Critical Design As Approach To Next Thinking

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Abstract: Critical design offers opportunities to benefit considerably the future design thinking. This practice is based on premises that are meaningful for the whole design discipline if adopted as an integral part of design process. There are two valuable aspects, identified and discussed in this paper, that are underestimated or even omitted as quality criteria of the traditional industrial design practice, but are at the core of the critical design practice: it is critically concerned with future and aware of design's potential in shaping it towards the preferable; and it is aimed at challenging the ideological constraints that limit the designers and the society, and impede the true progress of the humanity. Critical design thinking can be studied and applied as approach to favour the development of personal understanding and promote professional growth of all designers. It is proposed as a resource for expanding the meaning of design thinking.

Keywords: Critical design, Critical thinking, Design thinking, Future, Ideology

1. Introduction

Critical design, as a specific design practice in its own right, has been developing and gaining popularity in the course of the last two decades. However, the concept of expressing critique through designed artefacts and challenging the mainstream product design principles emerged clearly as a movement in design already in the 1960’s and 1970’s, following even earlier sporadic cases.

Due to its ambiguous nature, critical design has lately been subject to an increasing criticism that seems partly legitimate in some cases and rather ungrounded in other. However the aim of this paper is not to warrant the practice as such, but instead, to raise awareness of its capability to engage designers in a different kind of thinking that delivers more conscious design products. After a thorough analyses and contextualisation, critical design reveals benefits and purposeful applications that often remain overlooked by most of the critics and designers.

There is no reliable data that would allow us to make claims about the efficiency of critical design in terms of its potential of influencing a broader audience, but we do know that designers themselves have acknowledged that this approach has affected their own evolution as professionals. It is
therefore reasonable to promote this enlightening quality of critical design, since a better understanding of its principles can substantially change the way designers work.

Critical design offers opportunities, especially as part of the design studies, to include certain concepts into the range of quality criteria to be taken into consideration when designing. Therefore I propose to revise the role of critical design; and two distinct qualities that would benefit considerably the future design thinking are identified and discussed in this paper.

The first of the qualities of critical design is its emphasized focus on futures. It is critically concerned with future and aware of design's potential in influencing it. The concept of futures, explained in the section 5.1 of this paper, allows ascertaining the necessity to adjust the way designers think of future.

The second quality of critical design, analysed in the section 5.2, is the awareness of design's ideological load. The notion of ideology is discussed and the principles of its functioning explicated along with their relation to design. I suggest that understanding critical thinking allows the designer to see beyond the imposed ideological constraints.

2. Methodology

The argument and the conclusions are based on qualitative data analysis using a hermeneutic approach. The research has been carried out by analysing the writings of designers, who themselves state to be working within the field of critical design, as well as theoreticians, academic researchers and publicists who express their judgments regarding this practice from both professional and popular point of view.

This approach has been chosen as the most appropriate for this research due to the peculiar nature of critical design, which has a strong hypothetical and ideological background and which is initially developed within academic circumstances and as part of educational curricula. As a consequence, some of the key practitioners have accompanied their work with extensive explanatory writings that reveal their intentions, discuss the empirically perceived efficiency of their design projects and legitimise this deliberately controversial design practice.

The writings, along with the opinions expressed within professional public debates, by opponents, critics, theoreticians and publicists, on the other hand, offer a different point of view, often highlighting also the presumable fails and shortcomings in meeting the design objectives set by the critical designers.

The confrontation of the various opinions advocated in the aforementioned written sources is used to advance the hypothesis of this paper. The conclusions are based on the benefits of critical design that I have identified as a logical consequence of this confrontation.

3. Critical design

Critical design uses speculative design proposals to challenge preconceptions, to raise questions and to provoke debate (Raby, 2007, p.94). Critical design is the opposite of affirmative design. According to the proponents of critical design, the vast majority of designers create affirmative design, because they work within a certain ideological context, and their design aligns with this context instead of defying it (Dunne & Raby, 2001, p.58). The mainstream industrial product design follows the rules "determined by [capitalist] government and industry" (Dunne & Raby, 2013, p.4) thus indirectly contributing to a variety of negative consequences, including serious social and environmental issues.
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on global scale. Critical designers address this issue by emotionally disturbing and poetic fictional design proposals and through use of "the language of design to pose questions, provoke, and inspire" (Dunne & Raby, 2013, p.12).

Critical design made its appearance in the late '90s as a critical reaction mainly to the capitalistic consumerist culture, that has become one of the reasons of the political passiveness of the Western society and made people unaware of their decision-making potential. Although often seen as a phenomenon appertaining to the recent developments within the field of design, this kind of practice is not something entirely new; similar approaches, but with different denotations, existed already in the 1960's and 1970's, with some isolated cases even before.

Malpass has identified three main categories within the contemporary critical design practice, and defined them according to the domain, scope, visual narrative and topic addressed: Associative Design, Speculative Design and Critical design (Malpass, 2012, p.183). These three types represent a vast variety of projects that use different methods and contexts, but the critical stance towards the current situation or its potential advancement is common to all of them. In order to ground the propositions presented in this paper, the projects described as Speculative design and Critical design are used for a reference.

Speculative design category is concerned with future; designers critically investigate the advances in science and technology. It is presented in the form of scenarios of products, their use and contexts within the society. This practice "attempt[s] to explore ethical and societal implications of new science and the role product design plays in delivering it" (Malpass, 2012, p.185). The main objective of speculative design projects is to "encourage the user to reconsider how the present is futuring and how we might potentially have the chance to reconfigure the future" (Malpass, 2012, p.185). This type of critical design practice is referred to in order to illustrate the attitude towards the future, discussed in the section 5.1.

Critical design category is characterised by its focus on "present social, cultural and ethical implications of design objects and practice" (Malpass, 2012, p.186). It is influenced by the critical social theory and its "intention is to engage the audiences' imagination and intellect to convey message" (Malpass, 2012, p.186). Critical design emphasizes the role and the responsibility of the designer in educating the users and raising awareness of their passiveness as citizens. It emerged as a reaction against designers who assume that design is "somehow neutral, clean and pure. But all design is ideological, the design process is informed by values based on a specific world view, or way of seeing and understanding reality" (Dunne & Raby, 2001, p.58). Critical design projects, which depart from this assertion, are used for reference in discussing the ideological aspect of design in the section 5.2.

4. Criticism

As critical design evolves, it not only gains more popularity and recognition, but also becomes subject of increasing criticism.

The most immediate and frequent reaction on critical design is probably the claim that it is an egocentric and useless practice, carried out for its own sake; a waste of time, effort and money for making things that do not solve any problems or do not have any function (see e.g. the debate Knotty Objects (MIT Media Lab, 2015)). This accusation is grounded in the idea that design is a problem solving activity; and in the notion that one of the inherent properties of design in functionality - both qualities supposedly absent in critical design. It is a very common misconception about the critical
design practice, and, despite of being rebutted (see e.g. Malpass, 2015), it still persists in nearly every discussion regarding critical design.

This misconception is rooted in a rather simplified interpretation of design as an activity. Design can broadly be defined as deliberate action aimed at turning existing living conditions into preferred ones (Simon, 1996, p.111). But since the improvement is easier perceptible, when something that people sense as unsatisfactory or disturbing is solved, design, in simplified words, is often described as a problem solving activity.

Critical design indeed rarely tackles arguments that people generally perceive as problematic, moreover, it is not even supposed to. Critical designers clearly state that they rather identify problems - both existing and yet to come - and ask questions instead of providing answers. They acknowledge that critical design is problem finding instead of problem solving (Dunne & Raby, 2013, p.vii). Although critical design projects sometimes also offer utilitarian solutions, these are all speculative, and the situations, in which they are meant to be implemented, are mainly fictional.

Nonetheless, critical design conforms to the aforementioned definition of design by Simon, because the whole practice is aimed changing our lives into better ones. Only it does this indirectly, by making people aware of the consequences their present actions and lifestyle have on future; by emphasising their own responsibility and capability to improve their lives; by pointing out ideological constraints that influence the people’s perception; and generally, by promoting critical thinking.

The argument of non-functionality can be similarly refuted. Critical design indeed does not produce functional, industrially manufactured things. Instead it creates non-functioning prototypes that are not meant for production at all, and due to these peculiar circumstances, it is often not regarded as a legitimate practice within the field of industrial design. This nonetheless does not mean that critical design lacks functionality at all, but its "function moves beyond physical and technical function, optimization, efficiency, and utility" (Malpass, 2015, p.69). Critical design is functional as it facilitates achieving the aforementioned objective of turning the existing situation into the preferred one.

Negative opinions on critical design, however, are not limited to a complete disapproval of the practice as such. Also the supporters of critical design reproach the attitude of certain designers for being inappropriate, considering the global environmental issues, such as food and water scarcity, limited access to education and health care and even life threatening conditions in many places of the world. Such accusations appear valid when the supposedly dystopian fictions, depicted in the projects, resemble too much the actual reality somewhere else in the world. This is the case, for example, in the project 'Republic of Salivation' by M. Burton and M. Nitta, where the designers "contemplate what could happen if our society were confronted with food shortages and famine" (Thackara, 2013) and offer a dystopian and rather cynical vision of a food distribution system for those circumstances. Similar reasoning is either uninformed, considering that millions of people worldwide face food scarcity on daily basis; or, even worse, elitist, since this 'fiction' implies that those undernourished people are not part of "our society".

This leads to another legitimate point of criticism towards critical designers: the privileged worldview and their often being focused on the first world problems (Tonkinwise, 2015, p.69). The projects of critical design have been described as "mainly male western visions on global futures" (Verschooren, 2014) that present no understanding of the privileged status their authors have. They are accused for having the same deficiencies as the critical social theorists of the Frankfurt School - for being elitist and patronising in their discourse about the society (Prado de O. Martins, 2014, p.982). For example, Dunne in his 'Hertzian tales' writes about design very similarly to how Adorno and Horkheimer in their 'Dialectic of Enlightenment' discuss the culture industry, which is used to manipulate with the
masses as opposed to the refined high arts that educate people (Adorno & Horkheimer, 1997). Dunne refers to Marxists comparing what they have said about music and art with the contemporary situation in design, where, according to him, mainstream industrial design is being uncritically consumed by the people and used to manipulate them. He concludes that there is need for a more intellectual kind of design that would be "an alternative to fine art" (Dunne, 1999, p.83). Probably due to this critique, in their recent writings (Dunne & Raby, 2013, p.35) Dunne and Raby distance themselves from the Frankfurt School and attempt to elaborate the definition of critical design to distinguish it from critical theory. In this context, however, it is important to mention that a lot of criticism towards critical design is based on "a colloquial understanding of critical design synonymous with the work of Dunne and Raby" (Malpass, 2012, p.222).

Further, also the dissemination of critical design remains problematic. In his 'Design Fictions About Critical Design' Tonkinwise metaphorically remarks that critical design has not elaborated efficient media for building up the discourse with the audiences they are willing to provoke or engage with (Tonkinwise, 2015, p.74). It is a relevant inconsistency, considering the pretentious aspirations critical designers have regarding the potential of their practice in influencing the society and the course of the future. Critical design projects mostly remain within the realm of institutions without having much effect on a broader society, and even when confronted with audiences it sometimes remains misunderstood, causing unexpected and unintended reactions (Tonkinwise, 2015, p.68). Through a hermeneutic analysis of interviews with key-figures in this practice Malpass has identified the spaces of creation and dissemination of critical design. He concludes that it is mainly linked to academic research, gallery system, and pedagogic activity. These spaces provide the freedom from the restraints imposed by industry. However, basing on the same interviews, Malpass also asserts that "[c]ritical design is not carried out for its own sake [but] with a specific context and user in mind" (Malpass, 2012, p.233).

Tonkinwise ultimately accuses critical designers for not taking part in the discourses they claim to be generating, whereas they themselves should be "orchestrating the debates through which groups of people come to decide to work together on realising a particular future" (Tonkinwise, Cameron Tonkinwise Responses for "1st Century. Design After Design" XXI Triennale di Milano). He, along with other authors, suggests that critical design can also be fruitfully implemented as part of the concept of Transition Design - a holistic approach to the discipline aimed at "reconception of entire lifestyles" (Irwin, Kossoff, Tonkinwise, & Scupelli, 2015). Critical design can contribute by generating more radical visions of futures, which are crucial in order to develop a long-term vision of sustainable future.

5. Opportunities for meaningful application

In the previous section I have comprehensively discussed the most salient arguments of criticism, expressed from various points of view. This analysis was conducted in order to critically examine the practice and avoid falling into ungrounded optimistic claims with regard to the critical design's capacities. Nevertheless, my objective hereby was to identify potential benefits and to point out qualities that critical design practice has, regardless its arguable shortcomings, and to propose a meaningful application for them.

As a result, I have ascertained that critical design is based on certain concepts that should be fundamental for any kind of design process, and the criticism is mainly connected to the outcome and the form that critical design ideas acquire - the designed artefacts themselves; their presentation; the topics they consider; and contexts of dissemination. Nevertheless, critical design
offers opportunities, especially as part of the design studies, to understand and include these valuable concepts into the range of quality criteria to be taken into consideration when designing. I therefore propose to revise the role of critical design and to consider it as an approach to design thinking.

This proposal builds further on the research by Malpass (2012). Basing on the analysis of the interviews with the critical designers, he has observed that they strive toward the following objectives:

"In establishing this critique, the designers aim to extend the purview of the discipline and what product design is capable of addressing beyond fiscal and technological drivers. Product design is pushed to address contemporary social and scientific concerns. In this context, the designers share the belief that product design is more than a profession, more than an agent of capital but a powerful medium, language and process through which to make comment and engage inquiry." (Malpass, 2012, p.226)

Malpass (2012, p.163) concludes that critical designers indulge in this kind of practice as means of developing a personal understanding, which is also explicable by the circumstances of the emergence of critical design. Now a practice in its own right, critical design has its origins within the academic context (Antonelli, 2011), initially being implemented as a sort of thought experiment. The academia provided a fertile environment for such contemplation, as it was free from market constraints and demands of the clients.

Yet, I consider that the ability of engagement in critical thinking and other valuable premises of critical design process are not and should not be limited to non-commercial or self-initiated design projects. Therefore I have identified two basic qualities that would benefit considerably the future way of design thinking in all fields of design.

5.1. Focus on future

The first of the qualities of critical design that I suggest as beneficial for design thinking is its emphasized focus on future. This is especially characteristic to the Speculative design projects (according to the classification by Malpass (2012); see also section 3. of this paper), however, considering the whole critical design practice it is possible to trace the evolution of its relationship with future. Initially, A. Dunne and F. Raby, designers who introduced the term 'critical design' to describe their own work, were searching for alternative aesthetics and expanded social meaning for electronic devices (Dunne, 1999; Dunne & Raby, 2001). Project scenarios were not explicitly situated in the future, but the electronics linked with technological development and thereby represented a perfect embodiment of future.

The academic activities of Dunne and Raby encouraged other designers to work similarly, and 'critical design' soon became denotation of a whole movement in design. The same principles were applied for tackling other topics, and projects became more varied in content and form. Some authors were particularly interested in technological and scientific issues, and their focus moved predominantly to the ethical and societal implications of future technologies, which were addressed through ambiguous speculative design proposals.

Later on the concept of future cones (Figure 1), elaborated by the future scientists, was adopted in order to explain the critical designers' attitude to future (Dunne & Raby, 2013). Designers elaborated the idea of 'preferable' future, and asserted that currently the preferable future is "determined by government and industry" (Dunne & Raby, 2013, p.4) and not by the users of the industrially produced consumer goods. Speculative design was proposed as a way to address this problem and to
make people consider their own role as potential decision makers. Although critical designers do not suggest what is the preferable future according to them; they encourage the society to reflect on it.

The concept of future cones can be explicated and grounded by the so-called three 'laws' of future: future is not predetermined; it is not predictable; and it can be influenced by our choices in the present (Voros, 2001). By analysing the past and present developments, it is possible to distinguish more and less probable futures. This is what industries do in order to adapt their products and services accordingly, aiming for maximum profit; and this is also what speculative designers attempt to challenge. Their objective is to motivate people to consider their own preferable future, which has nothing to do with its probability from today's point of view, and to raise awareness of their capacity to influence it. The logic of the 'laws' of future implies that if we strive for something, we can eventually turn it into reality, even if it seems incredible now (Voros, 2001).

![Diagram of future cones](image)

**Figure 1.** Diagram of future cones is a graphic representation of the principles of future development. The present is situated at the vertex of the cone, and all the possible future courses flow out of it forming the cones. Diagram shows how the future is forecasted, identifying the possible outcomes and their level of probability. The purple cone visualises the concept of preferable future, and can be placed anywhere, even outside the largest cone. Its position varies also in relation to who's 'preferable' future it is. (Dunne & Raby, 2013, p.5; graphic adaptation by the author)

It might seem inappropriate to attribute concerns about future exclusively to critical and speculative designers, as thinking about future, creating for it, and speculating about it has always been an integral part of any design process (Tonkinwise, n.d.). But the problem here is that even though all the designers do contemplate about future, the vast majority of them work rather as trend forecasters than as game changers. They do not attempt to influence the future, but instead try to adapt their designs to the most probable development of the future, precisely because they see it as an unalterable given.

Speculative designers use design as a medium to visualise alternative futures without suggesting the preferable one, whereas other designers actually create the future - regardless whether it happens as a deliberate and conscious act or just as an inevitable consequence of insufficiently informed action. Therefore I suggest that including the principles of speculative design thinking in any design activity would raise awareness of design's potential to influence future towards the preferable, and thereby noticeably benefit the whole practice of design. Critical design tasks should therefore be
incorporated within the educational curricula, allowing the future designers to exercise in instituting debates through design and to learn responding to the induced reactions.

5.2. Ideological awareness

The concept of ideology as means of control over society is at the core of Marxism. Although Marxist ideal was utopian and was never achieved in reality, Marx's views on ideological conditioning proved to be useful for other critical theories. Consequently the critical social theorists known as the Frankfurt School elaborated prevalingly on the enlightening potential of critical thinking, which allows people to liberate themselves from the ideological ties and to take informed decisions (Adorno & Horkheimer, 1997; Fromm, 2001; Marcuse, 2002). This is comparable to the objectives and approach of the critical designers.

Ideology is system of beliefs or principles that societies or smaller groups of people adhere to and act accordingly to. There are ideologies, which function as a set of rules that people have deliberately agreed upon, and others that are accepted unconsciously by the majority of the society. The latter ones are mostly undesirable, because they are often used to manipulate the society to benefit a privileged class or group of people (such ideologies are political systems, religions, etc.). But those are also the most successful ideologies, because they "are not recognized as ideologies but are thought to be natural ways of seeing the world" (Tyson, 2006, p.57). One of such successful ideologies today is the western neoliberalism. A critical analysis reveals why "we seldom even recognise it as an ideology" (Monbiot, 2016).

Critical design tackles the fact that society is passive and unable to see alternatives to their current conditions of life. Designers agree that this does not necessarily make people unhappy, but it does prevent them from dreaming, and hence impedes the true progress of the humanity. Therefore critical design questions everything that the western society takes for given and unalterable, as part of the governing ideology - from seemingly irrelevant everyday routines, to the social roles, and the whole capitalistic system. Then their concerns are presented "using the language and structure of design to engage people" (Dunne & Raby, 2013, p.35).

Ideologically conditioned society perceives its own state as a natural way of being and unconsciously replicates this condition through every act. Designers, who are not aware of the ideological ties, are no exception. Design that is created within certain ideological context supports the cultural conditioning of society, and promotes the ruling ideology. Design literally forms our material environment, it gives physical shape to every artificial object we use or encounter, and thereby it has effect on our thoughts, actions, and habits. It is ubiquitous, it forms the idea of norm, and therefore it is a perfect medium for ideological propaganda.

Hence I suggest that it is extremely important for every designer to comprehend the principles of ideology, to be able to engage in critical thinking, and to implement design as a tool to help the society to escape the repressive conditioning. Including studies and exercises of critical design, along with the already often present critical social sciences, in the design education could facilitate the ability of designers to make informed and critical decisions also in the real-life situations.

6. Conclusions

After a thorough analysis in the light of prevailing criticism, with regard to the aspirations of the practitioners, critical design practice can be asserted as a useful resource for next thinking. There are two valuable aspects, which are underestimated or even omitted as quality criteria of the traditional industrial design practice and design education curricula, but are at the core of the critical design.
Critical design as approach to next thinking: it is critically concerned with future and design's potential in shaping it towards the preferable; and it is aware of the ideological constraints that limit the society and impede its progress. Advisedly and ethically implemented it can benefit both design education and practicing designs. Critical design can hence be warranted as a method for developing personal understanding, promoting professional growth of all designers, and expanding the meaning of the notion of design thinking.

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