the notion of agency. But there is a potential tension between at least three strands of thought, each with its own distinct programmatic argument, prominent in this literature. The contribution of this paper does not lie in discussing whether externalism regarding the notion of agency is justifiable; but simply to highlight (what seems to me to be) three rather different central arguments (and claims) that organize and inform the idea of material agency in this recent literature.

Key words: argument by parity; functional equivalence; coupling as constitution; material agency; embodiment; externalism; the locational claim; the constitution claim.

1. Introduction: Setting the scene

The first argument is that the specific details of human embodiment makes a special and equally ineliminable contribution to the agentive dimension of material things. Call this the Embodiment Thesis. Support for this view can be found in philosophy of technology (Ihde, 1979, 1983, 1990, 1993, 1998; Verbeek, 2002, 2005, 2008), in ecological psychology (Gibson, 1979), in philosophy of cognitive science (Noë 2002, 2009; Varela et al., 1991), and in anthropology (Gell, 1998; Ingold, 2000, 2005, 2006, 2007). The second argument is that humans and material things are ontologically proper parts of a larger functionalist network. Call this the Wide Functionalist Thesis. Support for this view can be found in actor-network theory (Latour, 1993, 1999), in post-processual archaeology (Olsen, 2003), and in cognitive science (Clark, 1997, 2001, 2003, 2005, 2008; Menary, 2006). The third, and final, argument is that humans and material things may be so coordinated that they make up a constitutively coupled system, and that some behavioral activity emerges from the joint collaboration of humans and material things. Call this the Constitutively Coupled Thesis. Evidence for this view can be found in cognitive science (Hutchins, 1995a, 1995b; Norman, 1988, 2004).

2. Externalism

Although the term "externalism" has its origin in analytical philosophy, the problems addressed are classical philosophical problems. Within philosophy of technology, cognitive science and the other scientific paradigms listed above, the issues at stake concern the relation between mind and world, between subject and object. For instance, Verbeek's
adherence to postphenomenology is an explicit attack on Heidegger's subject-object phenomenology. Externalism in the present context will be understood to involve two distinct (but interrelated) claims: the locational claim and the constitutional claim:

1. Locational claim: Agency is not spatially located inside an organism exclusively.
2. Constitutional claim: Agency is constituted in a relational ontological network, comprising both human and material actors.

Despite this important similarity (justifiability for the locational and constitutional claim), the three arguments favoring material agency are both distinct and in some degree of tension, as I will now (abbreviated it goes without saying) try to sketch.

3. The Embodiment Thesis

Support for the embodiment thesis is evident in postphenomenological approaches to technology (see Ihde, 1979, 1983, 1990, 1993, 1998; Verbeek, 2002, 2005, 2008) as well as in ecological psychology (see Gibson, 1979), in philosophy of cognitive science (see Noë 2002, 2009; Varela et al., 1991), and in anthropology (see Gell, 1998; Ingold, 2000, 2005, 2006, 2007. I do not propose to claim that these positions, denoted as advocating the embodiment thesis, are similar across the board; they are not! However, each position is based, I submit, on a similar programmatic argument underpinning the notion of material agency. It is this argument I call the embodiment thesis. In its unifying essence, the embodiment thesis is grounded in two supporting claims:

1. If \((X)\) - a technology - and \((Y)\) - a human subject - are so coordinated that they jointly constitute \((P)\) - some behavioral activity - then \((X)\) and \((Y)\) make up a causally coupled system.
2. Whenever \((X)\) and \((Y)\) jointly constitute \((P)\), human embodiment makes a special, nontrivial and ineliminable contribution to the agentive dimension of \((X)\).

The first claim of the embodiment thesis I take to imply: neglecting to take \((X)\) into account when explaining \((P)\) corresponds to not recognizing \((X)\) as importantly transforming the nature and/or generation of \((P)\), whenever coupled with \((Y)\). The second claim introduces a critical stance towards any full-blown eliminativism of human embodiment. Here “embodiment” is nontrivially taken to refer to first-person perspective, morphology, sensorimotor characteristics and the situationally embedded interaction of human beings. Hence, the embodiment thesis claims that when \((X)\) and \((Y)\) jointly constitute \((P)\), \((X)\) fundamentally transforms the nature and/or character of \((P)\), and that an irreducible part of the material agency of \((X)\) is contingent on the embodied dimension of human beings.

Verbeek emphasizes this in his postphenomenological work on human-technology relations (embodiment relations, alterity relations, hermeneutic relations, background relations and cyborg relations) (2005, 2008). The embodiment argument is also evident in Gibson's ecological approach to the concept of "affordance" (1979), in Noë's work on perception (2002, 2009), as well as in Ingold's work on the specific term "material agency" (2005, 2007).
4. The Wide Functionalist Thesis

The wide functionalist thesis differs substantially in its stance on material agency from that of the embodiment thesis. I find support for this thesis within actor-network theory as developed by Latour (1993, 1999), post-processual archaeology (see Olsen, 2003), and in cognitive science (see Clark, 1997, 2001, 2003, 2005, 2008; Menary, 2006). Again the positions here alter from each other, but share a similar programmatic argument framing the understanding of material agency. It is this argument I call the wide functionalist thesis. Like the embodiment thesis, it involves two separate (but interrelated) claims:

1. If \( (X) \) - a technology - and \( (Y) \) - a human subject - are so coordinated that they jointly constitute \( (P) \) - some behavioral activity - then \( (X) \) and \( (Y) \) make up a causally coupled system.
2. Whenever \( (X) \) and \( (Y) \) constitute \( (P) \), then there is no principled difference between \( (X) \) and \( (Y) \) in their contribution to \( (P) \).

Note that the embodiment thesis and the wide functionalist thesis shares a commitment to the first of the two claims. It is when considering the second claim we come across a central difference. On the wide functionalist thesis, the second claim is grounded on the principle of parity: that there is no principled difference between \( (X) \) and \( (Y) \) in their generation of \( (P) \). The following assertion follows directly from this principle: if there is no principled difference between \( (X) \) and \( (Y) \) in their contribution to \( (P) \), then it is equally credible to assign the same functional role to \( (X) \) as we normally or intuitively do to \( (Y) \). Alas, this view - although only to a certain extent - eliminates the role of human embodiment (first-person perspective, morphology, sensorimotor characteristics) when considering the agency of technology; favoring instead to explain human social behavior, cognitive processing, etc. by making references to network or systemic parts, and by analyzing their overall functionality. Of course bodily actions of humans are part of the means by which behavioural operations as well as cognitive operations are implemented. But what makes either a social and/or a cognitive process the one that it is, is simply its overall (wide, extended) functional profile.


5. The Constitutively Coupled Thesis

The final programmatic argument surveyed in this paper, I have defined as the constitutively coupled thesis. What is interesting about this specific type of argument is that its scope is directed at the specific computational (information-processing) processes jointly emerging in a system of person-in-interaction-with-technology (Hutchins, 1995: 155). Evidence for this type of argument one may find in cognitive anthropology (see Hutchins 1995) and in other cognitive scientific subfields (see Norman, 1988, 2004). Like the two other arguments highlighted, the constitutively coupled thesis is based on two claims, and like the two foregoing arguments, the present argument also embraces the first claim:

1. If \( (X) \) - a technology - and \( (Y) \) - a human subject - are so coordinated that they jointly constitute \( (P) \) - some behavioral activity - and \( (X) \) and \( (Y) \) make up a causally coupled system.
2. Whenever \((X)\) and \((Y)\) constitute \((P)\), it is the constitutively coupled system, in which \((X)\) and \((Y)\) are causally interlinked, that exhibits \((P)\).

This thesis is befriended with both the embodiment thesis and the wide functionalist thesis. First, it shares with the second thesis that what is of scientific interest is the extended computational and/or functional role of the overall network/system. It differs, however, since material agency - or simply the epistemic transformativity of technologies - is not derived from principled parity, but rather from the a position of co-constituency of each parts (humans and material things) involved. Second, it shares with the first thesis the central asymmetry between humans and nonhumans. But while the first thesis takes into consideration the phenomenology of human embodiment, the idea of human embodiment as playing a special, ineliminable role is not preserved. Rather, focus is on the difference between information-processing in the biological brain, and on how information-processing in technologies enhances and/or supports the tasks confronting the human brain. For several examples of this argument put to use, see Hutchins work on ship navigation and expert systems (1995).

6. Conclusion

In this short conference paper, I have attempted to highlight what seems to me to be three rather different key arguments and claims that both organize and inform the idea of material agency in the recent literature. Because of this, I think it is justified - relative to arguments I have presented and tried to substantiate - to conclude that the arguments I have termed the embodiment thesis, the wide functionalist thesis, and the constitutively coupled thesis respectively, each shed their own particular light on the discussion (and understanding) of the idea of material agency.

References


Fashion and Philosophical Deconstruction:
A Fashion In-Deconstruction

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Abstract
The paper explores the concept of ‘deconstruction’ and its implications in contemporary fashion. Since its early popularization, in the 1960s, philosophical deconstruction has traversed different soils, from literature to cinema, from architecture to all areas of design. The possibility of a fertile dialogue between deconstruction and diverse domains of human creation is ensured by the asystematic and transversal character of deconstruction itself, which does not belong to a sole specific discipline, and neither can be conceived as a body of specialist knowledge. When, in the early 1980s, a new generation of independent thinking designers made its appearance on the fashion scenario, it seemed to incarnate a sort of ‘distress’ in comparison to the fashion of the times. Influenced by the minimalism of their own art and culture, designers Rei Kawakubo, Yohji Yamamoto, Issey Miyake and, later in the decade, the Belgian Martin Margiela pioneered what can legitimately be considered a fashion revolution. By the practicing of deconstructions, such designers have disinterred the mechanics of the dress structure and, with them, the mechanisms of fascinations that haunt fashion. The disruptive force of their works resided not only in their undoing the structure of a specific garment, in renouncing to finish, in working through subtractions or displacements, but also, and above all, in rethinking the function and the meaning of the garment itself. With this, they inaugurated a fertile reflection questioning the relationship between the body and the garment, as well as the concept of ‘body’ itself. Just like Derrida’s deconstruction, the creation of a piece via deconstruction implicitly raises questions about our assumptions regarding fashion, showing that there is no objective standpoint, outside history, from which ideas, old concepts, as well as their manifestations, can be dismantled, repeated or reinterpreted. This constant dialogue with the past is precisely what allows designers practicing deconstruction to point to new landscapes.
A meta-model for communication in engineering design

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An extended abstract of:


The paper seeks to distinguish between two complementary but different ways of viewing and explaining communication: One view focuses on the ‘mechanics’ of the process of information transmission – here termed the mechanistic view; the second view considers the process of technical information transmission in its wider context of interaction, understanding and the situation – here termed the systemic view. For a cognitive and social process, such as communication, it is important that both ways of conceptualising communication are addressed. The conceptual meta-model of communication will be gradually built up through the paper, drawing mainly on Shannon and Luhmann.

The aim of this paper is not to compare these views in terms of their efficacy in describing engineering design communication, or even guiding design communication practice, but rather to explore and show how they represent different ways of thinking about communication in design. The meta-model proposed here shows how different ways of conceptualising communication could lead to different ways of understanding where communication problems stem from and whether communication processes in general and especially within industrial practice can be controlled.

The concept of communication brings different connotations to mind among different people. It may at first sight appear rather straightforward and commonsensical. If we were to address colleagues at work with a question such as ‘How is the quality of communication in your department?’ we will receive many different answers. By asking this seemingly trivial question and listening to the responses, we will notice how multifaceted communication is and how different communication can be seen, how different aspects will be emphasised and how different a story can be told.

The replies might give attention to the type of information transmitted, how people interact, who is conversing with whom, what is the context of communication and whether the individual is giving appropriate and consistent weightings to different aspects of communication, such as information transmitted, interaction modes and the situation it takes place in. We seldom ask ourselves whether or not the person we are talking to is drawing the same conceptual boundaries around the idea of ‘communication’ as we do ourselves, or as other people to whom we might address the same questions. This is not to say that we all should have the same conceptual boundaries, but rather to point to the fact that they differ, that there are different ways of telling a story and that we should take account of the
differences while communicating. It is to say that different ways of conceptualising communication might go hand-in-hand with different ways of thinking about the world. This, in turn, might go hand-in-hand with different ways of ‘intervening’ in the world.

With respect to intervention, the meta-model for communication in engineering design presented here is envisaged to be useful for highlighting different communication issues in industrial practice. It is part of a wider research project that aims at assessing the current and the desired communication situation in design teams.

Outline
1. Introduction
2. A conceptual meta model of communication
   2.1 Transmission models: a mechanistic view
   2.2 Focus on understanding: a systemic view
   2.3 Communication problems
   2.4 Control or influence of communication?
   2.5 Information transmission embedded in understanding
3. The model applied to engineering design communication
   3.1 Engineering design communication: technical aspects
   3.2 Engineering design communication: human aspects
4. Summary and conclusion

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Can we measure emotions for design?

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Introduction

Design is a heterogeneous field of research, simultaneously pursuing a number of varied and contrasting empirical research programs. Historically, these programs of research have been informed by different established traditions of inquiry from other fields. For instance, a substantial amount of design research borrows from, and is modelled on, research conducted in psychology and cognitive science. But theories and approaches to inquiry have also been borrowed or adapted from organizational science, sociology, anthropology, engineering and elsewhere. Partly on account of this, there are a number of foundational philosophical issues that tend not to be discussed so often in our field. (Design research has not developed very many of its own unique methods of inquiry, and those it has developed have typically been advanced on pragmatic grounds (e.g. ‘this seems to work’) rather than from ontological or epistemological grounds.) Notable exceptions to this tend to originate either (a) from those who are primarily concerned with establishing philosophical foundations for the field (e.g. Friedman 2003; Love 2000) or (b) from those who offer critical philosophical appraisals of other frameworks for inquiry (Galle 2009). It is the latter kind of discussion that pays more immediate dividends for the field, as there is already an empirical tradition with its own results in existence. Thus, readers are better able to determine for themselves the merits, importance and validity of such philosophical considerations for the conduct and validity of inquiry, as they can assess those arguments against a research program’s existing empirical findings.

In any case, there is ample occasion for the discussion of more of these foundational issues that pertain to inquiry and methodology in design research, and it is to this discussion I wish to contribute. I take the view that on the whole, there is not enough discussion between different research traditions in design, and that the field has much to benefit from such internal (intra-design research) critiques.

In this piece, I offer a critical analysis of one of the more developed and sophisticated attempts to measure emotions elicited by designed products. This has been a fertile research program, gaining prominence in the last decade. My criticisms are not aimed at invalidating this program of research, which I believe offers important and practical benefits to design practice. I only want to use this as a particular example to bring into relief some of the philosophical (conceptual) issues that must logically precede empirical inquiry.
Can we measure emotions for design?

Pieter Desmet has, over many iterations, developed his own tool (PrEmo) for conducting research on some of the relationships between design and emotion (Desmet 2003). Desmet exhibits a great deal of knowledge about emotions, and his research exhibits care and rigour. He is conversant with much of the leading research in psychology and the cognitive sciences on emotions, and has surveyed many of the different methods researchers have used to study, isolate, identify and measure emotions. In each of these regards his work has been of a high quality, and is among the most respected work in this particular sub-field.

But the issues I want to address are actually prior to each of these achievements of Desmet’s. In a characteristically clear paper on measuring emotions for design research, Desmet makes the following statements, around which I will organise my own discussion:

“Before one can measure emotions, one must be able to characterise emotions and distinguish them from other states.”

“Although the concept of emotion appears to be generally understood, it is surprisingly difficult to come up with a solid definition.”

“…in psychology, one finds various traditions that hold different views on how to go about defining, studying, and explaining emotions. The last 100 years, psychologists have offered a variety of definitions, each focussing on different manifestations or components of the emotion… (T)here seems to be no empirical solution to the debate on which component is sufficient or necessary to define emotions…” (my emphasis).

I want to critically discuss the philosophical and methodological assumptions that undergird each of these arguments.

Before one can measure emotions…

It is undoubtedly the case that before we can measure something, we “must be able to characterise [it] and distinguish [it] from other [things]”. Yet before this, we must first be certain that the ‘something’ we wish to measure is itself a phenomenon amenable to measurement. In this respect, Desmet, and some of the empirical psychologists who have preceded him, have made this assumption a priori.

Although the concept is ordinarily understood, there isn’t a solid definition…

Emotion is a word in our everyday language. We talk about them all the time, we use ‘emotion terms’ of ourselves and others, we identify their appearance in others’ actions, when we self-reflect we recognise and identify them in ourselves. I see little basis for raising any doubt that emotions are ordinarily understood, and ordinarily understandable. But Desmet’s point is that the concept “appears to be generally understood” and that it is “surprisingly difficult to come up with a solid definition” (my emphasis throughout). The assumption here appears to be that in order to understand a concept, we need a “solid definition”; that our ordinary understanding is predicated on concepts having precise definitions, or being able to be precisely defined. For this reason, Desmet does not say that we ordinarily understand the concept of emotion, but rather that we appear to generally understand it.
There is no empirical solution that can settle a debate about the definition of a concept...

To paraphrase Desmet: before we can study emotions, we must be able to distinguish them from other things. Yet in order to do this, we have to decide what is to count as an emotion (or a display of emotion). As such, a study of emotion must necessarily presuppose what is to count as an emotion. So if the definition of emotion, i.e. ‘what counts as an emotion’ is debatable, there can be no empirical solution to this debate. It is the nature of empirical research that it presupposes conceptual issues; conceptual matters logically precede empirical ones. Thus, even if we imagine a wholly ‘unmotivated’ inquiry into emotion that does not begin with an operational definition, the researcher must rely on something to identify emotions in the study. With a topic like emotion, that ‘something’ s/he relies on is usually what we would call common sense, intuition, or the his/her own unarticulated competence as a member of the same ‘culture’ of the people studied. In order to identify emotions, the researcher must understand (i.e. be able to see, identify, recognise) the actions, expressions, language, natural reactions, behaviour, etc. of the people s/he is studying. In order for emotion to become a formal topic of study, we must first specify people’s ordinary grounds for finding, applying, identifying, etc. emotion (c.f. Sacks 2003; Wittgenstein 1960).

I have so far identified three challenges arising from the philosophical assumptions that necessarily precede this kind of empirical research. Realising that there isn’t an empirical way to settle for us what should and should not count as an emotion, the real challenges for researchers are to demonstrate (a) that our ordinary concept of emotion is, as it stands, a phenomenon amenable to measurement, or (b) that our ordinary understanding of emotion is predicated on the existence of a solid or precise definition. (These are more or less the same issue.) There is also a (c): to identify the ‘something’ that we ordinarily use to identify emotions, since that ordinarily determines for us what should and should not count as an emotion. If we could do (c), that would help us establish the existing boundaries of our concept of emotion—the criteria we ordinarily use to identify and apply the concept in our everyday lives. It would only be at this point, once we have these ordinary criteria, that we could assess the possibility of constructing an operational definition for the purposes of inquiry.

References
Beyond Affordances – Why direct perception is not enough in design engineering

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Background and motivation

In the last 20 years the concept of affordance have found its way into theories of industrial design, architecture and interface design for Human-Computer Interaction (HCI). The official history of the concept is that it was introduced by James Gibson, who challenged established perceptual psychology - from its origin in the work of Herman Helmholtz to recent “information processing” approaches to cognitive science - by turning away from experimental settings in order to attempt to understand how animals perceive the world according to the functional constraints within their natural environment (Gibson 1966, 1979). The approach is called ecological perception and the focus have been on the idea of a direct perception of the “affordances” of objects in the natural environment in the sense that animals and humans can somehow directly “pick up” information about the action-related potentials of objects and events in our environment without any need for representation and inferential cognition: we “directly see” that a particular stone affords throwing or a particular hill affords climbing.

The concept of affordance was picked up by Donald Norman and made available for HCI and the industrial design community (Norman 1988). The concept is appealing to designers because it expresses a kind of natural ideal of design, i.e. that the intended use of artifacts should be intuitively easy to understand without any explanatory help. If animals rely on direct perception of affordances as they move around in their natural environments, we as humans should be able to use artifacts of our cultural environment by relying on the designed affordances of the technology, e.g. from the handle on the coffee cup to the remote control for the TV. The concept of designed affordances of artifacts was appealing to the HCI community, because it was launched at the time of the general improvement in graphical interfaces and in harmony with important principles like the direct manipulation interfaces (Shneiderman 1983, Hutchins a.o. 1986). For industrial designers affordances can seem like a modern version of the normative aesthetics of modern industrial design and architecture as expressed in the catch phrase “form follows function”. If artifacts are designed to meet this norm, they should “express” their intended use functions more or less directly to the observer.

The problem I want to address is twofold. First the concept of affordance, as well as the project of “ecological psychology” to which it belongs, is highly problematic from a philosophical point of view in its attempt to bypass all problems of representation and inferential cognition. But at least it seems to be useful in orienting practical design, or so it seems. It has even been stated that the ecological approach is preferred not because it is a true theory of perception compared to classical theories, but because of its pragmatic role in
inspiring new ideas in design and aesthetics (Smets & Overbeeke 1994). This however amounts to articulating the ecological approach as a kind of "theoretical ideology" that might be maintained against better knowledge!

The second problem I want to address is the problematic extension of these ideas to complex interface design in systems engineering, where the paradigm of Ecological Interface Design (EID) (Vicente 1999, Burns & Hajdukiewicz 2004) claims to have a novel interface design methodology for safety-critical work domains, i.e. work domains like supervisory control of chemical plants, power plants or in transportation (air traffic control, ship bridge control etc.), where complex engineered systems are controlled by automation as well as by highly skilled human operators. In these domains EID claims that constraints of the work domain should be made directly perceivable as e.g. visible geometric constraints of objects and events seen in the operator interfaces in control rooms. The idea is again that there should be a direct perception of affordances and constraints and that operators should act directly in the domain “through the interface” (cf. the ideal of direct manipulation interfaces in HCI) without worrying about the interface itself as a representation, or otherwise as an “obstacle”, and without troublesome inferential cognition and reasoning. It sounds too good to be true, and it is.

The “direct perception” of affordances

Although the concept of affordance is always ascribed to Gibson, he is himself well aware (Gibson 1986, p. 138) that the idea actually originated in the work of Kurt Lewin, who sketched a new branch of Gestalt psychology that he called “Topological Psychology” (Lewin 1936). In an early paper (Lewin 1917) based on his experience as a German soldier in WW1, he made an observation about the relation of human agents to the environment in the form of the “landscape of war”. For the soldier a familiar object in the countryside like a building would take on an immediate meaning different from the usual one because of its functional role as a potential hiding places or place of an enemy attack. Lewin realized that objects in the spatial environment have a certain “suggestive character” (Aufforderungscharacter) that depends on our present goals and intentional relations to the spatial environment. The house “suggests” to the soldier that it can be a place of hiding or attack, although it “suggests” to the farmer who lives there that it is a home, a dwelling place and a shelter. Buildings “afford” these actions and activities based on the physical and geometric properties of buildings, but a particular affordance is however only meaningful within an actual relation to an agent who selects it (in the jargon of Gibson: who “picks up information” about the affordance).

The reason why affordances seem to appeal to designers and design engineers could be that we (as humans) experience functions and meanings of artifacts as immediately given within our embodied experience and within our lived relation with the world. Artifacts appear as directly meaningful to us and seem to “suggest” how they could be used. It does however not follow that this phenomenal experience is not mediated by cultural and cognitive representations and schemata, and we are not forced to adopt a radical anti-representationalist view on meanings and functions. In fact it is difficult to see how we could explain any mechanism of “direct perception” of affordances, without relying on some kind of inferential cognition from the kind of properties of objects and events that we can actually perceive (given our perceptual organs). As Jerry Fodor have remarked, “being-a-chair” is not the kind of property we can directly perceive, but we can infer that some object “affords”
sitting from the physical and geometric properties that we do perceive, but this is a meaningful inference and certainly not something given in direct perception (Fodor & Pylyshyn 1981).

Furthermore it is a problem, if we reduce the meaning of artifacts to their function. In stead of a dual theory of the structure and function of artifacts (Kroes & Meijers 2006), we should endorse a triadic theory of artifacts, i.e. separating form, function and meaning. In stead of an “ecological turn” in design theory, we could support a “semantic turn” (Krippendorff 2006). From a semiotic point of view Roland Barthes claimed in his early writings that every artifact is also a sign – at least in the minimal sense of being a sign of its own use (Barthes 1964).

Any artifact, e.g. a raincoat, necessarily becomes a sign of its own use, but this minimal functional meaning is however a reduction of the meaning of an artifact to its design and use functions. In any actual social and cultural context of use, artifacts will acquire additional meaning from the network of relations and actions they are involved in, and from the discourses regulating and articulating these activities. Even simple artifacts cannot avoid acquiring meanings beyond use functions and design functions, e.g. as a commodity and a type of clothing a raincoat will necessarily express a particular style and communicate intentions, values and meanings to other agents.

A final point that is sometimes overlooked in discussions about the value of the affordance concept for industrial design and HCI is that the dogma of direct perception makes it difficult to account for mistakes and misperceptions about the meaning and function of artifacts. The nature of our mistakes is important for theories about the design and use of artifacts. If our understanding of use functions is given in direct perception and not as a result of inferences based on our fallible knowledge, intuition and experience, it is however difficult to see how these mistakes arise. In HCI some researchers (Gaver 1991) have introduced the idea of “hidden” affordances and “false” affordances, but this begs the question, since hidden and false affordances will undermine the idea of direct unmediated perception and highlight the necessity of reasoning about cultural artifacts and their appearance as well as the necessity of human agents to negotiate their meaning and function within specific social activities.

The “ecological approach” in systems engineering design (EID)
Let us turn now briefly to the extension of the “ecological approach” to design engineering in safety-critical domains. Since the 1980-ies there has been a particular research tradition in Human-Machine Interaction (HMI) design that can be distinguished from the general HCI tradition, the latter often now identified as “interaction design”. The HMI-tradition has been called Cognitive Systems Engineering (CSE) and Donald Norman has also played a role here in the original formulation of CSE (Norman 1986).

In HMI in general the focus is not so much (as in HCI) on isolated PC interfaces, web pages and devices, but rather on the design of complex interfaces for work in industrial and transportation settings. These domains are often characterized as safety-critical and furthermore by a high degree of automation. The work activities are highly regulated and constrained, not only by the automation systems but also through procedures and training of the skilled operators. Interfaces in e.g. control rooms in industrial plants or in transportation systems are accordingly not simply “user interfaces” that need to be designed according to design guidelines and usability criteria. The users is these domains are highly-skilled and trained operators, and their work is to some extend to monitor events in the domain and follow and supervise control actions performed by non-human agents (such as automation
systems), but sometimes critical events require teams of human operators to intervene. In order to be able to shift from monitoring to active control human operators need to maintain a high level of situation awareness. This a key issues in design for safety in supervisory control (Endsley, Bolté, & Jones 2003).

The early work in CSE was done in the 1980-ies with a focus was on the distributed cognition between human and non human agents, the cognitive support of work tasks through the use of external representations and tools (Hutchins 1995), and on the role of shifting levels of automation for safety. Much attention has been given to different aspects of the design of information presentation and representation design (Petersen & May 2006). One of the fundamental findings of cognitive science is that “artifacts shape cognition and collaboration” (Woods 1998) because different physical media and representational forms provide different forms of cognitive support for work tasks. This is why “things can make us smart” (cf. Norman 1993) – or relatively “dumb”.

The “ecological turn” had its impact on research in CSE, and around 1990 two key papers introduced the framework of “Ecological Interface Design” (Vicente & Rasmussen 1990, 1992). The declared purpose of EID was to apply the principles of direct perception of affordances to the complex work domains that are the objects of analysis and design in HMI and CSE. The “ecological turn” in CSE is however problematic, because it has taken the focus away from knowledge and representation design issues. These complex design issues – which are not really a question of “interface design” seen in isolation, but a question of integrated systems design – cannot be dealt with through the design for direct perception. In EID constraints and invariant aspects of the work domain is seen as the key information to be integrated and conveyed to operators through geometrical constraints and invariant aspects of interface objects and events. An example is configural displays, i.e. display components that map several variables to a single geometric form. They have been found to be more effective in supporting work tasks than symbolic digital displays, but composite displays using multiple forms of representation were even more effective. Configural displays are not optimal designs, and the “coding conventions associated with each individual variable” must be considered, since the operator need to relate these unambiguously to the represented system states. It is not enough that information can be obtained easily from the graphics, it “must also be semantically meaningful in the context of the domain task(s) to be performed” (Bennett & Walters 2001).

There are in fact application domains where EID can be shown to work effectively, i.e. in (aircraft, ship, automotive) transportation where the work domain itself involves monitoring and supervisory control of physical movement. In these domains there is a kind of natural mapping between affordances and constraints of navigation and the mental models of navigators. External tools and representations supporting geometric constraints on navigation, e.g. the Closest Point of Approach (CPA) plotting in the use of ARPA radar in ship navigation, will therefore support work tasks though cognitive distribution (Hutchins 1995). Professional navigators will however never fully rely on their Automated Radar Plotting Aids (ARPA) in what EID would consider a perfect case of direct perception of objects and events “through the interface”. Even though ARPA is an important tool in modern navigation and collision avoidance, ship bridge operators are trained not to trust these tools without routine cross-checking of information by other means. Using ARPA during heavy rain for instance involves systematic adjustment of settings for the ARPA
display in order to discriminate and recognize represented objects that might be “rain clutter” or in fact other ships. Navigators thus oscillate between an "ecological" seeing through the radar into the current navigational situation and a critical attention towards the tools, interfaces and representations themselves.

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Overlooking the visual

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Abstract for regular table session
Based on a radical new definition of perception that has startling consequences for conceptions of language, intelligence, meaning, the senses, emotions and subjectivity, Overlooking the Visual, Demystifying the Art of Design, (2009) makes tangible connections between theory and practice, ideas and form, nature and culture. Building on the work of Dewey, Rorty and Putnam, it takes a pragmatic line of inquiry into the perceptual realm, moving debate away from the arcane and unknowable metaphysical miasma into the real world informed by knowledge and ideas.

It questions the existence of a sensory interface, suggesting that the concept of visual thinking is simply a philosophical construct and that not only language, but also perception is interpretative. From this new perspective it is possible to construct a means of dealing with spatial, visual information that is artistically and conceptually rigorous. The understanding that even the most intimate, seemingly magical elements of the design process are based on knowledge and knowledge alone, prepares the ground for a fresh artistic and conceptual approach to design, as well as establishing it as a holistic, critical endeavour. Demonstrating the real nature and value of design expertise, it has radical implications for design research as well as its pedagogy and practice.

The presentation will consider the extent to which this resolves some of the more intransigent problems of design research and also identifies some of the difficulties that emerge from this new paradigm. It will discuss both the hazards and criticisms arising from a challenge to many of the assumptions that over time have moved beyond question and become self evident, obvious and largely taken for granted. It will outline the benefits of querying the philosophical tradition that exiles materiality to a metaphysical wilderness, where it languishes, separated from intelligence, safely hidden out of sight, out of mind.

Set within landscape architecture, the main purpose of the presentation is to discover how deeply this new approach can impact on other design disciplines, and what relevance it has to those working at the intersection of psychology, epistemology, cognition and philosophy.
Phenomenology and Graphic Design Criticism: a re-evaluation of historical precedents in the age of Slow Design

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Abstract

The aim of my research is to contribute to the development of a self-critical and rigorous methodology for contemporary Graphic Design criticism. In Britain, the discipline of Graphic Design criticism is dominated by two paradigms, critical journalism (such as the work of Rick Poynor and Eye magazine) and practitioner-writing (the work of design writers within a flourishing neo-academic publishing sector), which tend to oversimplify concepts and underplay shared preoccupations with other creative disciplines (such as Fine Art and New Media). In particular, the paper highlights a tendency to under-theorise the notion of creativity, locating an alternative critical framework for Graphic Design among a group of designers working, in a phenomenological vein, in Europe the 1920s and 1930s.

The paper identifies an alternative genealogy for Graphic Design criticism, describing how this group of migrant artist-intellectuals - specifically László Moholy-Nagy and Gyorgy Kepes – influenced graphic designers (specifically in America) into the 1990s. At risk of operating at a distance from commercial imperatives, these latter designers used phenomenology to establish an academic framework for their discipline. However, their motivations have been misrepresented in the histories of Graphic Design. Their aspirations for making innovative work have been aligned with profound socio-technological change - discussed in terms of ‘postmodernism’ and ‘new media’. In the process, a strong philosophical heritage and underlying epistemological continuity that exists between Modern design and contemporary practices has become marginalized from Graphic Design discourse.

Critical writing is the primary object of my research. Through a detailed analysis of historical examples – from László Moholy-Nagy and Gyorgy Kepes to the Cranbrook Academy of Art – my paper rediscovers a lost (or displaced) philosophical tradition in Graphic Design criticism, arguing that phenomenology was significant in shaping its early discourse and continues to inform, implicitly, its more utopian tendencies today.

The conclusion argues for a fresh perspective on Graphic Design criticism in Britain, proposing that phenomenology has the potential to ask timely and (im)pertinent questions of established discursive formations, particularly in a digital culture, when notions of time, space and human creativity are high on the agenda.
Design Research Consolidation as a Design Society Crusade

CEPHAD 2010 // The borderland between philosophy and design research // Copenhagen // January 26th – 29th, 2010 // Regular table session
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Background
The Design Society [1], an international society for “people who share a common interest in design”, was established in 2000 based upon the informal WDK-organisation (Workshop Design Konstruktion), the network established around the ICED-conferences (International Conference on Engineering Design), and many international workshop initiatives, mainly operating in Europe. The author was co-founder of WDK in 1981, together with Vladimir Hubka and Umberto Pighini, co-manager of the ICED conferences and co-founder of the Design Society (DS). He is now member of the advisory board of DS.

Design Society has as one of its goals to “actively support and improve design research, practice, management and education”. This positioning paper is about DS’s concern about poor quality and chaotic structure of the engineering design research domain, and DS’s attempts to create consolidation. The paper sketches the symptoms and a diagnosis; tell about the dialogue on the problem in DS and ideas launched. In the conclusions the paper asks for help from CEPHAD, for its advice regarding consolidation, which we have the hope of making concrete in the form of a positioning paper for the ICED11 conference, which will be held in Copenhagen, August 2011.

The dialogue in Design Society
Analysis of conference papers and the reviewing process by ICED leads to diagnoses such as: “It is no simple matter to define the context, the research approach and the community behind research in engineering design” (Cantamessa [2]) and “It is not easy to see the trends of evolution, to identify landmarks of development, to judge the scientific significance of the various approaches or to decide on the target fields of investments” (Horváth [3]).

The reviewing process of the ICED papers has sparse and often primitive feedback to the authors. At one of the conferences 1049 different keywords were used to identify 390 papers (McMahon [4]), and it is evident, that the number of seemingly different topics grows very rapidly over time (Birkhofer [5]). From our summer school on engineering design research, Blessing reports [6] that the large number of concepts paralyses the PhD students. The situation is concluded as being: “Fragmented, lack of rigour, no integrating efforts, limited impact on industry” [6].
DS’s management sees these problems as being the greatest challenge for the research area’s identity and reputation. But the action to be taken is not quite clear. Blessing [6] proposes issues we should care about:
- Terminology and common understanding
- Common model or a set of (partly shared) models, as a precursor to a theory/theories
- Classification of research area and research findings.

Samuel [7] asks for common goals, respectable tools and experiences, recommendable terminology and appropriate “transliterations”. At a DS board meeting about 20 delegates tried to identify core publications on designing. A list of approximately 90 books was proposed, but most of the delegates had not heard about more than 20 from the list and most were unread. So we are far from a situation where we agree on what is fundamental – and where we respect the fundamentals.

Understanding designing and research

Designers perform “work practices” and they are part of a “community of practice”. This is our research object; we study the practice in order to note down its patterns and to create scientific understanding, both with the purpose of developing methods and models for enhancing the practice. However, the industrial practice is very composed and we have no clear picture of the phenomena, which we actually study and theorise. My proposal [8, 9] for a clarifying Weltanschaung is shown below. I propose that we divide design science into four domains as shown and especially that we try to crystallise and separate the basic design phenomena from the large amount of activities performed in industry.
My simplistic model shall be seen as a mindset provoking researchers to distinguish between what they note from practice and what shall be seen as new empirical and theoretical contributions.

Ways forward?
I have my ‘heroes’, inspiring me in the search for consolidation. A couple of examples:
Horváth [3] has created a very interesting structured view upon theories and contributions, identifying nine contextual categories of design research, composed by 39 topics and 127 subtopics. Horváth has brought 328 basic research contributions into his structure as a kind of evidence. Horváth’s idea and mapping should be thoroughly discussed and applied.

Henderson [10] in her book “The use of models and drawings in practice” shows an exemplary treatment of the practice topics CAD, configuration, distributed design, etc. by studying the basic research issues of codification, conventions, boundary objects, coordination and communication.

I believe that dialogue about basic issues can bring us further to consolidation. Many good textbooks have been created where the author presents an “arranged practice” as his or her perception of practice, theories, ideas and pedagogics, i.e. a “school”. But these books only implicitly bring research fundamentals to the audience.

A proposal
I am sure that Centre for Philosophy and Design can help Design Society in establishing a framework and reference of understanding of what it takes to create consolidation. I propose that a positioning paper and speech be prepared for the ICED11 conference in Copenhagen [11], showing the profile and endeavours of CEPHAD and this group’s reflections on configuration of design research.
References

Abstract

In this paper we discuss the role of requirements in the design process, and the relationship between requirements and creativity. Starting with a brief outline concerning the different notions of the requirements and constraints that frame the creative design process, we propose an aporetic discussion scheme that points out the dialectical character of design requirements and constraints enabling creativity between openness and rigidity. Based on that model we discuss the possibilities and necessities designers face when trying to bridge the outlined polarities in their daily work. The concluding remarks are pointing out some questions and theses for further discussion.

In both the design and related literature, a lot of different terms are used to describe the frames introduced and applied in the design process. In this paper we discuss such requirements and constraints on three different levels; principal constraints, design requirements and desired properties. Requirements are considered as a highly important part of the design process (Holtzblatt 1995), within software design this has even led to the emergence of the research field Requirements Engineering (Ceng & Atlee 2007). The subject of requirements are linked to important elements as cost (Walz 1993), uncertainity (Herbsleb 1993) and creativity (Amabile 1996, Dorst & Cross 2001, Stokes 2005).

When it comes to the relation between creativity and requirements, these writers present conflicting views on the properties of the relationship. One line of argument argues, that imposing constraints leads to diminished creativity (e.g. Amabile 1996), the other claims that without any constraints creative work is impossible resp. that changing the set of requirements is a creative act in itself (e.g. Stokes 2005). The arising paradox can be related to what Hyysalo (2002) points out as the two divergent traditions describing design: The “rational problem solving” proposed by Simon (1996), and the “reflective practitioner”-approach presented by Schön (1983). If we take both lines of theory and the observations that lead to their formulation seriously, it looks like, that bridging these seemingly paradox realms is what designers obviously do every day in their real world working environments!

In the paper we propose a mapping of the main polarities around the issue of enabling creativity through working with requirements and constraints. We discuss the dialectical relationship around the notion of requirements framing a design task as an aporia between openness and rigidity following the Socratic rhetorical figure (Plato 1999) and newer proposals for their application to contemporary issues (Pietschmann 2002). By that we become able to investigate the puzzlement about the observation that both opposites seem
to be involved and necessary to come up with creative design solutions. The framework is used to discuss some current findings and prospective research questions in the area of design research.

**Literature**


Design Responsibility? A Duty to Whom or What and Why

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Are designers responsible to anyone or anything? Many of us think so. Suggesting to our fellows in conversation and to others through professional codes that we have a duty to all sorts of people and systems and ideals—clients or end users or society at large or the common good, for example. In all, anyone who calls on design to further their interests, or is directly affected by the results of design practice, or indirectly shaped by the collective efforts of designers and those for whom they labor. Whenever the topic of design responsibility comes up—the current argot for thoughts about professional duty ethics or morality—few argue that we need less of it rather than more. But when all heads start nodding over design and right action paired, on what foundation does this affirmation stand? That is, if we hold that designers are somehow responsible to others, what reasons can we offer to justify our position? And, are these reasons reasonable?

For example, many point to personal morality as a logical foundation for design responsibility. That we designers are generally decent sorts, prone to neither ethical lapse nor criminality and each in possession of a functioning moral compass. Thus when combined, our personal integrities cannot but induce us to act professionally virtuous. Closer inspection of this perspective, however, reveals problems. Agreements about ultimate ends can be undone if opinions about the individual means used to secure them differ wildly. Or, if we were to agree on the absolute importance of certain values but disagree about their relative importance to one another, how can our personal moralities provide an impartial foundation for resolving conflicts?

Others among our ranks point to the law as basis for determining and governing design responsibility. That a legal system built upon widely held and long-standing moral principles should provide a sufficient ethical guide to and boundary for responsible professional action. Though valuable negatively as a means to prohibit unethical action or positively as a way to ensure fair binding agreements, the law is less proficient at resolving moral conflict. A crude tool or minimum standard providing little guidance to designers wanting to square conflicting legal and social duties arising out of contractual obligations, personal beliefs or professional codes of behavior. Moreover, a positivist rather than naturalist reading of the law suggests that it draws its authority less from moral codes and more from social convention or the ongoing interpretation of its secondary governing rules.

Still others rest their actions on role related morality—often as it is expressed in professional codes of conduct or perceived social standing. Arguing by analogy that as professionals, designers can draw moral legitimacy from and shape it out of a unique social contract in ways similar to lawyers or doctors. Two issues immediately arise out of this justification.
First, other professionals such as lawyers or doctors or police draw legitimacy from the clearly defined social duties under which they operate. These obligations are derived from their service to a larger common good: the rule of law, wellbeing of the human race or security of citizens, for example. What larger common good do we designers serve? Second, professional groups are distinct, setting clear boundaries between members and non-members. This boundary allows them to regulate the ethical conduct of their members and punish them for lapses. Designers, however, have no disciplinary boundaries. A handful of countries have licensing protocols but most do not. Most anyone can, without penalty, operate as a designer. How then can we realistically enforce notions of design responsibility arising out of role morality or professional standards?

The ultimate purpose of this presentation is not to answer whether we designers have adequately articulated a reasonable, rational theory for design responsibility. Rather, it will attempt to make sense of some of the more popular or common reasons and rationales we use to justify or guide our understanding of this responsibility. Reflection is critical. Design affects our individual and social status, our physical and psychological wellbeing, our perceptions of ourselves and others, our societies, our world. Our ability as designers to shape fundamental experiences, understandings and values makes it only natural to want to reflect on and assess the various rationales we offer to justify and claim responsibility for our actions.
The blank meaning of objects. Towards an aesthetics of design

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Introduction

The expression ‘objects of design’ can make think that there is an entity of design and consequently an ontology of design. With my paper I don’t intend to go so far. My goal is to develop a specific line of research: to study the meaning of the aesthetics of design inasmuch as the ordinary condition of useful artefacts is attributed an additional meaning (how? why? who?). I am aware of the history of attraction that objects have produced in those who wrote about design or also practiced design: Loos, Gropius, Kaufman, Baudrillard, the followers of ‘good design’, radical design, anti-design. I intend to describe my understanding of blank meaning (concept I am introducing) relating it with the aesthetics of design. If the aesthetics of design also contributes to add ontological consistency to design it could not please me more. To develop such particular line of research I am interested in studying the relation between the users and some particular objects, to understand the importance of marks of affection and autopoiesis (selfcreation) implied by that relation. Is it an inquiry of significances? It is, at least, a concern with design reception from a phenomenological point of view (what we do with the objects, how we handle them, what lies behind things, what is the sensory perception of matter). Related to this topic, I would like to study the relation between some objects and the most perfect sense of eco-design: the mental act of survival. The work of Csikszentmihalyi and Rochberg-Halton (1981) is very inspiring. The CEPHAD conference will be a major opportunity to discuss and clarify these objectives, and to outline an eventual specific project in the frame of a contemporary discourse on aesthetics of design.

Resuming the main points of this text, I would like to point out two phases that constitute the state-of-art of my research:

The current state:
1. the philosophical framework of phenomenology and hermeneutics that qualifies the individual as to-be-in-the-world (in-der-Welt-Sein) as an interpreter;
2. the creation of the concept of blank meaning related with autopoiesis as a theoretical catalyser;
3. the objects of design and its effects: objective and subjective qualities;
4. the objects of design as markers of the uniqueness of identity;
5. the aesthetics of design is not an aesthetics of ornamentation but an aesthetics of beauty in use.
The future state:

1. to deepen the relation between the concept of blank meaning with the aesthetics of design;
2. to work with study-cases: compare a collection of objects in order to describe objects as markers of the uniqueness of identity;
3. the blank meaning is not exhausted by emotional design;
4. to reflect about the bounds of beauty in design;
5. to clarify the scope and the meaning of an aesthetics of design and consequent influence into the research of philosophy and design.

**Blank meaning**

The experience of things may be considered in different contexts. Krippendorff mentions four: – operational context, sociolinguistic context, context of genesis, ecological context (1995: 156-184) – when discussing form and meaning in the frame of product semantics. It is my purpose to explore the phenomenological context of the ‘designed’ things from the perspective of the individual experience to underline the importance of autopoiesis through the relation ‘thing/subject’.

Evoking Husserl (1986) it's confirmed the impossibility of denying the natural attitude upon which the subject intertwines with the world. Through ‘phenomenological reduction’ – negation of the natural world –, the subject becomes incarcerated in his/her own solipsism, stripped from his flesh and bone condition.

Husserl also understood this after breaking the familiarity with the world in order to achieve the pure process of knowing. The Husserlian epoché (suspension of the natural world as if it wouldn’t exist) has found a new field: a transcendental subject who looks at things as mere objects of speculation. From this viewpoint, the existence of things is no longer important; what really matters to those who contemplate the world is to construe the essence of things without feeling the need to corroborate or not their existence. But what is the pure subject? Actually, the subject is not identified with the flesh and bone subject, and the experienced world is merely an imagined world. So, it is required a return to things themselves (zu den Sachen selbst): experience is a flux, and subjects flow in space and time with their own experiences. Consciousness and things share a common mode of existence, they are not separate worlds, because the consciousness of something is the way it “lives” within the incarnated consciousness, which assumes a content of individual existence. Consciousness is the conscience of something and facticity (the world of things, facts, events, sensations…) is indispensable to that of.

The phenomenology that arises from the Husserlian imperative “returning to things themselves” involves the essence in existence, involves the individual in the external world and asks for co-implications, interactions, dialect influences.

This approach to phenomenology interests me, because frames philosophically the context of the individual as to-be-in-the-world. In future research, I am intending to apply other insights from phenomenology to the aesthetics of objects.

Arriving to this point, I consider it would be interesting to discuss a third nature of technical artefacts: to the dual nature of technical artefacts (Kroes, 2002: 287-302) is added the blank
meaning of autopoiesis. By this expression, I mean the interpretation each individual makes of one object besides its ‘objective’ qualities. And that depends on both the object and the subject, but not in an expected way. ‘La Chaise’ (1948) of Charles and Ray Eames may not evoke any particular meaning in spite of its beauty and cult value (among other characteristics). But the wooden jewel-case I received from my grand-mother accompanies me in the several moving in and out of houses and of countries. When I am living in a very different landscape and human environment as are mine from birth and temperament, the wooden jewel-case with little flowers in mother-of-pearl participates in what I called above the most perfect sense of eco-design: the mental act of survival. Even without particularly suiting in my decorative options, the wooden jewel-case that my grand-mother used thousand times gives me a sense of belonging and peace.

The experience of moving from country may help to define which are indeed the objects that cannot be left behind. It’s possible to sell ‘La Chaise’ of Charles and Ray Eames, but it’s impossible to sell the jewel-case even if it was made of gold.

This example serves to show the importance of the blank meaning of autopoiesis from the perspective of the subject, i.e., from the perspective of the individual interpretation.

On the other hand it is challenging to study the possibility of the objects of design in provoking such subjective effects. I argue that objects of design, as opposed to technological objects, are not exclusively functional.

Yves Zimmermann (1998) advocates another perspective. Examining concepts such as design, designers and design objects, Zimmermann concludes that the difficulty in finding criteria to allow an evaluation of such concepts’ content leads to the eventually wrongful application of criteria pertaining to the fine arts universe. To Zimmermann, such approach leads to a distortion of design’s own nature, avoidable if the designer had in mind that the ultimate goal of his activity is the resolution of specific problem based upon purpose, upon utility. Design is the activity employing minimum drawing and oriented towards the ultimate intent of objects own usability and utility. “The use is the truth: in the use of an object is revealed its truth.” (Zimmermann, 1998:114). For Zimmermann, the grater is the example of an object whose perfection of use makes it so discreet that it is virtually ignored as a design object. He emphasizes his position by considering that designer’s ‘artistic whims’ distort the projects’ intelligibility and usability.

Arguing that the designer’s activity should be solely oriented towards the resolution of a specific problem based upon purpose of use implies the simplification of the condition of existence. In effect, since the origin, artifacts that were made with the utmost utilitarian purposes assembled other values, allowing for cultural diversity.

In fact, some objects represent a formal effort of such magnitude that they become emblematic of the epoch in which they were created. The Braun electric shaver is a recurrent illustration of modernism as well as the Philippe Starck’s lemon squeezer is an illustration of post-modernism. In the 80s, in Milan, the second wave of the anti-design movement proclaimed the need to build a system of relations and functions (between subject and artefact) that would value a closer relationship between the product of design and its user. Organic Design, for example, reaches its apogee when it managed to adapt
organic forms to human morphology. Therefore, formal vocabulary develops an environment (sensitive, emotive?) as it appeals to the human sense of connection to an intuitive answer to own yearnings.

Human beings also relate to objects through affection, establishing relationships that shape their behaviour. Functional reasons are far from playing the major determining role in this inter-relational process with objects. Objects have symbolic importance because their purpose is not reduced to performance; they are also extensions of our mind, our memory, our personal history, playing roles of representation of identity that determine their self-recognition.

The moment in which the artefact is detached from its author initiates its destiny: the unknown world of the blank meaning, the field of effects that depend on the rapport of the individual with the artefact, not in the sense of the blank page but in the sense of the blank meaning. Surely the designer informs the product with a certain form, code, language, expected interpretations. I call the example of the Freitag Bags which are advertised as objects evoking emotions, because they are all unique.

The objects that participate in our identity are objects conveying affections, therefore marking the uniqueness of identity, they are objects of humanization. Those are the important objects in our existence, those connecting us to the past, composing memory, those whose importance is neither determined by material value nor functional value, but by symbolic and emotional value. The attribution of meaning to objects is what allows objects to overcome the status of trash, debris, unnecessary waste, and to gain life of its own, taking on the value of liberty and memory marker. Thus being, objects are extensions of the body and spirit of their users, playing important roles of identitarian representation. I would like to refer here to the knowledge popularized by the neurophysiologist António Damásio (1999), proposing a metaphorical bridge between the intellectual ecosystem and the environmental ecosystem of the individual. The individual develops a personal and mental frame of behavior through the acquisition of an extensive patrimony of psychosomatic markers in which the material framework participates actively.

The individual construes the world of phenomenon with a reality that is not the-thing-itself (Ding-an-sich), but a reality conveyed through interpretation (the thing and its interpretation). Based on this presumption, a justification can be found in the intersection of phenomenology and hermeneutic. According to Gadamer's definition of the hermeneutic circle, both the interpreter and what is being interpreted are in a circuit of mutual influence. The blank meaning of the object is the signification, despite the execution of all its functions, still allowing the individual to constitute his/her own signification.

**Aesthetics of Design**

It is questioned whether the “aesthetical” attribute intended for design evaluation concerns shape, performing design evaluation under the same conditions history of art did, or if, on the contrary, there is a specific aesthetics of design, whose identification derives out of the essential understanding of "aesthetic" (aesthesis – concerning senses and sensitivity), thus calling upon the experience produced by the object and not merely the form of its representation.
Design aesthetics would therefore be what confers the work an extraordinary dimension as denial of its own functionality, since it implies the individual's awareness and reaction opposing the functionalizing condition, subdued to the disposition of consumer of things. Therefore, the aesthetics I refer to is not the ornamentation aesthetics, but the aesthetics of the blank meaning as I will explain with the next arguments.

Through the objects' embellishment, ornamentation aesthetics contributes towards artistic redundancy resulting from marketing intervention as sales effort (reduction of society to the condition of market) closer to kitsch than to beauty. At this point arises the confrontation with the beauty of the work of art and its contemplative importance. Art operates exclusively within metaphor, as a vehicle towards another reality. However, it is not my point here to question the relationship of the work of art with the work of design, neither the relationship of contemplative beauty (art) with the beauty in use. Though it is important to emphasize that beauty in use is an expression of liberty.

Strictly functional arguments are today increasingly far from playing the main persuasive role in the purchase of objects. The objects' symbolic dimensions are discussed, given they are no longer self-sufficient if solely practical performance oriented. The objects are extensions of the body and mind of its users, performing important tasks of identitarian representation. But if the objects (some objects) are fulfilling a kind of need whose satisfaction seems to be more mental than physical, it is because a kind of dialectical circuit is possible: the individual establishes a blank meaning relation with (some) objects and (some) objects contain a kind of extraordinary dimension. That's what I intend to research under the topic of aesthetics of design. On which side is the aesthetics of design: in conception or in experience?

The paradox of technology and freedom is this recurrence between all facileness allowed by technique whilst potential for liberation and its trap of persuasive constraints. Producing things, working in order to buy things, using things, the individual may become an object among objects. In spite of all, technologically functionalizing, the human being replaces previous biological faculties with appropriation and artificialization of technical devices. Design artefacts, as opposed to technological devices, may not be exclusively functionalized. Satisfying the society consumerism through commerce, design converts society into market. As known, artefacts are not neutral, they develop social information and conformation, qualifying (or constraining) its users. Here I stress the aesthetic vocation of objects: beyond functionality and ornamentation, the objects' aesthetics should enhance the experience of beauty and experience of freedom. Naturally, through an effort of shape and qualification of the artificial, but also through human affirmation and dignification, protecting what is most sacred and genuine: desire and freedom, or rather the desire for freedom. The aesthetics of design would then be the conceptual decision rendering work an extraordinary dimension beyond its functionality.

In Norman Potter's words: "The more aesthetic and sensory latitude available within a particular range of design opportunities, the closer they resemble those offered by the practice of "fine-art". The less freedom, the closer design becomes to the sciences, and to fields in which the scope of aesthetic choice is truly marginal" (1999:14).
The aesthetics of design contributes to the creation of artefacts for life, which cannot replace life. This is design’s ultimate aesthetic sense: the promotion of aesthetics for existence. Design creates metaphor-objects that accommodate existence more than representation.

Short Bibliography


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The concerns about the nature of canon and margin associated with the recently growing interests in conservation and objects of cultural heritage (henceforth CH) are widespread. But the question of the individuation of a singular indisputably significant object, replete with confusion and difficulty, is widely under addressed. How is an object’s significance related to what conservation purports to conserve? Does conservation presuppose identity? If the significance of the object is constitutive of its identity, conservation would seem to be incoherent. How is a representation of significance possible? What might a representation of an object as significant entail? In this talk I articulate and distinguish the logical, conceptual and epistemological nature of tensions in the idea of an object of significance, with an emphasis on conflicting realist and constructivist intuitions. Such tensions are implicit in current discourse and, indeed, have an impact on the contemporary efforts to advance and regulate conservation standards and practices. I aim to establish a clearly central and exciting role for design in addressing these pressing questions. This role is loaded with both creative and ethical value, and enjoys the prospects of innovative technologies and a (possibly underappreciated but) enormous pedagogical demand. The principal part of the talk is devoted to an explanation of the proposed role for design derived from Kant’s notion of a schema in the Critique of Pure Reason.

My talk is derived from a larger philosophical project, but is specifically aimed to address designers and experts beyond the specialized areas in philosophy that this project engages.
This paper takes as its starting point the premise that a proper and complete design process—whether engineering-centric or otherwise—must situate at its center the end user(s). Design, then, has at all times a two-pronged path, namely the technical minutiae and the human-centeredness, that can never be disentangled and which makes design, as a professional endeavor, implicit in the domain of the ethical. Our second premise is that university students often have little curricular exposure to instruction in ethics, and even less exposure to controlled environment application, both of which mean that students in design courses often lack the skills they need in order to engage in beneficial moral reasoning and decision making. Our conclusion based on these premises is the motivation for the research described in this paper.

In the context of a large, multi-section, interdisciplinary design course, and funded by a seed grant, we have designed measures to integrate the instruction and assessment of moral decision making into the regular curriculum. We have developed a list of learning objectives, or outcomes; we have designed an assessment instrument—mapped to stages in developmental moral psychology—to measure pre- and post-instruction moral development and decision making; we have designed large-scale lectures, small-group workshops, and are working on long and short case studies as curricular material. This paper/presentation provides an overview of progress and a rationale for the decisions made in our curriculum design.
“Nobody with a good car needs justification”:\footnote{John Huston, Wiseblood, 1979} Design and the Concept of Justice

CEPHAD 2010 // The borderland between philosophy and design research // Copenhagen // January 26th – 29th, 2010 // Regular table session

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Jacob C T Voorthuis lectures in architecture and philosophy at the Technical University of Eindhoven. With a special interest in the relationship between society and design, he has lectured widely in The Netherlands, England, Europe and the Caribbean. He works as a critic and architectural consultant at the concept stage of the design process. His current research project involves an ontology of use, the attempt to put a new conception of use and the useful at the very centre of design thinking.

Abstract

This essay constitutes an abridged version of an extended essay forming part of my research into the ontology of use. The specific purpose of this essay is to investigate the relevance of John Rawls’ theory of justice (1999) to complex architectural design thinking.

The structure of the argument itself goes as follows: Use constitutes the production of social space. Use is what characterises our engagement with the world, and if use is what socializes us in that engagement because of the need to make use of the other in the maintenance of our ‘selves’, is then not every (design) decision we make about that engagement one whereby the idea of justice should play a central role? After all, justice is a concept within a discipline that attempts to think through our social and environmental engagement with the other. And if all this is true, then which theory of justice should we use in our design thinking? There are many to choose from. In this essay I want to explore the theory of John Rawls summarised in the slogan justice as fairness.
Master class sessions
Philosophical issues when design meets research

CEPHAD 2010 // The borderland between philosophy and design research // Copenhagen // January 26th – 29th, 2010 // Master class session
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Introduction to CITH
We are three PhD students part of a research collaboration titled Co-Constructing IT and Healthcare (CITH – www.cith.dk) headed by professor Finn Kensing at the University of Copenhagen. The CITH group moreover counts four senior researchers from CBS, DTU, and ITU. We are engaged in a collaborative effort with healthcare professionals at the Copenhagen University Hospital’s Heart Center, local cardiology departments and ICD patients (in short, chronic ill heart patients with an implantable device similar to a pacemaker). The CITH project’s aim is twofold. On the one hand we design, i.e. carry out (design) activities, in order to come up with IT and service solutions for the healthcare network. On the other hand we contribute to research by advancing methods and techniques for design of IT and services in healthcare.

The research fields that CITH departs on are: Computer-Supported Collaborative Work (CSCW), Information Systems (IS), Participatory Design (PD), Science and Technology Studies (STS). In short CSCW, IS and STS are multi-disciplinary fields based on research methods coming from sociology, psychology, and anthropology which, as opposed to the classic discipline of design. They take on a focus on analysis, i.e. descriptions of work settings, innovative conceptualizations of the relationship between the “technical” and the “social”, as well as elaborated accounts on problems in social settings (cf. (Schmidt and Bannon 1992; Kensing and Blomberg 1998; Bowker and Star 1999; Dourish 2006)). However, approaches that are experimental, explorative and interventionist (which are somehow closer to the classic discipline of design) are also part of the research conducted in these disciplines. PD differs by including research methods from the arts and by having a focus on solutions and methods of design and research.

Design and philosophical discourses within these research disciplines are therefore, to a large extent, a part of philosophies of the social sciences. Epistemological, ontological, and methodological discussions of the clash between e.g. design as research are not elaborated as within the emerging field of Design Research (Cross 1984). Being engaged in “design as research”, we are particularly interested in becoming more knowledgeable and articulate about the philosophical issues when research meets design.
Design as research

When we frame our research as being driven by design we mean that we employ design as techniques for inquiry. Informed by the insights from our fieldwork we design prototypes to act as probes for further inquiry into issues we find particularly interesting. As an example of this approach we are right now designing a software prototype that is intended to help us gain further insights into the levels of patient engagement.

We wish to explore the amount and quality of information ICD-patients are capable and willing to produce as part of their daily routine. By this we use the prototype as a tool to engage in a dialectical relationship with the daily practices of patients as well as with the software as a design material (Schön 1983; Löwgren and Stolterman 2007). This dialectical approach helps us refine our problem statements and hypotheses on how best to improve the treatment and care of ICD patients as well as evolving our practical understanding of possible solutions.

Issues of developing contributions through ‘research by design’

The fields of PD, CSCW and STS inform and shape the analytical insights that we employ in our research. However, we deliberately strive to work design methodologically with the field, thereby using design techniques and methods to generate knowledge. We employ design as techniques for research inquiry as well as working from a design-inspired outset, where we use the dialectical design approach to inform and reframe our understanding of the field in iterative moves between design and analysis.

By using a design methodological approach we are faced with questions of how analytical insights can be set to embody the characteristic principle and criteria for accountable, academic research, i.e. reliability, validity, and, to a certain extent, generalizability (Kvale 1996). We therefore wish to enter a discussion on how we are able to talk about these concepts when doing research by design – e.g. in terms of validity, how do we ensure consistency between what we set out the study corresponds to what the design prototypes actually explore?

How to articulate design epistemology, ontology and methodology?

We have recently begun discussing issues that Cross (Cross 2006) questions such as: Is it possible to talk about an epistemology, ontology and methodology that is distinct from philosophies of social sciences and in particular treats design as both a discipline of practice and research? However, Krippendorff (Krippendorff 2007) raises a provocation calling design research an oxymoron (a figure of speech that combines two contradictory terms). Design is concerned with evoking values and improving possible futures. In opposition, research (science) is concerned with value free (objective) knowledge without regard of its utility – as Krippendorff (2007, pp 73) argues: “They pursue unlike epistemologies.·”.

However, and as an important argument of STS, science is, similar to design also socially constructed (Latour and Woolgar 1986). Science could then be interpreted alongside design as sharing characteristics of the relationship to knowledge production. Combining Cross’ inquiry into design and STS’s inquiry into scientific practice a question arises: “What do designers (we) bring into being as part of the social and/or scientific practice when creating
artefacts and/or knowledge?” And moreover adding to the realm of modern healthcare: “What new realities, truths and meanings do we, as the hybrid practitioners of being design-researchers, bring into healthcare?”, and “what kinds of logics and rationales do we enact when doing research by design?” (Berg 1997; Mol 2008).

**References**


Design Governs our Behavior

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Extended abstract

Design is a ramified field with affinities to as diverse professions as art history, economics, anthropology, technical studies and psychology – and many more. However until recently design history and design theory have almost exclusively been the domain of art historians. For the same reason traditional design research has focused mainly on the stylistic and aesthetic aspects of design while functional issues have not received the same scholarly attention. In my Ph.D. thesis: ‘The Form Shapes the Norm. A discussion of design as a Way of Governing Behavior’ I am exploring how designers through their practice anticipate and sanction certain behavior patterns while discouraging others.

My research question is: Does design govern our behavior and if yes how does this influence manifest itself in material structures? Should the critical design researcher look to the intentions of the designer, the object itself or – as anthropologist Bruno Latour suggests – in the network formed by human and non–humans alike. Personally I find the last possibility most promising but find it hard to combine this approach with the form–sensitive sort of analysis that I think is mandatory for research in design.

The PhD project revolves around a rather comprehensive case study of a relatively new prison in Denmark, called Statsfængslet Østjylland. However my thesis is that design influences human behavior in a wide variety of settings ranging from the very subtle to more extreme cases in which design explicitly hinders certain unwanted users or uses. In fact, any design object have been created with certain uses in mind – even the most anonymous cup suggests a way of holding it as well as a way of drinking from it. On the other extreme we find objects made to explicit exclude specific users such as the ‘Bum Proof Bench’ shown in Mike Davis ‘City of Quartz’ which have a rounded seat (a bit like a barrel) to prevent homeless people sleeping on it. My claim would be that designers work with supporting or changing behavior patterns all the time but that this important aspect of their work has not received enough attention in design education and design research at large.

Ultimately I want to make designers as well as the users of their designs more aware of the social values that influence the design process and hence the designed environment. These values are not necessarily shared by all users of a space, interior or object and may serve the interest of some user groups more than others. If these interests even shape our understanding of certain situations and therefore influences our behaviour patterns then design is potentially a very powerful instrument for those who know how to use it. This power can obviously be put to bad as well as good uses.

1 In Danish: ‘Formen følger normen. En diskussion af design som adfærdsregulerende praksis’
In their book *Nudge Improving Decisions About Health, Wealth, and Happiness* legal scholar Cass R. Sunstein and economist Richard Thaler suggest that many people need incentives to help them do what they want to do but can’t always get around to doing. They show that by altering small details of a set up it is possible to affect peoples’ choices massively. For instance placing the healthy food where it is easily visible will make sales of wholesome foods go up instantly or by using small plates people will actually eat less thereby loosing weight. Knowing explicitly about such mechanisms and bringing them to active and reflected uses in their work designers can strengthen their role as one of the most important and influential ‘choice architects’ of modern society.

As a consequence of the above chain of reasoning I see design as a major and yet largely unexplored tool for changes in everyday habits. Seen this way design can seriously affect such pressing and ultimately political issues as climate (by promoting a green life style), health (making good eating habits easy) and crime issues (making it harder to commit crimes by physical measures). Design is as much about anticipating behavior as about creating attractive things. As such design should be assessed not only in terms of its aesthetic and stylistic merits but also in terms of its moral, political and social consequences.
Scanning the terrain: Creativity and embodiment exploring the use of BadIdeas, improvisation, reflection and replay

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Abstract
This paper focuses on a research proposal to test the effects of a creativity method called RePlay. An embodied approach towards creative process is put forward as an opportunity to observe creativity in action as well as induce reflection both inserted in the process as well as afterwards. This conceptual method builds upon Alan Dix BadIdeas as well as improvisation techniques and the use of props in collaborative and creative process. Theoretically it considers the writings of biologist, neuroscientist and philosopher Francisco Varela regarding embodiment. Research questions are also raised regarding the importance of context and reflection as part of the creative process and the role of embodiment.

Keywords: props, BadIdeas, RePlay, creativity, improvisation, embodiment, reflection, design research, design methods, context.

1. Introduction:
This paper describes a proposed pilot study to observe the creative process using an experimental design method called RePlay. RePlay as the title suggests, is a relaxed and playful however reflective approach to collaborative creative process. At first glance it combines Alan Dix’s method BadIdeas with that of improvisation and the use of props. However on a secondary level the technique is embedded with opportunity for reflection both within the moment and after the fact. The rationale behind this is as an early stage researcher wanting to create a playful environment where by creativity could be observed in action in essence, a method as the title of this paper suggests that would allow one to scan the terrain of creative process. There is also a strong motivation to explore the value of reflection and context as something that can be incorporated in early stages of the creative process rather than later. Some of the research questions that are being explored are context and how an individual’s creativity is situated in as much the object they are creating as the audience/client and environment for which and in which they create. In this case context meaning the circumstances, this could be situational or environmental and therefore calling for an embodied approach. Another opportunity for exploration is to observe whether inducing reflection early on in the creative process influences creativity and creates new directions and requirements (Schon, 1997). Reflection not only about process but also regarding embodiment meaning, experience and the influence phenomenological aspects play in the cognitive and in turn, the creative process. Varela et al (1991) suggest that embodiment is a concept that has been missing in traditional cognitive sciences. The design method described in this paper accounts for the value of experiential information in
this case via the conceptual process of idea making or designing. This paper is useful for other researchers engaged in qualitative design research or perhaps a phenomenological approach as well as the importance of embodiment in the creative process. Perhaps in the future RePlay could be useful for creatives, clients, stakeholders, designers, technicians, engineers and scientists wanting to explore design methods that work towards innovative leaps. What follows is a brief description of Dix’s design method and how I propose to experiment with the coupling of improvisation techniques and reflection, via audio protocol and the use of a prop using the method RePlay. I will also explain the concept of embodiment and its relevance to design research and creative processes and how this in turn relates to a phenomenological approach. I propose that by emphasizing context and reflection via improvisation and the use of a prop there will be a strong emphasis on an embodied approach to the creative processes and therefore an enhanced creative process.

2. Detailed Description of RePlay
Through the use of a prop1 as a catalyst in the creative process, participants will be asked to improvise use cases based upon my supervisor Alan Dix’s BadIdeas method. Dix’s method BadIdeas is a technique that uses a ‘bad’ or ‘silly’ idea approach to inspire creativity and teach critical thinking in the design process. One of the characteristics of BadIdeas is that it encourages divergent thinking. Later participants are led through a process of reflecting upon their ideas in a more convergent or analytical way. Dix et al (2006) describe one of the ways the process could be structured is through the use of prompts one of which is role play whereby the participant considers a use case where a BadIdea might be useful.

One of the goals of combining Dix’s method with that of the bodily via improvisation as well as verbal externalization is to induce reflection early on in the creative process and observe whether doing this type of exercise at this early stage influences creativity and creates new directions or requirements for the process. Dix et al (2006) describe this process as body storming through a use case. Keith Sawyer a professor of psychology and education has done a great deal of research on the theatrical history and the applicability of improvisation to the creative process. In particular his research focused on the use of improvisation by Jazz musicians (Sawyer, 1999). I wish to explore improvisation as a way to extend upon Dix’s use of body storming and reflection by embedding one of the actors in the group as a reflector. The role of the reflector being to verbally externalize what is going on in the improvisation as a kind of verbal protocol of the process. Another element that will be added is a prop as discussed earlier in the introduction of this paper. The prop will work as a constraint in order to guide the improvisation towards exploring the properties of a BadIdea.

Props have a history of use in design research as a way to collect feedback and other pertinent information regarding use. Caroll and Tobin (2003) have used props and body storming as part of their research on design innovation through the use of technology. They refer to this process as ‘envisionment’. However this process is focussed more on a user centered design approach directed towards the interaction of users and technology as can Bee seen in Fig.1 (Caroll and Tobin, 2003). As a result the props used as part of the creative process in this case have been endowed with technological functionalities such as GPS.

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1 “For a full dictionary definition, see the online cambridge dictionary at http://dictionary.cambridge.org/define.asp?key=63430&dict=CALD”
video and audio. Caroll and Tobin (2003) have also acknowledged the importance of constraints and in this case the design team provides constraints through real-time input to the players regarding the props being used in the performance. Below is a schematic of how Caroll and Tobin (2003) suggest the envisionment process operates.

For this proposed study the design/creative team is improvising the situation and given that they have completed Dix’s BadIdea method they have verbalized properties and therefore also some constraints regarding the use of the prop. However this is not to say that more constraints may not arise as this is part of the nature of improvisation due to audience feedback during the performance. Yet since it is the design/creative team that is body storming they will be doing on the fly creativity in a cross-disciplinary situation as type of embodied creativity.

In their paper Caroll and Tobin (2003) describe some improvements that could be incorporated into the ‘envisionment’ process. One suggestion has to do with the concept of ‘emotional make tools’ such as scissors, glue, scrapbooks, cameras and stickers; Lego and building blocks. “These are either emotional or cognitive. Emotional Make Tools are used to create artefacts that show or tell stories, for example collages or diaries. Users explain their artifacts to express feelings, dreams, fears and aspirations.” (Caroll and Tobin, 2003). By selecting props with materials that are open-ended they can function to better facilitate rather than narrow the possibilities of interaction.

So far the criteria by which I have selected materials is by their universal design and flexibility. It is important that these materials be tactile and allow for different structural shapes easily and quickly. This would be useful in terms of fast proto-typing due to time constraints. It is also significant that the props create experiential associations to ‘play’ since I would like the creative team to experience a relaxed and open atmosphere. Keeping in mind the spirit of openness in this activity, it is also important to consider
materials that have little or no cultural references since this could imply a strong symbolic language in terms of use.

The first material considered as a possible direction for a prop is felt. Felt is easy to use and flexible for creating mock-ups due to its softness and tactile qualities. The second material is a toy called a Furb\(^2\) that is basically a squishy ball that has rubber spikes on it. The rationale behind this was to inspire ‘play’ among the participants in a subtle and universal way by using an object that has little if no cultural associations besides an experiential association with childhood. The third object is Lego quite the opposite in terms of its cultural and social references since it has a strong symbolic language in terms of its use. However it also triggers memories of childhood and openness to creative process. Another benefit of Lego\(^3\) is its ability to be structural and an adaptable tool for quick prototyping. The fourth material is Play-doh\(^4\) a clay-like squishy material that can be modelled quickly and again is very tactile however can get messy and is not such an easy material to get people to use due to its stickiness and odour. At this early stage no decision has been made regarding the material to be used as prop as I would first like to play with different materials in different scenarios.

3. Evaluation and Theoretical Perspective on Embodiment

After completing this method participants will be asked to watch a recording of the improvisation as well as listen to the audio recording done by the reflective actor in the group. Participants will be asked to comment on the usefulness of RePlay as well to reflect on the kinds of ideas which came up through the process. Caroll and Tobin (2003) conduct reflection by asking the actors to reflect upon their actions goals and motives. It will also be useful to consider the use of props as part of the improvisation and whether they assisted or hindered the process.

The method I am proposing acknowledges the importance of situatedness as articulated by Lucy Suchman (1997) in Plans and Situated Actions and the role that embodiment plays in consciousness. It also acknowledges the value of ‘reflection in action’ as suggested by Donald Schon (1997). The approach which Varela et al. (1991) suggest as a ‘middle way’ approach acknowledges both the concept of ‘situatedness’ as well as ‘reflection in action’ since this approach considers not only what is happening inside the mind but also how much of what becomes a mental representation is an adaptation of external circumstances. Varela et al. (1991) call this adaptation structural coupling in that we create models of concepts based upon associating them with biological as well as cultural perceptions. The analogy used by Varela et al. (1991) is color and how an understanding of color can have perceptual as well as cultural foundations. This line of thinking can also be applied to the idea of participatory design whereby the context for which something is designed as well as

\(^2\) “For more product information, see [http://www.tobar.co.uk/](http://www.tobar.co.uk/)

\(^3\) “For more product information, see [http://www.lego.com/](http://www.lego.com/)

\(^4\) “For more product information, see [http://www.toysrus.com/product/index.jsp?productId=2326674](http://www.toysrus.com/product/index.jsp?productId=2326674)"
for whom the product is designed for should not be overlooked in the design process. Varela et al (1991) are influenced by a Buddhist psychological approach that acknowledges mind as a fluid embedded concept rather than only a biological machine. They are also influenced by Merleau-Ponty’s idea that perception is not only a product of the mind but also that perception contributes to the enactment of our surroundings. Likewise in Buddhist practice mindfulness training is a process by which one trains to become more aware of mental processes.

How is it possible for something that exists only in our imagination to become a reality. It is a remarkable quality of the mind that we first create objects with our imagination and then bring them into our everyday reality. In fact everything starts in the imagination. For example the house we are living in was first created in the imagination of the architect. He or she made a blueprint for the actual building… In reality the mind is the creator of all experience… If we imagine something that could in theory exist and then familiarize our mind with it for long enough, eventually it will appear directly to our mind, first to our mental awareness and then even to our sense awareness.(Gyastso, 2001: 152).

4. Conclusion Future Work
Currently variables for observation as well as defined use cases are being explored for RePlay however at this stage it would be favourable to keep the research exploratory. By keeping things open ended there is a chance to explore formal goal oriented design environments as well as open-ended informal situations and involving practitioners outside of the design discipline. By having the participants engage in verbal communication as well as physical enactment my hope is that they will discover a level of brainstorming or problem solving and reflections that had not occurred previously in their creative process. My hope is that the use of a prop will provide constraints that function as guide for the creative process while at the same time beckon the creative team to consider context as part of the conceptual process. As a result a positive bi-product of RePlay could be the flagging of requirements that have been overlooked in the conceptual stage early on rather than later, for example target audience or other contextual or cultural information. If this method was successful then perhaps later improvisation techniques could be used again with a prop and or perhaps used as part of goal oriented product development or artistic process.

Acknowledgments. I would like to acknowledge Per Galle for his valuable feedback as well as Alan Dix for his supervision.

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How can the design researcher inquire into aesthetic subjects?

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Extended abstract

As an emergent and growing field, design research needs to take a critical look at its foundations from a vantage point of the theory of science. In some respects the conceptions of adequate theory might differ from those of other fields of research. This could be the case when the aim is to support professionals in solving indeterminate, unique and context dependent problems¹, particularly those concerning aesthetic matters. A dialogue between the fields of design and philosophy might reveal relevant approaches and an understanding of the nature of the subject.

My overall question in this paper is posed from a pragmatic point of view: When investigating into aesthetics / emotional subjects - which kind of results would be able to support the professional or student designer? Designers, architects and artists use the arrangement or shaping of physical objects to create an aesthetic or emotional experience. How can we increase our understanding of the concrete physical means at their disposal for this purpose? What kind of theory on the subject can support the designer’s practice and what kind of answers can we hope to obtain?

One approach could be an inquiry into the aesthetic judgment used by the designer at work. What is the nature of it? An answer to that question might give us an indication of the kind of knowledge and understanding required in relation to aesthetic subject matters in education and professional practice.

The subject appears to contain at least two apparent paradoxes:

1. "The devil is in the details": An aesthetic experience is a complex whole and the overall impression is changed radically by small changes in the details. The same shape of form will get a different character by e.g. changing of the material used or slightly rounding the edges. All parts of the whole interact with each other and the context in an extremely complex way, which is difficult to generalize, but necessary for the designer to be familiar with. He can try to imagine new results on the basis of sketches and existing products and, building on many layers of previous examples, generate a feeling or intuition for the use of aesthetic means. This could indicate that we have to make use of specific examples and a thorough description of concrete cases if we want to unfold a usable knowledge of aesthetic means. Not because we are limited to discuss only the

individual case, but because it seems that to gain a general understanding of the
complex correlation of aesthetic effects, it is – in a paradoxical way - necessary to go
through the specific case. Can philosophy (e.g. phenomenology) contribute reflections
and methods for such considerations and investigations?

2. **Judgment without foundation:** A designer needs a confident aesthetic judgment to be
able to practice, but he can have no certain or objective foundation for it. An aesthetic
experience is subjective and “tastes differ”. Surely all general aesthetic guidelines can
be challenged or rejected by the simple phrase “I don’t think so”. All the same, the
designer needs a strong inner sense of aesthetic judgment to prevent getting lost in the
wide range of possible solutions of the specific problem. User surveys can function as
local, context dependent indicators, but will not suffice for new designs. The designer
must either create or choose the alternatives for the survey or make an interpretation of
the results. In both cases he has to make use of his own aesthetic judgment. On the
one hand it is hardly possible to identify scientifically based and indisputable criteria for
aesthetic quality, on the other hand the designer has to build on a certain set of norms
and his choice of values is essential for his practice.

As a researcher your natural aim is to produce general and value-free knowledge. Providing
a neutral description of the range of aesthetic means at the designer’s disposal would be a
reasonable ambition. The problem is, that aesthetic or emotional experiences are very
difficult to describe in a neutral way without loosing essential parts of it. Furthermore, it is not
only a matter of which particular aesthetic means are employed, and to what perceptual
effect. Of equal importance are the actual combination of such means, and the set of norms
that guides their selection (the “appreciative system” in Donald Schön’s terms).

Immanuel Kant has described how the judgment of taste is subjective, but is stated as if it
had universal validity. This can be said to characterize many of the theories of architecture
proposed over the years. Accordingly several of them have been criticised for being merely
polemic expressions of opinions without objective validity. The question is if a theory has to
be disqualified because it is value-laden, given the assumption that understanding and
subscribing to a set of values seems to be an important part of design practice? Are
normative aesthetic “manifestos” actually an essential tool for the designer? – And could
this – from a pragmatic point of view – be a reason for the field of design research to
contribute knowledge and understanding concerning these sets of values, identifying and
communicating them? (Treating them, of course, as “lenses” to look through, sets of values
you can choose or reject, rather than objective truths) Should we even go as far as to accept
some of our research accounts of design to be value-laden, if by this they capture insights
that would otherwise be inaccessible?

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G. Vickers is quoted for this expression.


Sons, p.78.

5 as stated by Erik Nygaard (2002) Arkitekturteorien – mellem manifester og videnskab Nordisk
Arkitekturforskning 3, 2002 p.47
The analyst's dilemma on doing research in design process and sketching in particular

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Abstract

When does form emerge in a design process? Or where? And how does form appear?
Studying a work of design, an analyst can hypothesize; can talk to designers, examine their
drawings and models, compare and contrast to the final design to identify origins and
chronology of form choices and decisions – after the fact. This approach is rooted art
history. The analyst can also study design before the fact, in the process of becoming, and
focus on the actions and interactions in the design process, considering Bruce Archer’s
witting reference to design as the medium of doing and making. This approach is rooted in
design studies.

The paper proposes that whether employing the art historical or the design studies
approach, the analyst is faced with a common dilemma: An asynchrony with the design
process as well as the designer, which makes it difficult for the analyst to communicate
about the process and with the designer. The sketch is representative of this dilemma. In a
sketch, we find the earliest traces of form, and the sketch can itself take on many forms: a
napkin doodle, an elaborate drawing, a simple diagram, a mockup model, etc. For the
analysts, sketches are mostly seen as artifacts, as documents of a process from idea to
solution. For the designer, however, the sketch is the process; it is doing and making.

The objective of the paper is not to resolve the dilemma, but to accept it as a condition for
doing research in design process. The dilemma of how to communicate creative processes
is examined. The potentials and limitations of the two approaches to the study of design
process – art history and the design studies – are discussed. And finally paper argues for
combining the two approaches for the analyst to handle the dilemma more rewardingly.

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Social Conurbation, an ageless journey by elder generation

Employing built environment affordances, and urban socio-behavioral settings to enhance social lives of the elderly and address the sustainable public health as a consequence.

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Key Words: Social Conurbation – Built Environment – Socio-behavioral Settings – Aging Group Public Health – Urban Design – Urban Community

This paper explores social interaction and transaction of the elderly in their immediate community in spite of, living in their own residence (age in place) or relocating into the institutions (long-term care facilities). There is also an intention to evaluate different domains of quality of life incorporated with social and physical environment and determine how seniors’ built environment can maximize opportunities for positive experience of social activities and public health as consequences. I try to form the theory of social conurbation for elderly people encompassing an interdisciplinary study to investigate variety of perspectives in different disciplines related to aging issues (disciplines such as Gerontology, sociology, urban design, architecture, landscape architecture, health policy, and public policy). By this model, I demonstrate a link between built environment amenities, seniors’ quality of life and social activities, change in lifestyle, and a potential leap in their public health.

Introduction

The foundation of this article has been constructed on a multidimensional theory of knowledge that is grounded by a uni-dimension epistemology of subjectivism and objectivism. I say multidimensional and multidisciplinary because of the nature of this study, which is interrelated with both objective and subjective dimensions of quality of life such as behavioral competence, perceived quality of life, objective environment, and psychological wellbeing. According to Lawton, quality of life is the multidimensional evaluation, by both intrapersonal and social-normative criteria, of the person-environment system of an individual in time past, current, and anticipated (as cited in Birren, 1991).

The appropriate knowledge claim to meet recent problem with quality of social life of the elderly and my theoretical model that is more concerned about the solution to the problem rather than methods being important is pragmatic knowledge claim. Pragmatism drives from the work of Peirce (as cited in Creswell, 2003), that is now a philosophical underpinning for mixed methods studies. According to Tashakkori and Taddile (as cited in Creswell, 2003), pragmatism focuses its attention on the research problem in social-behavioral studies and then uses pluralistic approaches (here quantitative and qualitative) to derive knowledge about the problem. Pragmatist does not see the world as an absolute unity. In similar way,
mixed methods researcher looks to many approaches to collect and analyze data rather than subscribing to only one way. Thus, in mixed methods research, investigators use both quantitative and qualitative data because they work to provide the best understanding of research problem. Pragmatist researcher looks to “what” and “how” to research based on its intended consequences, and where they want to go with it. Also pragmatist researcher would like to change the subject and find a way to solve the problem. Therefore, pragmatism opens the door for researcher to multiple methods, different worldviews, and various assumptions, as well as different forms of data collection and analysis in mixed methods study (Creswell, 2003, p.10-12).

The appropriate world view connected to this paradigm must consider the observer in initiating stage separated and detached (objective) from the phenomena to emphasize on the performance of the individual person/s (elderly) in the community, then study the interactions and transactions of this group of people with entire human community as holistic observer that means, s/he is an aspect of the phenomena. To clarify the new world view which studies the observer in one hand separate from phenomena, and on the other hand as an aspect of phenomena, I will explain the existing significant world views that make a meaningful foundation for my new world view. First, I begin with interactional unit of analysis in which the main focus is on elements and relations between elements. It also studies different aspects of person such as psychological, social, or environmental qualities with interaction between. In this world view observer is separated and detached from the phenomenon (Altman & Rogoff, 1987, p.12-13). Second existing world view, that I used to construct the new world view is transactional unit of analysis. This world view studies holistic entities composed of aspects, not separate parts or elements. It also considers temporal qualities intrinsic features of whole. In this world view observer is an aspect of phenomena but in different location (Altman & Rogoff, 1987, p.12-13).

Accordingly, my new world view “Complex Interansactional” will be a blending of two existing world views above to address my intent for studying elder group of people in terms of individual dispositions and also the level of their interaction and transaction with their community. It also has the capability of studying the observer in both positions as a detached aspect of phenomena and an inherent annex of the phenomena as well. “Complex Interansactional” embodies the qualities of built environment, socio-behavioral settings, psychological, and cultural stances confronting individual’s characters with interaction between the entities as intrinsic features of the whole. In fact, my new world view is a philosophical foundation for interdisciplinary study about public lives of the elderly through sustainable built environment affordances.

Literature

The world faces a rapid growth in seniors’ population. Demographers predict that by mid-century people age 65 and over will compose about 15 percent of the world’s population, which is twice of recent world senior population about 7 percent. This aging cohort has a faster growth in developed countries such as Japan, Italy, Sweden, Canada, United State, etc. United States aging population age 65 and over will be around 72 million in 2030, twice the number of 2000. Through the transition from industrial society to technological era and now information age, we had significant progress in medical advances, public health actions, healthier lifestyles, and less-hazardous occupations that led the contemporary society to higher longevity and life expectancy (Abbott, 2009, p.23).
Gerontologists have categorized age 65 and over to different age cohorts in 10 year increments: aged 65-74 are called "old", the 75-84 cohort is called the "old old", and aged 85 years and older the "very old". The physical and mental impairments for those cohorts are different. And these impairments restrict an older person’s activities by limiting his/her mobility, agility, hearing, seeing, and speaking. This study investigates the range of activities in which the elder person is involved with outdoor built environment, despite s/he lives in her/his own place or inside an institution (Hodge, 2009, p.23).

First I begin with general types of outdoor activities in different respects and then explain about activity pattern of seniors’ daily life. Jan Gehl (1987) divides outdoor activities into three general categories, based on the condition of physical environment (both natural environment or built environment): necessary activities, optional activities, and social activities. Gehl believes that necessary activities include those that are more or less obligatory like, going to school or to work, shopping, waiting for bus or a person, and running errands. In other words, all activities in which people are involved with required participation are called necessary activities. The other form of activities is optional activities that participants wish to do it, if time and place make it possible. This category includes such activities as talking; walk to get breath of fresh air, standing around enjoying life, or sitting and sunbathing. These activities take place only when exterior conditions are optimal, when weather and place invite them. This relationship is particularly important in connection with physical planning, because most of the recreational activities that are especially pleasant to pursue outdoors are found precisely in this category. The third type of activities is social activities which depend on the presence of others in public spaces. Social activities include any planned or unplanned interaction and transaction among the people in their community, such as greetings and conversations, communal activities of various kinds, and even passive contacts that is simply seeing and hearing other people. In this context, we explore only those activities that occur in publicly accessible spaces and places.

On the other hand, Gerald Hodge (2008) implements three primary types of everyday activities for seniors. First are those activities that pertain to basic personal maintenance and survival, which gerontologists call activities of daily living, or ADL. They include bathing, eating, and other personal care. Second are those activities needed to support daily lives, which are called instrumental activities of daily living, or IADL. They include shopping, household chores, obtaining health care, and walking or driving to these activities. Third are activities that involve personal preferences and are called leisure activities. This category can contain a wide variety of social, recreational, spiritual, and intellectual, activities both indoors and outdoors. He also realizes the fourth category in which social activities such as talking to and visiting people or helping them are separated from the third category (Hodge, 2009, p.23).

According to Hodge, three aspects including objective, subjective, and consensual are necessary to measure and analyse seniors’ daily activities. The measurable qualities are objective dimension such as the senior’s age, health, gender, education, marital status, and even the time available for the activity. The subjective side comprises relatively non measurable aspects such as the senior’s needs and preferences and his or her perceptions both of the activity’s meaning and the satisfaction to be gained by participating in it. Furthermore, consensual dimensions of social life established this fact that people bring
personal experience and social norms, gained through socialization and acculturation in their life course, into the decision to carry out an activity (Hodge, 2009).

**Problem Statement**

In fact, the current problem in seniors’ social life is a cause of our contemporary urban design and city planning policies embracing land use planning and regulations, public investments, and private financing by which policy makers have created communities that present significant obstacles to the continued independence of older adults, with suburbanized lifestyle and downsized public health. To evaluate the built environment influences on the social activities of elder people in their community and to recognize how these public activities affect their public health, we need first identify the built environment and examine that, what currently exists is adequate to support the aging cohort? Is what exists what is needed? And is what exists the best it can be?

For elderly people it is tremendously valuable to live in the core of urban area and be part of daily social activities to get involved with actual sense of the place through all components of that such as different groups of people, various daily activities, formal and informal social programs, and more importantly being part of daily life activities at least as a passive watcher. But the truth is different; two studies revealed that the number of seniors living in the suburbs of metropolitan areas of both Canada and United states exceeded the number living in core cities. Nevertheless, census data for the U.S. indicated those 65 and older living in metropolitan areas were evenly split between core cities and suburb as early as 1977 (Hodge, 2009).

Seniors cannot enrich their social interaction and public activities in Drive-Thru Communities. This phenomenon does not even address the involved elements in a drive-thru service station such as server and pick up window at the same time to communicate with somebody in person. In this community inhabitants pass through the surrounding built environment with a remote access to it by only watching that. And her/his possible server and pick up window in this community is the destination of auto-travel that s/he can have personal contact with others (going to shopping mall, doctor office, and etc.). So, how we can make the social and behavioural settings based on the community physical settings, when residents of that community are not in touch with each other and do not feel the sense of the place to spent their time there. They cannot link their identity with any of those places if they have not been there to create a close up attachment. This remote access to the surrounding built environment makes seniors incautious about possible public interactions and potential social transactions that they are able to generate with other groups of people in their community.

**Possible Solutions**

For the elderly, transportation does not mean departing to a destination for work or any obligation but it has more personal purpose such as access to health facilities, recreation, and social activities. In fact, public transportation endorses the notion that older people can continue to participate in and contribute to the community as well as enhance their own quality of life. Accordingly, availability and accessibility of transportation will be highly important in studying context of built environment. If community tends to provide a strong network infrastructure between people and places, first, the main focus must be on
availability of public transportation. As a matter of fact, public transportation must be present in variety of forms to meet the diverse needs of seniors: streets need to be built and maintain for those who drive, public transit needs to be available for those who don’t drive, biking and walking infrastructure such as bike lanes and pedestrian walkways/streets must be provided for those who like to be more active and dynamic in their community, and special transit must be offered for those with impairments. Secondly, accessibility of transportation facilities is extremely important for residents of a community, especially for the vulnerable groups of people who have some physical and mental restraints. Indeed, seniors must be able to access the variety of transportation amenities easily and safely despite of living in different life space (aging in their own place or institution).

As an important section of transportation amenities, walking infrastructure must be promoted in seniors’ community to tie them with a dynamic life and active living. Once seniors lose the ability to drive, alternative transportation options open to them is walking. Thus, walking is considered by seniors to be both important in itself as moving to other places and as a means of carrying out daily activities. And, in recent years, the role of walking to promote seniors’ health has received considerable attention. Sidewalks are the primary physical infrastructure a community can provides for its pedestrians. In addition to above solutions related to built environment affordances, we need to develop a new perspective for planning communities so that they may better accommodate seniors now and in the future. We must also develop planning and design guidelines that assist communities to develop enabling seniors’ social activities and sustainable environment to enrich their public health. It means, city planners, public health departments, architects, designers, builders, elected officials, and all others who are involved in shaping the built environment must realize and understand their roles as guardians of the future.

In Conclusion

There is an urgent need to open our eyes to the future of seniors’ quality of life and discover the ways to enhance different domains of domains of built environment which are accessible but abandoned. In fact, the current western worldview of urban sprawl with spreading the elderly communities to the suburbs has come to the end of its useful life. Therefore, this interdisciplinary study is a beginning point of a long journey, in which elderly are the vulnerable passengers of the built environment affordances vehicle to start the departure to the destination point of higher quality of life in their society.

Current theory is also employing built environment affordances, urban sociology, and public health policies as a foundation to familiarize itself with elder people’s way of living, thinking, and feeling. In other words, it is offering public places as a scope of urban component linked by walking infrastructure, to enhance seniors’ social activities and public health. In this place the noise of cars is replaced by the sound of steps, voices, running water, and so forth. It is again possible to have a conversation, hear street music, people talking, children playing. Ongoing community activities can be seen through the windows where active families are living. This gives older people a view of life from their windows and encourages them to be a part of those activities, as active participants or passive consumers. So they are still in the centre of community life and do not feel cut off from the everyday public activities.
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Applying Sen’s capability approach to technological artifacts & engineering design – accounting for human diversity

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The capability approach

The capability approach, founded by Amartya Sen and Martha Nussbaum, is a philosophical framework that can be used to think about, to assess and to evaluate individual well-being, as well as social arrangements and policies. This approach ascribes central importance to human capabilities as the evaluative space of justice and equality. It views the expansion of human capabilities as both the means and ends of development. Human capabilities are often described as the real opportunities or positive freedoms of people to enjoy valuable ‘being and doings’, referred to as human functionings.

The capability approach is thoroughly normative, since it demands (political) action, aiming to bring people to at least a certain threshold level of human capabilities, capabilities necessary for people to “live the lives that they have reason to value” (Sen 1999), to lead a dignified and “truly human” life (Nussbaum 2000). The capability approach will hold that a policy or action that expands valuable human capabilities is, ceteris paribus, better than an action that does not do so.

The capability approach contrast human capabilities with alternative ‘spaces of equality’, like preference satisfaction or resources. The latter is rejected because of the so-called ‘fact of human diversity’. This is a central theme in the literature about the capability approach: people differ greatly in both their personal characteristics and their social/environmental circumstances. Hence, the same (amount of) resources

Technology, design and human capabilities

Elsewhere we have argued that there is a close and intimate relation between human capabilities and technologies, the latter are a very important tool to expand the former (van den Hoven and Oosterlaken 2008). We have proposed that engineers should think more about how technologies can be made to contribute better to the expansion of valuable human capabilities and have introduced the phrase ‘capability sensitive design’ – analogue to the existing idea of ‘value sensitive design’ - to capture this idea (Oosterlaken 2009). One suggestion that I made in that article is that capability sensitive design may share characteristics with or embrace existing design movements like participatory design and universal design. Yet what capability sensitive design would entail precisely is a matter that requires further investigation and reflection, both on a theoretical and more practical level.
Currently I am exploring some theoretical building blocks for applying the capability approach to the domain of engineering and technological design, as outlined in the presentation. We will discuss the implications for the design of concrete technological artefacts and normative judgements we can make about these artefacts, building respectively on the work of Houkes and Vermaas (e.g. 2002; 2004; 2006; 2006; 2008) and their colleague Franssen (2006; 2009). We will not address discussions about broader social practices of deciding about or using technology, although the capability approach – being quite comprehensive in nature – also has relevance in that area. A fuller treatment of those broader practices from the perspective of the capability approach will have to be taken up in later work.
The Philosophy of Ecological Architecture

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Abstract

The terms sustainable design and ecological architecture are firmly a part of the contemporary culture of architecture and building. Architects are increasingly contractually, ethically\(^1\), and legally required to design with respect to environmental criteria.

There is a sense of urgency relating to the environmental crisis and government energy regulations indicate that future designs will need to be even more “sustainable” than current standards. There will need to be changes to current economic, social and political systems to allow for a new way of building and evaluating cities and buildings.

But this is not the first environmental crisis facing designers in recent memory, and in fact the term “ecological” in relation to architecture recalls the 1970’s “deep ecology” movement, which also brought sustainable design to the forefront. There are some similarities between the crisis in the 1970’s and the current climate crisis. Designers in the 1970’s faced a global energy crisis and also impending and seemingly unprecedented technological innovation. The initial ideas of computation and interactive design were seen as possibly helping the environmental crisis. Forty years later, we are trying to reduce harmful emissions and reduce energy use while still building new architecture. This will require substantial changes to the ways we make buildings and cities.

But where will the knowledge and desire to design and building buildings and cities in a new way come from? Technology and education are seen as presenting possible solutions, with Brian Edwards (2002) among other architects arguing for new processes and analysis tools, and Yeang (1999) and McDonough and Braungart (2002) seeking to bring knowledge to designers and users to allow for informed ecological decisions. There is the assumption that if we have the right tools and information, people will not have to be urged, we will choose to build ecologically and stop the ecological devastation of the planet.

But are the “dark ages” described by urban planner Jane Jacobs (2004) looming, or more disturbingly as JG Ballard\(^2\) notes with his ideas of ecological catastrophe, are they already upon us? It is easy to see a bleak picture of the future, and much more rewarding as

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\(^1\) For example, according to the current Architects Code of Conduct in the UK, (1997) “Whilst Architects’ primary responsibility is to their clients, they should nevertheless have due regard to their wider responsibility to conserve and enhance the quality of the environment and its natural resources\(^2\). This means as architects gain more knowledge with regard to energy use and climate change, we could have an increasing ethical obligation with regard to professional responsibility beyond the client or the contract, to be designing with regard to a greater societal good.

\(^2\) Ballard said his books were not science fiction but were “picturing the psychology of the future”. (http://news.bbc.co.uk/2/hi/entertainment/8007331.stm)
designers to look for solutions. Despite the fact that the basic principles of green design are obvious to all, buildings continue to be produced without basic environmentally sustainable premises in mind. At present rates of non-renewable energy resources, within the next 50 years the world will likely run out of non-renewable fossil fuels (Yeang 1999). Buildings rely on fossil fuels on many levels, throughout the lifecycle of the building, from machinery to materials to maintenance. As designers, it is increasingly difficult to sift through building regulations, media reports and analysis tools in order to design in harmony with the environment. Materials and processes that are non-damaging are not often readily available and clients are often driven by different agendas such as cost and speed. What’s more, the majority of architects have been trained without any serious background in ecology or environmental biology. Yeang (1999) suggests that what we are doing now as a profession is not ecological, and that ecological design calls for a rapid and fundamental reorientation of our thinking and design approach with regard to the creation of our built environment.

Strategies for designing and building architecture vary for cultural, geographical, climatic and economic issues. There is no one-size-fits-all approach to architectural design, yet there is a need for base guidelines as the impact of how other people act towards the built environment has widespread consequences even to those who are acting ecologically. The devastation of the environment does not observe national boundaries. Legislating and regulating helps to a local extent, education and architectural criticism and publishing encourages international debate but ultimately a relatively small number of people commission buildings, and a relatively small number of designers build them. Architecture is a social art (Yeang) and of course everyday culture needs to change alongside architectural design.

Beyond materials, lifecycle and energy use, even our approach to design must be ecological and sustainable. A commonly cited definition of sustainability is as defined in the Brundtland Commission Report (1987) relating to meeting the needs of the present without compromising the ability of future generations to meet their own needs. But if architecture is “the will of an epoch translated into space” (Mies van der Rohe) then McDonough and Braungart (2002) rightly ask us to consider as users and inhabitants of cities and buildings “what are we trying to sustain?”

One potential approach to the complex issues relating to sustainable and ecological design is through the sustainable renovation and transformation of existing buildings. This is the basis of the PhD project Sustainable Building Renewal. This presentation will focus on the ethical, environmental, and technical issues of architectural renovation of buildings within the framework of sustainable design.

How do we further debate and knowledge about ecological building? How should we think about designing in harmony with the natural world? The complex issues of ecological design and sustainability relate to the borderland between design and philosophy.
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Architecture of Gesture; Signification, Identity and Meaning in the architecture of the Centre Georges Pompidou, Paris

Material from the CEPHAD 2010 conference at the Danish Design School in Copenhagen on January 26th – 29th, 2010. The workshop is titled "The borderland between philosophy and design research". The master class session is titled "Angelos Psilopoulos // Doctorate researcher // School of Architecture // National Technical University of Athens, Greece // angpsi@yahoo.com"

The focus of the author's line of research is the notion of “gesture” and its relation to the signification of architectural meaning. For one, this lies in the form of a narrative: a “genius sketch”, a “wise” hand conveying the mental synthetic process onto paper, or a spatial event expressive of the creative will of the architect. This “gesture – as – narrative” can be easily embraced as the “Arche” (the “commencement”, the “commandment”, or the “principle,” in Greek) in architecture, that is, a unique point of reference that distinguishes the “Architect” from the other “tektons”1. In this “literary”, so to speak, context, “gesture”, and the expressions that derive therefrom, can be studied as an archetype which can be traced in several instances in architectural history.

However, this may prove oversimplifying when one chooses to dig deeper into the linkage between “gesture” and architectural signification; the reference to the term can be equally introduced as a mechanism of metaphor, in the way of a contextual referent for the process of signification – see, e.g., Lakoff & Johnson, 1980 (2003) –, or it can be studied as an actual gesture on a cognitive level: McNeill (McNeill, 2005) has conducted such research on general discursive events, while Murphy (Murphy 2005) has focused towards architects in particular, with very interesting observations. However, these are all singularly defined realms of research, all taking gesture as a study subject, perhaps sometimes intersecting one another, but basically focusing on particular aspects of “gesture”. It is the author’s argument that the term, as it manifests in the context of architecture, is rather “multi-dimensional” and that in order to achieve any sort of understanding, no aspect should be disregarded.

How, then, may a highly cross-over discussion as such be performed, in order to move on to its relation with architectural meaning and signification? This research proposes to shift the

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1 “Architecture comes from the Greek arche, the commencement, the commandment, or the [fundamental] principle, and tektonikos, the carpenter or the builder; and, as it often befalls, the encounter of the two words inflects the sense of the one onto the other to engender a meaning of the whole unhoped for: the arche makes of the "tecture” more than a simple construction. Arche is a supplement. This supplement implies, as Dennis Hollier in La Prise de la Concorde would have it, “that by which a construction breaks away from a purely utilitarian universe, that which she has inherently of esthetics“.” (Translated from the original French): Charles, « Architecture : Architecture et Philosophie », Encyclopædia Universalis, http://www.universalis.fr/imprim.php?ref=B921471, last visited September 2009.
focus from “gesture”, to the collective identities that are formed around it, and, may it be an actual gesture or a literary one, introduce the term as a quasi – objet (Serres, 1980 (2007), or Latour, 1991 (1993)), that “marks or designates a subject who, without it, would not be a subject” acting in a way as a catalyst for the development of individual collectives around it (“individuation collective autour d’un point de catalyse ») (Brian Massumi, 1998). It is the hope of the author that this view will establish “gesture” rather as a platform, in all its virtuality, than a rigidly defined subject; a catalyst (through its particular characteristics) for architecture to formulate meaning within each particular context: it is not “gesture” that signifies architecture, but rather architecture forms identity around various manifestations of gesture. This understanding of gesture presents also an interesting affinity to the cognitive model McNeill uses to discuss it in the context of language and thought, and perhaps it may even inform a cognitive approach for architectural design.

As a PhD research though, this research simply aims to validate the question of gesture serving as a tool for the signification of meaning in architecture. Shifting the focus from the process of design to the formation of subject and identity may also extend towards the understanding of the fuzzy condition in the logic of design, as well as highly criticized theoretical schemes such as “thinking – in – action” (Schön, 1983), by. Introducing “gesture” in the terms of Serres’ « quasi-objet » aims to provide us, at least, with a focus point for such an understanding, if not an actual tool to discuss the shifting condition of meaning in an architectural work.

In the context of the proposed presentation for the CEPHAD conference, the author would like to follow this idea through the case of the Centre Pompidou in Paris. The notion of “gesture” will be introduced, at first, as a narrative, that of the “geste architectural”, which develops both in terms of a formalist argument, as well as a political and architectural feat. In our story, the “formalist argument” becomes the epicenter of an intense conflict between the verdict of the Jury and the architects opposing it and it will establish the architecture’s literary connection to the term “gesture”. The political and intellectual management of the project itself, on the other hand, will provide us with a contextual reference for discussing the term in its current use, the « geste architectural », letting us develop from a notion of “feat” to a “quality referent” and from there to the introduction of the « quasi-objet » as it was described earlier.

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The migration of form ... 
...visualising the emergent artefact

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“... the chair you are sitting in, the cup you hold in your hand, the screen you are
watching - every one is the result of deliberate design decisions ...”.

“... to clarify, Starck delivers his own version of Darwin’s theory of evolution ...”.

(Phillipe Starck; Design for Life, BBC2, 03 Oct 2009)

1.0 Starck’s quotations exemplify a contemporary pre-occupation with the term ‘design’ and
a reliance on the natural sciences in seeking to understand artefacts. This thesis reasks the
tantalising question “can there be artefacts without design?” (Galle, 2002). For me, this
question goes to the heart of the relationship between cognitive and material domains in
which ‘design’ and ‘artefacts’ form part of a complex, living process. It has prompted thinking
and practice concerned with the possibility of universal aspects of manifestation.

1.1 The problem of emergent, or non-deliberate, complex visual order in the made world
remains unresolved by contemporary models of design processes. The evolutionary model,
an enduring influence on design theory (Alexander, 1964; Steadman 1979), offers little to
help us grasp the generative or cognitive aspects of human making (Basalla 1988). It is well-
known that generalised, interacting, formative systems underlie manifested form (De Landa,
1991; Diamond, 2005). But this idea is difficult to accommodate in design thinking because
non-deliberate visual order is the very antithesis of that arising from deliberate human
actions.

1.2 I aim to introduce an image-led perspective to this discourse which advances the notion
that visual complexity in the made world is substantively driven by emergent, rather than
sovereign (Michl, 2006), design processes. In my exegesis, I aim to support this proposition
by proposing a link between the emergent processes of the cognitive unconscious with
those of the material environment founded in developing knowledge of embodiment (Capra,
2003). The foregoing aims are based upon a new, critical concept; that of the emergent
artefact. In my thesis, the emergent artefact is presented as a site of paradox whereby the
deliberate, and the non-deliberate, function simultaneously. My longer-term research
objectives concern a possible reconciliation of this paradox and, with it, the prospect of an
emergence-orientated model of design processes.

1.3 Prompted by the thesis sub-title and title, my principal research questions are;
1.4 In 2005, I set up a self-funded research and methods training programme in an effort to better understand the role of design in the made world and, in particular, my professional practice as a land and building consultant. This project is rooted in, and focuses upon, my extensive personal experience of transforming material landscapes through design and making practices. It is due to conclude in late 2010.

1.5 I am currently using printmaking and photography to explore generalised, visual indicators of emergent complexity in artefacts and, thereby, evoke a sense of the susceptibility of artefacts to ‘self-organising’ processes. My subject matter is the vast airfields complex that suddenly appeared across the Norfolk landscape towards the end of WW2. This resembles a naturally-occurring structure, an almost crystalline landscape of concrete and asphalt.

1.6 Specifically, in a series of etchings called ‘The vector of flight’, I reveal not just a resemblance to nature, but a likeness of kind. The title takes in technologic, biologic and perceptual readings of the sky-landscape and our transformations of it. The imagery itself takes in the flash of the aircraft (-bird) in flight, the lines of the runways, the flight path maps, the vapour trails, the schematics of aircraft trajectories, the tyre streaks etc. All are complex physical signatures denoting the vector of flight; a coherent but unintended visual language which reflects a deep intention to launch ourselves at a distant enemy. An allegory of the complex nature of the made in an apparently-designed world, the airfield imagery opens-up a reflective space in which we see manifested form as mediated; neither inherently designed nor naturally occurring, both deliberate and non-deliberate.

1.7 These findings lead to conjecture. How does material visual complexity emerge from the cognitive unconscious? Informed by visual practice, I initiate a rational explanation. As part of lived experience, the embodied mind (Varela, 1993) autonomically constructs primary cognitive models that are directed towards understanding environments with which we interact (Lakoff and Johnson, 1999). Informed by aesthetic experience of the natural and the naturalised, our visual faculty gives rise to primary visual models. As we exercise our urge to transform, these models shape deep intentionality which, being concerned with order and direction, prefigures design thinking (Gallagher, 2008) and, ultimately, our conscious actions. I speculate that primary visual models flow through our embodied selves into the complex language of artefacts. We perceive, we embody, we act-out. As a result, form migrates seamlessly through cognitive and material domains rendering design and artefacts part of a complex, living process.

1.8 My thesis contributes to the debate on the well-spring of manifested form by showing that humanity does not just “act to shape its world” (DPP, 2007) by means of a “conscious effort to impose meaningful order” (Papanek, 1974) but also acts in ways which “bring forth a world” (Varela, 1993). The benefits of this line of research are direct and practical. A heightened understanding of the role of emergent processes in the made world necessitates a re-calibration of the stubborn notion of sovereign design. This informs practice, pedagogy
and research. More widely, a rational counterbalance to the conceits of our contemporary ‘designer’ ethos is desirable - ultimately, the production of complex environments across the animal kingdom are not so very different.

1.9 This written proposal is abstracted from my draft doctoral dissertation. If approved, it would be accompanied by a visual presentation which incorporates a parallel, illustrative narrative (Tufte, 1997) designed to focus debate and feedback from different research perspectives.
The place of drawing in design education: A view from India

CEPHAD 2010 // The borderland between philosophy and design research // Copenhagen // January 26th – 29th, 2010 // Master class session
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Abstract
Drawing is regarded as one of the principle ‘tools’ in the design process and thus finds a place in the foundation programmes of design curricula primarily as a way to develop representation skills. Perhaps because of this point of view, drawing has also become the most routinized component of design education.

This presentation goes beyond this tool-centred view of drawing to show that the act of drawing has an ontological dimension (as one of the defining features of being and becoming human) and that simultaneously the process of drawing has an epistemological dimension (in that it is an important way by which the aspiring designer understands the world and the relationships within it). Additionally, in India, traditions of everyday ritual drawing offer a tacit dimension where drawing is linked to spiritual worlds of the drawer and goes beyond mere mark-making.

Viewed this way, how does one re-conceptualize drawing and its place in the epistemology of design?

If the act and process of drawing are more than a means for acquisition of representation skills what are the implications for the pedagogy of drawing within design education?

Is there a cultural context in India which suggests the need for a more nuanced approach to the preceding questions?

The presentation would also put forward some preliminary ideas to explore the challenges posed by digital technologies to this conception of the act and process of drawing.
Gravitational Aesthetics

CEPHAD 2010 // The borderland between philosophy and design research // Copenhagen // January 26th – 29th, 2010 // Master class session
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Reasons for undertaking the PhD project
Having worked in the field of amusement park development – as an architect and an engineer but also in ways that are creative and critical – I became fascinated by what in this research project I am calling the bodily-perceived aesthetics of ‘gravitational theatre’. This experience is unavailable elsewhere, and I became intrigued by this under-developed topic. Since then the topic has been at the core of my creative life, from artistic work to scholarly articles (including my MFA thesis ‘Mediated Euphoria’). Most recently this interest has matured into the unique and I believe paradigm-shifting topic of Gravitational Aesthetics, which is the broader conceptual framework in which ‘gravitational theatre’ is performed.

Research Project
Gravity impacts upon us— our physical and intellectual selves— to such an extent that it is unimaginable that we could have evolved the way we have without it. Today, because gravity is no longer inexorably tied to evolution, we create and enjoy a myriad of gravity-related activities. Most of them provide unprecedented forms of perception and accompanying aesthetic qualities due to the fact that today the state of gravity can be altered in unseen ways, for example: robotic roller coasters, powered exoskeletons, orbiting satellites, and even muscular fatigue blockers. They not only give rise to new types of locomotion and perception, but also a wholly original and largely unstudied bodily-perceived aesthetics, upon which g-design$^{1}$, a unique design paradigm, is being constructed in the PhD study.

g-Design approaches humans’ psychological, bodily, and technological negotiation with gravity as a creative practice and designers’ critical base. The introduction of such original design field celebrates the eclectic marriage of choreography, locomotion engineering and embodied philosophy. Acknowledging the aesthetic potential of gravity-wise technologies to set humans in motion (or stasis), the design is concerned with such choreography’s effect upon our perception, the senses, and the imagination.

How might the study of gravity’s impact form an original aesthetic approach?

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$^{1}$ Prefix “g” stands here as a link to g-force. In physics, g-force measures the net effect of the acceleration that an object actually experiences and the acceleration that gravity is trying to impart to it. The symbol g is properly written in lowercase and italic, to distinguish it from the symbol G, the gravitational constant, which is always written in uppercase; and from g, the symbol for gram, which is not italicised.
Responding to gravity’s aesthetic potential, the study aims to construct a specific design paradigm by investigating – through making, experimenting, and writing – gravity’s impact upon our perception, our bodily senses, technological development, and the aesthetic possibilities that gravity allows us to imagine. This project is all the more pressing in a time when the body – the very product of gravity – is under threat from new technologies (e.g. telecommunications cause sedentary lifestyles, while visual technologies replace direct bodily experiences). Although focused on design, due to the pervasiveness of gravity’s impact, the study also informs other creative disciplines, especially those of arts and architecture, or for example, how to negotiate gravity and engage the body in new aesthetic ways.

As to methodology, it is interdisciplinary in order to satisfy the demands of multi-topical nature of the research. Drawing on embodied philosophy, philosophy of technology, choreography, gravitational biology, and physics, the study integrates textual, practical and experiential research processes. Together with traditional methods such as analyzing literature and consulting with experts, alternative approaches are used. For instance: tangible rhetoric (designing physical prototypes) is used for provoking and testing ideas and facilitating communication of research; experiential methods (attending and experiencing “motion-led” activities, e.g., dance performances, thrill rides) are used to inspire and improve tacit knowledge; and choreographic heuristics (performatve experiments using one’s own body as a medium, e.g., bodystorming) are being used to sketch and test ideas. Acknowledging the fundamental types of interaction with gravity—resisting, giving in and escaping—the thesis is structured in three parts: Standing, Falling, and Levitating.

Selected excerpts from the dissertation

Vital gravity

Consider the human species’ attainment of upright posture as a rudimentary event in such gravity-defined progress. This development, it is widely claimed, gave rise to the unprecedented features of the human, such as self-awareness, intentionality, language and intelligence\(^2\). Once we stood up, we were able to possess the gaze of an upright being, giving us a wider and farther view and thus the habit of planning; by freeing the lungs we became free to develop our vocalising system and thus speech-language. Finally, having freed up our hands, we started modifying and playing around with our environment, inventing tools to be able to understand the latter better, harness or alter it for human needs. In other words, by erecting or raising the body from the ground we literally drew the line of our evolution. American philosopher David Wills, quoting French anthropologist Andre Leroi Gourhan, writes in his book *Dorsality*: “standing upright the simian turned anthropoid and, in so doing, immediately turned technological” (Wills 2008: 8). Instead of considering the human nature as being an opposite of technology, Wills suggests we imagine an originary overlaoping of nature and technology that begins with the dorsal turn (straightening of our back)—“a turn that takes place behind our back, outside our field of vision” (Wills 2008:).

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\(^2\) The idea that bipedal locomotion liberates the hands, and, furthermore, that the free hand endows human beings with an intellectual superiority over all other creatures, can be traced back to classical Antiquity. It can be found in the writings of Xenophon, Aristotle, Vitruvius and Gregory of Nyssa, and was already commonplace among naturalists of the 18th and early 19th centuries, including Charles Darwin. (Ingold 2004: 315), later in the studies of Erwin Straus and Andre Leroi-Gourhan, and most recently in Craig Stanford’s.
If technology is an integral part of the human or some kind of “vertebral articulation”, we must not forget that the impetus for such ‘articulated’ development is the very adaptation to the terrestrial environment governed by the laws of gravity. Little by little, humans have been elevating themselves from the gravity-driven ground: once, man stood up, ran up, took off and flew away, reaching escape velocity and escaping Earth’s gravity field.

**Creative gravity**

Today, because the question of gravity is no longer inexorably tied to evolution, we create and enjoy a myriad of gravity-related activities. It should come as no surprise that most of them provide unprecedented forms, modes, and modalities of perception, with their accompanying aesthetic qualities, since the state of gravity, which has been present and constant ever since, might today be altered in unseen ways. One of the key drives of technological development in our negotiations with gravity includes the pursuit of lightness and balance, manifesting itself in technologies like powered exoskeletons, orbiting satellites, or even muscular fatigue blockers. Creating the possibility of new types of locomotion, and with it new types of perception, as a result, novel ways of orientation and navigation, and perception of the surroundings from new points of view come into being. That is to say, locomotion conditions what can be seen, attended, and experienced. Psychologist James Jerome Gibson, well known for his investigation of the interplay between perception and locomotion, says:

> Locomotion does not only depend on perception but perception depends on locomotion inasmuch as a moving point of observation is necessary for any adequate acquaintance of environment. So we must perceive in order to move, but also move in order to perceive (Gibson 1986: 223).

Think, for instance, of how pedestrians and drivers have different perspectives of the same object – such as the urban space. The former ‘read’ the space with their feet, experiencing the surroundings with the whole of their body. The latter perceive it, as French thinker Paul Virilio would say, like a road movie; here, bodily awareness of distance is absent compared to that of the pedestrian, while the visual field is more expanded, but less focused when travelling by car rather than on foot. Accessibility of the environment differs as well: the automobile is constrained by its very ‘infrastructure’, e.g. the roads and fast speed, thus having no access to the tactile quality of soil or trees, for instance. Presumably, powered exoskeletons—wearable vehicles of sorts—will combine the perceptual features of both cases. Or, take less pragmatic locomotion like thrill rides, particularly the roller coaster, where riders submit their bodies to the unique language of spatiotemporal narratives, perceiving a peculiar kinetic world of its own.

In general, any new relationship with gravity and, simultaneously, new type of locomotion reveal certain qualities of our perceived world that were never experienced before. That, in turn, prompts specific criticism and appreciation. The unique beauty, I’d suggest, lies in the dynamic interplay between gravity, the body—itself the very product of gravity—and those gravity-wise technologies. Being the core impetus of such interaction, the human body might be seen as a living motor, or, in Paul Virilio’s words, “energized body, that is a body with reflexes and anticipatory qualities, a body that is constantly in-becoming” (Virilio and Armitage 2001: 62). The motor that has got the capacity to reconcile with, appropriate, and defy gravity, but also has the desire to do so. What calls for such likening is, firstly, the
body's locomotive ‘function’, but also its capability to modify its mobility or motility properties, adapt and learn, sense, and extend its perception. Virilio observes the beauty of the vital bodily dynamism revealing itself in the “beautiful motor” of dancer’s body. What he means by speaking of dynamism is not a quantitative, but a qualitative and aesthetic characteristic. Having this as a starting point, I assume that fastness, strength and agility—the qualities of athletic performance—are not appropriate criteria for this paper’s objective of defining the gravitational aesthetic. Instead, I address those aesthetic qualities that let us reinterpret or rebalance our relationship with the burdensomeness exerted by gravity, or revitalise it and give it a new meaning.

Fatal gravity

While gravity-related technological development (or progress?) brings unseen aesthetic vistas, it also fetches regressive effects. As it comes to athletic enhancement or ‘comfortisation’ of gravitational burdens loaded upon the body, the principal objective becomes getting rid of gravity. Ultimately, elimination of gravity also ‘eliminates’ the body, which is threatened to become (or to be treated as) a trivial attachment to the self. In this context, the human being loses bodily richness, coming to sensory deprivation (or discrimination?), and becoming increasingly passive and inertial. It has both perceptual and organic dimensions. In microgravity, as a direct example, astronauts suffer disorientation and motion sickness, but also their body is decaying3 due to the lack of gravity. Moreover, please note that escape velocity, a prerequisite to entering gravity-free space, also empowers telecommunications (orbiting satellites)—the realm of telepresence, electromagnetic substitution of the body.

Those ‘body-atrophying’ technologies include, but are not limited to, design approaches like mechanical substitution (e.g. the wheel versus legs), cybernetic disembodiment (the belief in “information over physical matter”), biotechnological motility (e.g. stamina-energising pharmaceuticals, such as, amphetamines, erythropoietin, anti-obesity drugs, muscular fatigue blockers), and ideological discrimination (sensory neglecting, e.g. preoccupation with the visual media, aka ocularcentrism).

Recall those perceptual constraints of the automobile, for example. Once the wheel ‘amputated’ our legs to reduce them to ‘pedal pushers’, but recent development goes even further… tearing off the whole body. Bose’s super-stable automobile suspension is one of elementary examples. Thanks to the electromagnetic linear motors and a set of control algorithms used for damping, it makes the vehicle ideally stable whether you drive on a highway or off-road. Even the buttock, perhaps our softest part, the zone of comfort, is removed, losing every function, even its amortising utility. Challenging the very symbol of sedentarism, ‘smart’ suspension anticipates the time of post-sedentarism, introducing the whole-mindbody stasis!

There is no longer ‘gravitational journey’. Not merely because of the lack of physical ‘feedback’. The driver no longer needs to learn or to work on anticipative bodily knowledge for driving a car. Control is achieved comfortably and instantly, in a blink of the eye. The situation is similar with today’s stamina-energising pharmaceuticals, such as steroids or muscular fatigue blockers, which make the ‘control’ of one’s body accessible with just a

3 For example, astronauts’ muscles and bones tend to gradually decay in microgravitational environment.
swallowed ‘anti-g’ pill or a graft injection. That means there is no longer a need to become acquainted with one’s own body, thus the individual is alienated from himself/herself.

The body is cut, but, luckily, eviscerated eyeballs are left. However, bodily qualities do not simply disappear. The loss is offloaded onto visual perception. In fact, this foretells a not-so-happy future—sight is the only ‘channel’ to the world to be left. Are we not in the realm of kinaesthesia, where we experience the world through a range of senses anchored in corporal reality, the dimensions of which vision alone is incapable of apprehending? Sensory discrimination and preoccupation with sight does not only impoverish perception, but also alienates people from themselves. The future ‘one-eyed’ man will perceive environment and the self solely from the distance. Much like neuroscientist Oliver Sack’s patient Christina, aka the “disembodied lady” (Sacks 1998: 43), one of the very few people with lost proprioception – the sense of body. She recovers her own bodily functioning—or rather operating—by intensively monitoring her limbs visually. If the lights go out unannounced, she suddenly crumples to the floor, unable to budge until they come back on. Christina’s freedom of movements is, then, totally dependent on the field of view—her life is constrained within the illuminated space. Light gains a fundamentally vital importance. But doesn’t this case of ‘illuminism’ apply to able-bodied people in the light of body-atrophying technologies?

Even more striking, currently many technologists are dreaming to ‘offload’ the body’s job onto the brain. “Cyborg is possible”, convinces Yoshiyuki Sankai, the professor of Tsukuba University of Japan (Youtube). Although “it is virtually impossible to create an artificial intelligence”, commenting on the exoskeleton HAL5 (Hybrid Assistive Limb), he considers it to be “the robot that has prospects to use the human brain itself” (Ibid). These mind-controlled means of transportation, being “at the frontier” of such cyborgian trend (Ibid), make the body a host, a living prosthesis to the machine. The driver is no longer free to think or dream. He or she now has to deal with the weight of thought!

References


