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C R I T I C A L D E S I G N

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Titelblad

Critical Design

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Abstract

Designed objects are social messages. They reflect society in all its facets and forms.

Some designers work in order to raise new desires, to generate trends and fortify the culture of fast-consumption, while others take it to the other extreme through not taking for granted and always questioning what is given.

Dunne & Raby define Critical Design as follows "Critical Design uses speculative design proposals to challenge narrow assumptions, preconceptions, and givens about the role products play in everyday life. Critical designers often use irony or humour to introduce a critical perspective."

The original purpose of this Bachelor Project is to research about this design practice and then to present my own design based on this case of study.

It will firstly define what is Critical Design and its values. Then it will dig into its background, showing the relevant history and the origin. Following this, it will put the study into a contemporary context and will describe the current situation of the practice. After this I will explain the reflections I get during the previous research to carry with the next implementation.

Finally, it will present my own design, as a personal implementation of Critical Design.

One paragraph summary:

Design objects are social messages. Critical Design is a design movement that questions design assumptions and preconceptions to introduce a critical perspective. The purpose of this project will be to carry out research into the background and ideas of Critical Design and then to apply the approaches from the movement to one design challenges.

Forord

Designede objekter er sociale beskeder. De afspejler samfundet i alle dets facetter og former. Nogle designere arbejder for at skabe nye ønsker, skabe trends og styrke kulturen med hurtigt forbrug, mens andre tager det til den anden ekstrem ved ikke at tage for givet og altid stille spørgsmålstejn ved, hvad der gives.

Dunne & Raby definerer kritisk design som følger "Critical Design bruger spekulative designforslag til at udfordre smalle antagelser, forudsigelser og givens om rollens produkter spiller i hverdagen. Kritiske designere bruger ofte ironi eller humor til at indføre et kritisk perspektiv. "

Det oprindelige formål med dette bachelorprojekt er at undersøge denne designpraksis og derefter præsentere mit eget design ud fra denne studie.

Det vil for det første definere, hvad der er kritisk design og dets værdier. Så vil den grave i sin baggrund, der viser den relevante historie og oprindelse. Herefter vil den sætte undersøgelsen ind i en moderne kontekst og vil beskrive den aktuelle situation i praksis. Herefter vil jeg forklare de refleksioner, jeg får i løbet af den tidligere undersøgelse for at gennemføre implementeringen.

Endelig vil den præsentere "teorien i praksis", en personlig implementering af kritisk design.

Et afsnit resumé:

Designobjekter er sociale beskeder. Kritisk design er en designbevægelse, der stiller spørgsmål om designforudsætninger og forudforståelser for at indføre et kritisk perspektiv. Formålet med dette projekt er at gennemføre forskning i baggrunden og ideerne om kritisk design og derefter anvende tilgange fra bevægelsen til en designudfordring.

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CONTENTS

Abstract	Pag 3
Acknowledgements	Pag 5
1. Introduction	Pag 7
1.1 Manifesto	Pag 8
1.2 Why Critical Design?	Pag 9
1.3 Aims and Objectives	Pag 10
1.3 Project Structure	Pag 10
2. What is Critical Design?	Pag 12
2.1 Definition	Pag 13
2.2 Philosophy	Pag 14
2.3 Methodology	Pag 18
2.4 Related movements	Pag 21
3. Background	Pag 27
3.1 History	Pag 28
3.2 The born of Critical Design	Pag 32
4. Critical Design today	Pag 34
4.1 Representative designers	Pag 35
4.2 Representative designs	Pag 41
4.3 Expected Future	Pag 50
5. Being critical about Critical Design	Pag 52
6. My use of Critical Design	Pag 58
6.1 Introduction	Pag 59
6.2 Theme	Pag 59
6.3 Ideas generation	Pag 62
6.4 Design Brief	Pag 63
6.5 Development of the idea	Pag 64
6.6 Final design	Pag 65
6.7 Comparison of my design and Critical Design	Pag 72
7. Conclusion and implications	Pag 74
8. References and List of Figures	Pag 77

1 . I N T R O D U C T I O N

1. Introduction

This Bachelor Thesis is focused on the study of the Critical Design practice and concludes with an attempt at personal implementation by my own design.

My intention has been to do for the first time a project of research and convert what I have learnt and the new perspectives gained into practice. The extent which it has been possible will be considered later in the conclusions.

1.1 Manifesto

Using the word "Manifesto" could cause confusion. I would like to explain that I'm not starting a movement or avant-garde, in this part I only expose the process and thoughts that drove me to involve myself in this theme. I am not inventing anything, I am just studying something that already exists and which fits with some ways of thinking that I have. Having clarified this, I am ready to show "my manifesto":

Defining design in our complex society is a big deal. There are too many factors and scales and it is difficult to explore and understand everything, and it is even more difficult to change or transform it, at least on your own.

During my Bachelor of Industrial Design Engineering I have been questioning myself which is the importance of design in the problems of our society and what is the distance between designers' values and the products we consume every day. But, are these issues for designers, the entities that hire them or the society that makes it works?

We all are able to be critical with our context. There are too many social injustices and it is not difficult to realize that the sole objective of making profit in our economic system is unsustainable and unethical.

It causes terrible consequences especially for undeveloped countries and our natural world. In view of these facts, what is the role of design?

I believe that design can find the best balance between ethics, economic viability and environmental concerns. Design can disturb current narratives and contribute to reformist approaches. Designs are social messages, where Critical Design has something to say and it is already doing so.

Critical Design is not a marginal practice, there are many practices and movements that are challenging the status quo but Critical Design has a particular approach to doing it that has caught my attention. In the next paragraphs the reasons that justify my choice will be mentioned.

1.2 Why Critical Design?



Figure 1. Lei Xue, *Drinking Tea*, 2003

There are some reasons that explain why I chose Critical Design for this design research.

Everything started when I read an article about the sculptures made by the artist Lei Xue called "Drinking Tea" where he represents the tension between the past and the present. This made me ask myself if there are designers (not artists) that use their work to express their ideas through a critical/protest way.

As a typical person that lives in the 21st century I looked in Internet about it, literally writing "Design to criticize" and I that's how I found Critical Design. I knew about other practices with similar approaches, but Critical Design aroused my interest specially because it uses irony and I thought that it fits with my personality. Also, I realised that it is an unexplored theme and there is a lack of analysis and discussion so it would be challenging to research about it.

On the other hand, I was keen of investigate how designers take responsibility for their work and transform it into what they consider transgressive concepts and designs.

Otherwise, the perceptions I had first about Critical Design have changed in some aspects during the research but I will talk about this in the reflections.

1.3 Aims and objectives

The main aim of this project is a research of Critical Design practice, and then, an attempt to implement it through an actual design exercise.

The questions through the mentioned research I want to answer are:

- What is Critical Design?
- Why it arose?
- Is it a useful practice? What is its scope in the design arena?
- How does it works in our context?
- Who are the most representative practitioners?
- Is it a viable practice?

Moreover, my objectives though this project are to:

- Organise concepts and the theory about Critical Design.
- Learn about the different ways that design can operate.
- Be critical with Critical Design and obtain a reflection about it.
- Be able to implement it in a useful way.

1.4 Project Structure

This Bachelor Thesis is divided in two main parts. The first (from sections 2 to 6) focuses on the study of the Critical Design practice and the second (section 7) is the use of it in my own conceptual design. Section 8 is a general conclusion about the project.

In section "2. What is Critical Design?", as the title says, the definitions of Critical design will be explored and especially the definition that is going to be used for this project will be presented.

After this first contact, the philosophy that guides the practice will be explained supported by the existing literature about it. Then the methodology that critical designers use and its problematic is going to be presented. Finally, a little description about the movements and practices that operate together and have some similar approaches to Critical Design will be explored.

Section 3 identifies critical attitudes through the history of design in order to know the reasons and context of the origins of Critical Design.

In the next section (4), some representative designers will be introduced and, following this, their opinions and perspectives will be summarized in a table. After this, some designs will be presented.

Having learnt and assumed the previous information, the fifth section attempts to talk about the future of Critical Designs or at least do an approximation.

The final section of the first part consists of reflections, where some opinions will be exposed and the second part will be introduced.

Section seven is the implementation of the previous sections into practice. The chosen theme and approach will be explained and developed. The process of the design will contain the problem identification, the design brief, the first ideas a concepts and the final concept. In the end of this section, my own process and Critical Design process explained in the first part will be compared.

Finally, a general conclusion of the project will be done explaining the achievement of the objectives, lessons learnt, the implication and my contribution with this project.

2 . W H A T I S C R I T I C A L D E S I G N ?

2. What is Critical Design?

Before going deeper into the study of the movement, the first approaches that will allow us to come to the final definition of Critical Design will be introduced. Then, the philosophical perspectives that have led to the birth of the practice and allow us to improve our understanding about the movement will be explained. To continue, the methodology that Critical Design uses as a design process will be explained. Finally, other movements that have influenced Critical Design or are related to it in some way will be described.

2.1 Definition

The book *Design Dictionary: Perspectives on Design Terminology*, by Michael Erlhoff and Tim Marshall (2008) presents a dictionary of specialized terms used in design. It uses the words of Dunne and Raby to describe Critical Design as follows: "Critical design uses speculative design proposals to challenge narrow assumptions, preconceptions, and givens about the role products play in everyday life". It goes on to present a summary of the key elements of Critical Design and its history, making it clear that Critical Design has probably existed in various forms for a long time, but was most particularly influenced by the Radical Design movement in Italy in the 1970s. It emerged most strongly in the 1990s, influenced by the general move toward (>) Conceptual Design, mainly in the furniture world. Erlhoff and Marshall summarize the key characteristics of Critical Design, noting that it is essentially an attitude, proposing designs that are able to provoke discussion and to make us think. Critical Design shares some of the attitudes and perspectives that inform various forms of activism. Critical designers often use irony or humor to introduce a critical perspective; their intention is engage the audience's imagination and intellect to convey a message. The movement is a response to the fact (maybe a belief) that design views its users and consumers as obedient, uniform, and predictable.

A critical designer takes account of the complexities of living, and can even use negativity constructively to draw attention to scary possibilities. Critical design recognizes and draws attention to the ways in which we are designing our world, whether they be benign or insidious: it definitively is not art. We expect art to explore extremes, but critical design needs to be close to the everyday and the ordinary as that is where it derives its power to disturb and question assumptions. In other words, critical designs can suggest that the everyday as we know it could be different—that things could change.

The description given of Critical Design in Erlhoff and Marshall matches that given in a number of other works of Antony Dunne and Fiona Raby. In fact they were the initiators and wrote about the practice in these books: Antony Dunne and Fiona Raby, 2001, *Design noir: The secret life of electronic objects*. Antony Dunne, 2005, *Hertzian Tales: Electronic Products, Aesthetic Experience and Critical Design*. Antony Dunne and Fiona Raby, 2013. *Speculative Everything: Design, Fiction, and Social Dreaming*.

From these sources, the following is suggested as a definition of Critical Design for use in this report:

Critical Design is a design practice that questions narrow assumptions and preconceptions to introduce a critical perspective. Critical designers often use an ironic and humoristic attitude to suggest that things could be different and reach the primary intention: to make us think.

2.2 Philosophy

To deepen our understanding of the philosophy and “Critical Thinking”, the term “critical” will be described first. After this, we will talk about the attitude of being critical and what is its role in design.

According to the *Oxford Dictionary*, the term “critical” has various meanings; as an adjective, it expresses disapproving and not pleased comments.

It can also refer to a decisive action/choice in an important situation. Connected to science, "critical" is the point of transition between two different states. And in arts and literature it expresses analysis and opinion about a work. So critical can have many meanings: what is the meaning in Critical Design?

To be critical is an attitude that makes judgements in order to progress, and in this case that's the correct sense that modifies the word "design" and transforms it into "Critical Design".

Being critical is an attitude, it is part of a personal development to take conscience of our own life and the context we are in, as well as a wish to contribute to a greater societal good.

Rachel Cooper asked the rhetorical question, "Is design in a philosophical crisis?" She also argues that there is a need for new design heroes/ines to guide us about the scale and the repercussions design could have, especially to deal with environmental/societal issues.

It's true that while there have been, and are, some lucid voices from the design community (Ezio Manzini, Tony Fry, Guy Bonsiepe, Dune.A and F.Raby and more)¹, the silence from many design education and practice communities is notable.

¹ *Enzio Manzini is designer, engineer, architect, educator and author of many books and publications related with design for sustainability. Ezio Manzini is currently professor of Industrial Design at the Milan Polytechnic. He has held the position of Director of Design at the Domus Academy in Milan and has been involved in several international commissions, expert panels and working groups. He is a member of the Editorial Board of the Journal of Industrial Ecology (USA) and the Journal for Sustainable Product Design (UK).*

As well as a number of books, he has written for many international magazines and has been responsible for several research papers for public bodies and private companies. Professor Manzini recently established the Chinese Network for Design for Sustainability. (Information about the biography adapted from Change Design (formerly EcoDesign Foundation). Tony Fry is a designer, design theorist, cultural theorist and educator working in the areas of design, sustainability, creative industries and culture. Tony is a director of sustainability consultancy Team D/E/S, Professor, Design Futures Program, Griffith University, Queensland College of Art, and a contributing editor of the e-journal Design Philosophy Papers. Tony is the author of nine books, has edited three, has essays in twenty collections and has over 200 published articles and conference papers. (www.design.cmu.edu)

Gui Bonsiepe (1934) is a German designer, teacher and writer. Especially in South America and Germany, his publications are considered standards of design theory. He is author of the book "Design and Democracy", 2010.

Ironically, while design is known as a powerful communicative force, it has failed to communicate its own social and environmental ambitions to society, and remains perceived by many as a simple servant to powerful consumerism. Even so, there is raising a lot of work on eco-design, eco-innovation and sustainable design. The problem is that these activities are a minority in comparison with mainstream design.

However, Critical Design projects are presented to a very small audience and this is a problem because Critical Design can't make an impact in society if it's not known and in fact, for some people it is elitism².

It is high time for not only conscious designers to know about the power and impact of design, it's time that society realises and uses it. Perhaps Critical Design offers an opportunity for design to find its real voice?

Designers who use design thinking properly have an important role and engagement in our society. Therefore, what is the motivation and intention of Critical Design? In the book *"Speculative Everything: Design, Fiction, and Social Dreaming"* (Dunne and Raby, 2013), Dunne and Raby meditate about their role in design, saying "All good design is critical". They are interested in critical thinking that is not taking things for granted, but being skeptical and questioning what is given. They believe that change is possible, so it is idealistic and positive, "it is an intellectual journey based on challenging and changing values, ideas, and beliefs".

Critical Design is intended to provoke, through irony and humour to achieve its aims and to transgress social norms. It materializes the critique that designers have inside them.

² "The elitism persist since the outputs of critical-speculative projects struggle

to leave academic or artistic contexts" (Andrea Facchetti, 2016, Towards a political dimension of speculative design).

That's why design can't be impartial because designers take decisions by these thoughts and ideology.

Additionally, designers are provoking themselves as participants and it makes it more challenging.

Ramia Mazé³ contends that there are three different approaches to critical design practice: the first sees designers reflecting on and critically questioning their own design practice, the second approach is based on a macro-perspective, re-thinking the design discipline, and in the third approach the design discourse is directed towards broader social and political agenda (*Ivica Mitrovic, 2016, Speculative – Post-Design Practice or New Utopia?*).

It is important to mention the engagement that Critical Design has with design education. In fact, the parents of Critical Design theory (*Antony Dunne and Fiona Raby*) are university professors (Royal College of Art until 2015 and now at New School, New York) and researchers and promote it in their teaching.

Great designs and designers come with experience but sometimes it isn't enough. There has to be an attitude of steady learning and research.

Design is based on the observation and understanding of our context, and by practicing it we make effort in order to articulate our needs, desires and expectations. "All good critical design offers an alternative to how things are", the critical dimension can't be limited to the project's content, but should be linked to its cultural relevance (*Dunne and Raby, 2014*).

³ *Mazé and colleagues use the term 'speculative design' synonymously with Critical Design, but it is suggested that there are differences. Both practices use design as a medium and focus on concepts and artefacts, and, rather than solving problems, ask questions and open issues to discussion. The difference between Speculative Design and Critical*

Design is that speculative design approach takes the critical practice one step further, towards imagination and visions of possible scenarios. (Speculative – Post-Design Practice or New Utopia, Ivica Mitrovic, 2016).

As James Auger says in an interview, once these intentions are exposed, "a new form of design becomes possible, more responsible, more intellectual and more creative. A design that embraces complexity, understands its history and essentially ask a lot of questions." (Ivica Mitrovic, 2016, *Speculative – Post-Design Practice or New Utopia?*).

Design needs to be more serious because of its impact on society, and Critical Design and other related design practices have taken the challenge to improve as far as they can our environment and our society.

2.3 Methodology

The Critical Design approach can be seen as a practice or attitude rather than a defined methodology. There thus isn't a clear method to do a critical design and its process can't be reduced to a simple recipe because it depends on the experience and judgement of the designer. In fact, Dunne and Raby affirm that Critical Design doesn't follow any methodology because, influenced by the RCA, they consider methods irrelevant and reductive (2013, *Speculative Everything: Design, Fiction, and Social Dreaming*).

Also, the findings during the research by the designer in Critical Design depend on the experience of the design researcher and are a more important subject than the methodology (Shaowen Bardzell, Jeffrey Bardzell, Jodi Forlizzi, John Zimmerman, John Antanitis, 2012, *Critical design and critical theory: The challenge of designing for provocation*).

Critical Design takes different methodologies that are accessible and appropriate at any given moment. It legitimately uses tools, techniques, methods, instruments and concepts of other practices and arenas as social research for instance. "Anything considered suitable at given moment is legitimate" (Ivica Mitrovic, 2016, *Speculative – Post-Design Practice or New Utopia?*).

However, during the process of some projects and experiments related with Critical Design, we can find a common steps and points:⁴

1. **Research:** The first step of critical designers is to identify which topic/aspect of our current culture they want to provoke. To do it, they can use some social science and critical theory literatures.
"A successfully speculative project is necessarily connected to the research" (Ivica Mitrović, 2015, *Introduction to Speculative Design Practice- Eutopia, a Case of Study*). The designer uses instruments, methods and literature, taken mainly from social research, in order to get a better understanding about the impact of the selected theme in society.
2. **Idea generation:** Designer/s have a dialogue with each other in order to find a solution. It's the time to design.
3. **User:** The design is tested by different users. Designers "do theory" with the participants monitoring their emotional and physical reactions during the interaction with the critical design in that case (Shaowen Bardzell, Jeffrey Bardzell, Jodi Forlizzi, John Zimmerman, John Antanitis, 2012, *Critical design and*

⁴ Shaowen Bardzell, Jeffrey Bardzell, Jodi Forlizzi, John Zimmerman, John Antanitis, 2012, *Critical design and critical theory: The challenge of designing for provocation*

Helene Day Fraser, 2016, *Critical Design. Critical Making. Critical Use?*

Janet McDonnell, 2015, *Gifts to the Future: Design Reasoning, Design Research, and Critical Design Practitioners.* Maria Menendez, Antonella De Angeli, 2017, *Fostering Cooperative Activism through Critical Design*

critical theory: The challenge of designing for provocation). The interaction of the Critical Design prototypes and participants should be repeated in order to get a deep relation and quality findings.

A critical design has to have a “A slight strangeness” (A. Dunne, F. Raby, 2001, *Design Noir: The Secret Life of Electronic Objects*) if not, probably you don't get the expected reaction from users.

In some cases of critical designs, this step is missed out because the design is destined to be displayed in an exhibition.

- 4. Conclusion:** The designer measures the impact of the project and gets conclusions and reflections on it.

It is known that the critical design process has to be open to negotiation because researchers as product-users can destabilize the process.

As explained in the conference paper *Critical Design and critical theory: The challenge of designing for provocation* (Shaowen Bardzell, Jeffrey Bardzell, Jodi Forlizzi, John Zimmerman, John Antanitis, 2012), in Critical Design it's important to determine and valuate how provocative is the subject before starting to design. Also, the relevancy of getting a deep and slow relation with the participants to understand them in order to comprehend their reactions in the experiments with the design is important.

The Critical Design process can't be reduced to a simple recipe and it depends on the experience and judgement of the designer, and on top of this, the designer is provoking as the participant and this makes it more challenging.

2.4 Related contemporary movements

Critical Design it's not an isolated practice, it interacts with others with similar and complementary features.

We are in *the era of observation* of design and it allows us to discover what is going on in the design arena, because as Tony Fry says: "design designs" referring to the capability to influence what we choose to design and what happens next. (Alastair Fuad-Luke, 2009, *Design Activism: Beautiful strangeness for a sustainable World*).

Critical design comprises or is related to a series of similar practices known under the following names: Speculative Design, Design Fiction, Future Design, Anti-Design, Radical Design⁵, Interrogative Design, Discursive Design, Adversarial Design, Futurescape...

In some works and articles⁶ it is talked about the great relationship between Speculative Design and Critical Design, and even sometimes they are taken for granted as the same practice. This is the consequence of the lack and ambiguity of information about it.

However, while the current methods and techniques they use in their activities are quite similar, we can find some differences in tradition and perspective. The main difference is that Speculative Design is concerned with designs about scientific and technical paradigm for example themes like synthetic biology. Critical Design though, uses design as a form of social and cultural commentary or critique inquiring into social-cultural concerns.

⁵ Radical Design and Anti-Design will be explained in the next section (2.1 History) because they essentially are

a great part of Critical Design's background.

⁶ Ivica Mitrovic, 2016, *Speculative – Post-Design Practice or New Utopia*.

Matt Malpass, 2012, *Contextualising Critical Design: Towards a Taxonomy of Critical Practice in Product Design*

In Table 1.1, there is a resume about the similarities and differences between Critical Design and Speculative Design.

Similarities	Differences
<ul style="list-style-type: none"> · Designers collaborate with external disciplines and sources · They reflect on the implications of design decisions. · Encourages the user to reconsider how the present is developing and how we might potentially have the chance to change it. · No mass production · It is typically positioned in neutral everyday domestic contexts. · Sometimes both are forms of activism and culture jamming. · They work through ambiguity⁷ · Dark humour, <i>Juvenalian</i> satire, obscenity and violence are sometimes used to engage the user. · The objects are described as non-rational⁸ · Contexts: Self-initiated projects, educational student projects, academic design research, para-academic⁹ 	<ul style="list-style-type: none"> · Speculative Design focuses on the future and Critical Design on the present · Speculative Design is dependent on the construction of an external narrative but Critical Design doesn't need it.¹⁰ · Themes: Critical Design focuses mainly in social and cultural issues¹¹ and Speculative Design in technology, biotechnology, nanotechnology.... · Critical Design is much more diverse and cynical, the critical approach

Table 1.1 Similarities and differences between Speculative and Critical Design. It is a synthesis and classification of information taken from: Matt Malpass, 2012, *Contextualising Critical Design: Towards a Taxonomy of Critical Practice in Product Design*.

⁷ Gaver, Beaver and Benford (2003) described it as the proposition are often unfamiliar, and “the critical narrative is developed through a symbiosis of object and media external to the object.” Furthermore, the ambiguity let the user to consider new beliefs and

values, and finally their own attitudes.

⁸ The design is placed in context through mechanisms of narrative and storytelling.

⁹ Work carried out in an institutional context that is commissioned or funded by industry.

¹⁰ Critical designs should be clear enough without the need to explain the context.

¹¹ It is true that the first works called Critical Design were about technology because Critical Design and Speculative Design started together.

In Table 1.1 we have seen that there are more similarities than differences. This is because both were born more or less in the same conditions but Speculative Design is more focused in technology and science and Critical Design is more general, covering themes like social conscience and mass consumerism.

It will be shown below in the Table 1.2 a list of current and recent related practices and a little description of them emphasising their ideology and approach. (Adapted from *Design Activism: Beautiful strangeness for a sustainable World*, Alastair Fuad-Luke, 2009 and Matt Malpass, 2012, *Contextualising Critical Design: Towards a Taxonomy of Critical Practice in Product Design*).

Practices	Description	Key issues
Associative design	It parodies existing designs to construct criticism.	Design itself, cultural and social
Collaborative	Participatory processes and methodologies	Cultural, social, political participation and democracy
Conceptual	Speculative future scenarios, futurology	Cultural and social transformation
Cross-cultural	Issues of hegemony, cultural power, values	Cultural, social and political aspects of globalization/localization
Eco-	Issues related to the environment and sustainability impacts of design	Environment, sustainability
Design research	Allocation and management of design-related resources	Any contemporary issues
Design Theory	The study of design theory by reflection on its action, processes and outcomes	Any contemporary issues
Environmental	A framework that encourages a reciprocal relationship between the design object with natural systems	Environment, sustainability
Gender	The analysis of objects with regard to their genderization	Cultural, social political
Green	Considers issues of the environmental impacts of design	Environment, sustainability
Participatory	A collaborative approach to the design of products, services, spaces or systems that involves actors/stakeholders in the design process	Cultural, social, political participation and democracy
Protest	A loose movement of mainly younger designers commenting and reflecting on current social/political issues	Cultural, social, political, environmental issues
Re-	“Refining, improving or reinterpreting an already existing functional design”	Economic, environmental, cultural (consumerism)
Slow	“An approach that encourages a slower, more considered and reflective process, with the goal of positive well-being for individuals, societies, environments and economies	Cultural, social, political, environmental issues
Social design	Design that is mindful of the designer’s role and responsibility in society; and the use of the design process to bring about social change.	Cultural, social, political participation and democracy

Universal	An approach that encourages designs that should be equally accessible and can be experienced by the largest possible number of people. Synonymous with design for accessibility, design for all, trans-generational design and inclusive design	Cultural, social, political participation and democracy
Metadesign	Design that designs itself, within the whole, in order to redefine and synergize social and technical infrastructures, collaboratively and co-adaptively	Cultural, social, political participation and democracy
Co-design	Design that bring users, actors and stakeholder into the design process on the basis that everyone likely to use a design has a voice in its conception	Cultural, social, political participation and democracy
Sustainable design	Design to deliver sustainable development and deliver the “triple bottom line” – by balancing profit, people, plane	Balancing economic, ecological and social considerations
User-centred	Design that focuses on the need of the users and involves them in the design process	Cultural, social – participation by users
Empathic design	Combining qualitative methods of engaging with user data	Cultural, social – participation by users
Experience design	Designing human experiences foremost and products, processes and services that deliver that experience	Economic, cultural, social

Table 1.2 Practices of design

To continue, some designs made using some of the practices of Table 1.2 will be presented. These are representative examples because of their concept and impact.



Figure 2. Mads Hagstroem, FLOWmarket Clean tap water,

Danish designer Mads Hagstroem created the brand FLOWmarket to generate “thought awakening” by taking products of our everyday life (such a bottle of water) and questioning their role in our lives.



Figure 3. No Shop by Thomas Matthews

This was an event by a professional activist group that made a challenge. Thomas did the International Buy Nothing Day for its client, Friends of the Earth, UK, by creating “No Shop” in central London. It obviously didn’t sell anything but was a place to get information about the campaign.



Figure 4. Proto Gardening Bench by Jurgen Bey for the Oranienbaum project for Droog

The Proto Gardening Bench by Jurgen Bey for Droog was the result of a larger project in Germany. This ephemeral seating is a conceptual design made from garden waste by the local community that is compressed and bonded in a resin matrix. When it is broken, it is returned to the nature and the cycle begins again.



Figure 5. ParaSITE by Michael Rakowitz

Michael Rakowitz takes advantage of the waste heat/cooling from buildings’ ventilation systems by providing a temporary accommodation for homeless.



Figure 6. Q Drum water transporter

This design is not ironic and humoristic as the others but it reflects perfectly the value and the importance that design can achieve. It is very simple and useful.

3 . B A C K G R O U N D

3. Background

This section identifies critical attitudes through the history of design in order to know the reasons and context of the birth of Critical Design that will be explained at the end of it.

3.1 History

Over the years, the outputs or at least the aim of design as an agent of progress and change can be noticed. By studying the history of design as an object of study and analysis we can see the influence of designers with a critical attitude, in some cases as a response to a previous movement (pendulum effect) and in other cases through questioning and attempting to improve our lives.

Below, the evolution of a critical attitude through design will be explored in order to help to understand the background of Critical Design. The information has been mostly obtained from the book *"Design Activism"* (Appendix 1), Alastair Fuad-Luke, 2009.

It can be considered that William Morris and his "Arts and Crafts" movement (1850-1914) was the first sign of a critical attitude in design. The movement was opposed to the industrial mass production, the poor working conditions, and the pollution of the factories. To improve it, they proposed usefulness and quality of designs. They failed however in the social experiment to return to handicraft production because mass production became cheaper.

In the other hand, "Futurism" (1909-1917), an art avant-garde movement that also had repercussions in architecture and design, used to show its criticism by provoking the existing bourgeois culture through an extreme radicalism. Futurism rebelled against harmony and good taste, swept away all the themes and subjects of all previous art, and gloried in science.

With the slogan "all in the name of progress", in their designs they reflected the adulation of technology, the speed by aggressive forms, the dynamism of the machines and the abstraction of forms as others avant-gardes.¹²

In a different context "Constructivism" (1917-1935), originated in Russia by Vladimir Tatlin, it was a rejection of the idea of autonomous art. He wanted 'to construct' art. The movement was in favour of art, design and architecture as a practice for social purposes. Constructivism had a great effect on modern art movements of the 20th century, influencing major trends such as the Bauhaus and De Stijl movements.

Although its graphic designs served as propaganda for the Soviet government, it showed utopian features through architecture and planning in service to "a new society".

A new philosophy of art and design arrived through the Dutch art movement De Stijl (most influential in the period 1917-1931). The absolute abstraction of forms in its work then influenced Bauhaus to make a revolution in design.

Bauhaus (1919-1933) was the German art school born in Weimar and operational from 1919 to 1933 .It was founded by Walter Gropius with the idea of creating a "total" work of art (Gesamtkunstwerk) in which all arts, including architecture, would eventually be combined.

Even though it ended up being a style rather than a philosophy, it could be considered critical because it made a revolutionary change in design. Their main theoreticians, including Gropius, had a "community sense" of rebuilding Germany after the ravages of WW1 and practiced a democratic design again through a "return to craft work" but also maintaining the rejection of traditional art and supporting at the same time industrial workers. Gropius regarded social and aesthetic form as indivisible, his goal was to transform modern life.

¹² Futurism influenced the art movements Constructivism, Surrealism, Dada,

and to a greater degree Precisionism, Rayonism, and Vorticism.

There were disagreements within the Bauhaus school. For example, Kandinsky, other artists and some students opposed Gropius for his plan to market the products of the workshops and said that he was creating a “Bauhaus Style”.¹³

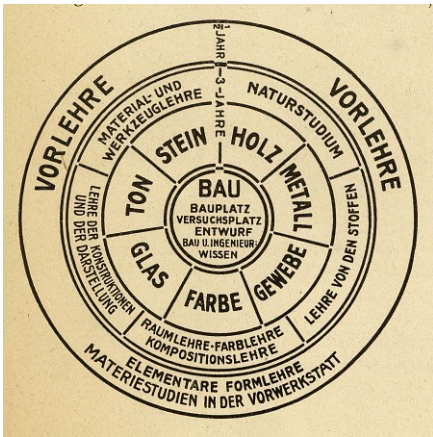


Figure 7. Conceptual diagram structure of teaching at the Bauhaus, developed by Walter Gropius in 1922

Moreover, a key aspect of Bauhaus was that it made an educational reform, creating a new transversal programme where they learnt art theories and techniques to BAU (build) that was in the middle of the student diagram.

Despite all that progress, women were still considered on a second level, only taking classes in woodwork, weaving workshops ... only some exceptions such as Gunta Stolze or Marianne Brandt were able to change this situation, although with many difficulties.

“Bauhaus School was a Golden age of creative freedom that ended only when the Nazis stormed into power.” (By Elaine S. Hochman, 1989, *Architects of Fortune*).

Organic design (1930-1960 and 1990-present) had environmental considerations choosing natural materials to enhance the quality of life and connecting the user with the emotional dimensions of the artefact.

Gute Form or Good Design (1945-1950) brought utility, simplicity and a sense to democratize design. Dieter Rams developed the Design Values¹⁴ that are still considered by many designers: Good design is: useful, aesthetic, understandable, unobtrusive, honest, long-lasting, thorough down to the last Detail, environmentally friendly, little design as possible. The movement took great care about the good practice and environmental issues making the products durable and reliable because of their high quality.



Figure 8. Dieter Rams, Braun clock radio (ABR 21 signal radio), 1978.

¹³ The “Bauhaus Style” is now exclusive and expensive. This is a paradox given the

approaches of the initial theorists of the Bauhaus School.

¹⁴ Dieter Rams 10 Principles of “Good Design” , Karissa Rosenfield, 2012, [Archdaily](http://Archdaily.com).

Early Post-modernism in design emerged with some Italian movements impregnated with an ideology of contraculture as Radical Design Groups and Anti-Design (1968-1978) that is a movement born from Radical Design. Their philosophy was critical of consumerism and conscious about political and social issues. Also, following the pendulum effect, they questioned the current rationalism of Gute Form and Bel Design, and wanted to revalidate the individual creative expression. They expressed irony and kitsch through striking colours and scale distortion, and the publication of manifestos full of ideas that are still considered revolutionary even today. However, Anti-Design rebelled and proposed that objects should be temporary and continually replaced by something new. This idea, added to their regular use of plastics, means that Anti-Design is thus discredited from an environmental point of view.

Ecological concerns in design born with Alternative Design (1970-1980?). This movement did a social critique of design maintaining the pretensions of defence of the individual designer and questioning the implicit rationale of consumerism. They introduced almost for the first time in design an ecological approach thinking in recycling, redesigning and looking for alternative manufacturing methods.

At the same time (1985) and with more or less the same approach, Design for Need, driven by Victor Papanek and his book "Design for the Real World: Human, Ecology and Social Change" did an early critique of globalization and suggested the use of local materials and new models of manufacturing. Furthermore, this practice emphasized the importance of considering ergonomics that were inclusive for disadvantaged groups. Also, it suggested significant institutional change in design education, practice and policy development.

From that moment more than a few practices or movements have been declared social and ecological, some of them from an altruistic attitude and other designers or the companies which hire them just following trends (especially nowadays).

Postmodern Ecological Design (1969-now) as well as Design for the Environment (1986-now) awakens to its responsibilities and duty of care for the environment. To follow this approach, these movements encouraged the shift to more responsible manufacturing and helped industry to meet "green markets". They adopted the idea of high-tech solutions to be eco-efficient and reduce their impact on the environment.

Until the 60's/70's the critical approaches in design had been social and political because of the disasters of the Great Wars and the poor conditions of workers and living in general. However, by the moment society become more and more into mass consumerism, environmental issues appeared and as a result of these, the kinds of movements mentioned above and many others current nowadays appeared (eco-design, slow-design, universal design...).

We still have the tension whether design is part of the problem or part of the solution. However, it would appear that designers have realized that design can be more helpful to solve environmental issues rather than just social and political, but this is not a reason to give up as far as design can help to improve the current situations.

3.2 The birth of Critical Design

The critical or questioning attitude during design history has been explained before, however, it is not clear when exactly and where Critical Design was born.

The term "Critical Design" born in the Royal Academy of Arts in the 90s. It was mentioned by Anthony Dunne to describe the practice that he and Fiona Raby developed as research. They started to use the term to name the method of working that the Computer Related Studio (CDR) used in many projects.

We can find in their book "Hertzian Tales" (1997) that the words Critical Designs are a synonymous with a movement that utilises product design as a form of critical investigation. We can confirm, though, that Critical Design was born in the research/ area. It could be because this type of environment facilitates experimentation because it is not destined to commercial use.

One of the very first designs categorized as Critical Design is "The Pillow", designed by Antony Dunne for his PhD. In the paper "The Pillow: Artist-Designers in the Digital Age" (1997) in collaboration with William W. Gaver, they described the design as "a treated LCD screen which shows changing patterns in response to ambient electromagnetic radiation, challenging viewers to consider our constant invasion by electronic information."

Even Critical Design started its activities around the theme of technology, probably caused by the disillusionment with functionalism and technological shift, over the years it has been developing about other themes more focused in politics and social issues. Even Dunne and Raby have tackled these themes and encourage designers to do it. We will see the outputs in the next chapter.

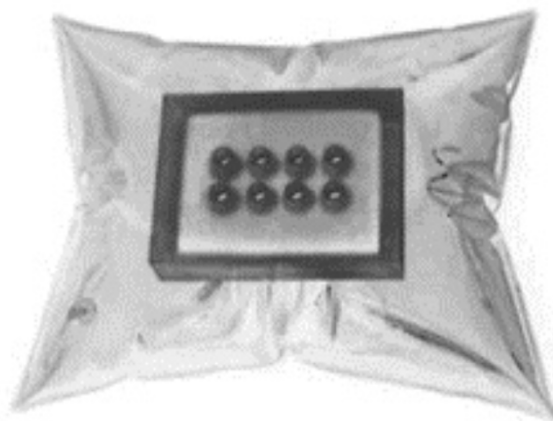


Figure 9. Antony Dunne, The Pillow, 1995

4 . CRITICAL DESIGN TODAY

4. Critical Design Today

4.1 Representative designers

In this section, some representative designers will be presented and following this, their opinions and perspectives will be summarized in a table. After this, some designs will be exposed.

Critical design is a contemporary practice which has different functions and contexts depend on the institutions and geographical locations.

In this part, the recent and current activities of the practice will be presented, as well as the most representative designers and projects.

A large proportion of the information has been taken from eighteen interviews with expert "critical"¹⁵ designers that come from diverse disciplines of design even art and research.

These interviews let us know the themes, roles and perspectives of the designers.

The first five interviews were carried out by Matt Malpass between January 2009 and January 2010 for his PhD (2012) *Contextualising Critical Design: Towards a Taxonomy of Critical Practice in Product Design* in the Chapter 5th. The respondents are mostly linked to the RCA because the majority of the literature that prevails of Critical Design is from there.

These are the first five interviewees:

Anthony Dunne and Fiona Raby are the most representative figures of Critical Design. They own the Dunne and Raby Studio and they have been researches and educators in the RCA and currently in The New School of New York.

Their works has been exhibited internationally including at the MoMA and the Victoria & Albert Museum. They have published and spoken extensively in the area of Critical Design practice.



Figure 10.. Anthony Dunne and Fiona Raby for Deezen.



Figure 11. Tobie Kerridge for Goldsmiths University of London.

Tobie Kerridge is researcher fellow in Goldsmiths University of London. He is an active contributor to design theory in the field of speculative practice



Figure 11. Ralph Ball and Maxine Naylor

Ralph Ball and Maxine Naylor hold the Studioball. They challenge the borders between art, craft and design. They have teaching positions in the USA and the UK. Their works has been exhibited internationally.



Figure 12. Noam Toran for ICON.

Noam Toran is a designer and filmmaker based in London. Teacher at RCA. His works are exhibited in permanent collections at Museum of Modern Art New York and FRAC Ile-de-France, Paris.



Figure 13. Ramia Mazé for Design for Europe.

Ramia Mazé is design researcher currently at Konstfack University College of Arts Crafts and Design (Sweden). She lectures on art, design and technology programs.

The next thirteen designers were interviewed by Ivica Mitrović for her work *Speculative – Post-Design Practice or New Utopia?* (April 2016) for the Ministry of Culture of the Republic of Croatia & Croatian Designers Association, though the majority of the respondents are Croatians.

Ivica ask three questions about the designers' current work:

1. What would be the position of your work in the context of contemporary design and art practice?
2. What is the present-day role of speculative (critical) approach to design (an art) and how relevant is it for your work?
3. Can one make a living from this kind of work?

These are the next thirteen interviewees:



Figure 14. Lina Kovačević for Croatian Design Superstore

Lina Kovačević is a designer and artist working in the new media. Her work is often described as subversive, critical and poetic.

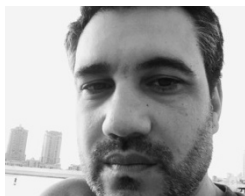


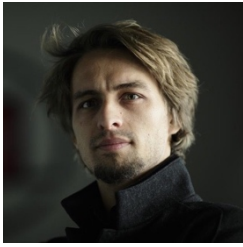
Figure 15. Robert Čanak for Speculative.hr

Robert Čanak is a graphic designer. After his studies he developed an interest for design borderlines. Now he focuses on design management and works at the Qatar Foundation as the Head of Graphic Design.



Figure 16 Damir Prizmić in the exposition *Objekti Opasnih Namjera*

Damir Prizmić is a freelance designer. He is active in the field of education and promotion of open culture. He is also co-founder of Radiona (makerspace).



*Figure 17 Nikola Bojić
for Slobodna Dalmacija*

Nikola Bojić is designer and art historian. He understands design as a field of research, education and social and political criticism.



*Figure 18. Nina Bačun
for Mala-Scena*

Nina Bačun Works at Oaza design collective. In her individual and collective work, she contributes to design production and design discourse in an innovative way through lectures, workshops and presentations.



*Figure 19. Anselmo
Tumpić for Metamedia*

Anselmo Tumpić worked for Fabrica (Benetton's communication research centre). He is co-owner of the DOTA Studio. He is between art and design.



*Figure 20. Andreja Kulunčić.
Photo by Rasmus Jurkatam*

Andreja Kulunčić is a visual artist. In her work, she questions aspects of societal relations and social practice, especially focusing on socially conscious themes.



*Figure 21. Silvio Vujičić. Photo
of his own Studio.*

Silvio Vujičić is a visual artist and fashion designer. He and his team Works at the Silvio Vujičić Studio on self-initiated art Project. He is the art director of the E.A.1/1 S.V fashion brand.



Figure 22. Demitrios Kargotis & Dash Macdonalds illustration.

Demitrios Kargotis & Dash Macdonalds (Dashndem) through creative social experiments and humorous interventions their practice explores and exposes the effect of existing socio-political systems.



Figure 23. Tobias Revell for Lift Conference 2016.

Tobias Revell is an artist, designer and educator. His work looks at the system around technological change as well as the future of economics and politics.



Figure 24. David Benqué for Future Everything.

David Benqué is a designer and researcher working in London. His PhD is about Design Interactions Research at the RCA.



Figure 25. Anab Jain in Superflux Studio

Anab Jain is a designer, filmmaker, and co-founder of Superflux, a critically acclaimed foresight, design and technology innovation company. Her work has won awards from Apple Computer Inc, UNESCO, ICSID...



Figure 26. Bastien Kerspern & Estelle Hary in their Studio Design Friction

Estelle Hary and Bastien Kerspern are two interaction designers, founders of Design Friction. Their designs practice aims to promote new ways of using design for public issues. To do it, they produce speculative and critical scenarios questioning the core values of our society.

Table 3.1 Classification of the Interviews' data		Designer
Theme	Questioning the role of design	David Benqué, Ralph Ball and Maxine Naylor, Ramia Mazé
	Technology and Science	Tobias Revell, David Benqué, Dunne and Raby, Tobie Kerridge
	Society and Politics	Robert Čanak, Andreja Kulunčić, Dashdem, Design Friction, Tobie Kerridge
	Hyper-Capitalism and mass consumptions	Anselmo Tumpić, Dunne and Raby
	Human psychology	Dunne and Raby, Noam Toran
	Education	Ralph Ball and Maxine Naylor, Tobie Kerridge
	Sustainability	Ramia Mazé
Context	Art, galleries	Lina Kovačević, Andreja Kulunčić, Silvio Vujičić
	Between Art and Design, galleries	Anselmo Tumpić, Dunne and Raby, Ralph Ball and Maxine Naylor, Tobie Kerridge
	Design Research (Academic)	Nikola Bojić, Dunne and Raby, David Benqué, Tobie Kerridge, Ramia Mazé
	Interdisciplinary, collaborative	Andreja Kulunčić, Noam Toran
	Art media and film	Silvio Vujičić, Noam Toran
	Narrative, literature	Dunne and Raby, Noam Toran, Ramia Mazé
	Don't want to be contextualized	Damir Prizmić, Nina Bačun, Noam Toran
Role	Tool for questioning	Andreja Kulunčić, Dashndem, David Benqué, Design Friction, Dunne and Raby, Tobie Kerridge, Ramia Mazé
	Critique and reflection	Lina Kovačević, Damir Prizmić, Tobias Revell, Ralph Ball and Maxine Naylor, Dunne and Raby, Tobie Kerridge
	Experiment	Robert Čanak, Anselmo Tumpić, Ralph Ball and Maxine Naylor, Ramia Mazé
	Activism	Dashndem, Design Friction, Dunne and Raby
	Will be important in the future	Anselmo Tumpić, Nikola Bojić
Living from the practice	Not the discipline alone	Čanak, Anselmo Tumpić, Damir Prizmić
	Funds from institutions	Nina Bačun, Silvio Vujičić, Dashndem, Tobias Revell, Design Friction, Dunne and Raby, Ramia Mazé
	Museums/Galleries fees	Lina Kovačević, Nina Bačun, Andreja Kulunčić, Tobias Revell, Dunne and Raby, Ralph Ball and Maxine Naylor, Noam Toran, Anab Jain
	Lectures, workshops, presentations...	Lina Kovačević, Nina Bačun, Tobias Revell, Dunne and Raby, Ramia Mazé
	"It's not my goal"	Nikola Bojić, David Benqué

As we can see in the descriptions of the designers, they come from different disciplines (graphic design, interaction design, art, filmmaking, product design, research education...). By reading all those interviews, I obtained and classified diverse ideas in order to facilitate a general view of the activities and themes in Critical Design.

We can see in the Table 3.1 that the most popular themes are technologies and science that is the legacy of Speculative Design, and society and politics because of the conscious attitude of critical designers. Sustainability is not very popular in this practice but in other ones (Ecodesign, Environmental design...) it is the goal.

Contexts are diverse, from art galleries to University Research and literature. The truth is that Critical Design was born in the academic context (the RCA) but now is more popularized. The only context that is missing is the commercial one because it would be a contradiction with the Critical Design values at the moment.

As the definition of the practice says, the main role is to critique, provoke and question. However, other designers use it as a method for experiment and open new possibilities.

Living from the practice is quite complicated because of the opposition to the commercial system. Critical designers are always looking for funds from institutions and that may be a slow process, or they receive fees from galleries, museums, workshops, presentations... However, the majority of them combine it with other activities and other works at the University.

4.2. Representative designs

Following this, the most representative activities mentioned in the interviews are going to be presented as well as other representative designs that I have been finding during the research.

The Figures 27, 28 and 29 are three of the Twenty-nine designs of the The Exhibition *Design Fiction: Eutropia – Introduction to Speculative Design Practice*, was held at the *Croatian Designers Association gallery* in May of 2015.

These designs offered an introduction to this design practice and summed up the basic specificities and characteristics of this particular design approach, especially in Croatia. Information adapted from the website of the exhibition (speculative.hr/works).

"Put your best dress on, turn on the laptop and enjoy the dinner with your significant other across the ocean."

This is a set with various objects for a romantic virtual dinner. It is formed by: neck-lace headphones (with pearls), a plate for the corner of the computer, a key-cloth for protect the computer from wine, and a rules telling you how to behave in the romantic date.



Figure 27. Lina Kovačević, 2011, Jewellery headphones

Inspired by Berthold Brecht's distancing objects and a 2009 Skype wedding which simultaneously took place on the airports in Dubai and London, the set and associated performance are designed for couples in long distance relationships who would like to make their online encounters significantly more romantic.



Figure 28. Lina Kovačević, 2011, Cornet Plate

Eutropia is a dystopia, where citizens live in peace and security thanks to cooperate to collecting data about their lifestyles. The live in an economy based on it.



Figure 29. Ivica Mitrović & Oleg Šuran, 2014, Samples box, cigarette pack, mobile device (prototype)

The featured [video](#) follows one citizen and shows how the city of Eutropia impacts him and his everyday life. By highlighting some conventional moments from everyday life, it aims to persuade, convince and immerse the audience. Artefacts designed for the video are not only stage props designed for the video shooting, but also products, or speculative objects contributing to the believability and inspiring discussions.

Superflux is a design studio co-founded by Anab Jain that “create worlds, stories, and tools that provoke and inspire us to engage with the precarity of our rapidly changing world”.

In this project. The designers of Superflux decided to explore the implications of one of its more concrete and immediate applications: quantum computing.



Figure 30. Anab Jain, 2014 Superflux's 5th Dimensional Camera is a fictional device capable of capturing glimpses of parallel universes

Working with EPSRC, NESTA, the RCA, and a group of scientists from the Quantum Information Processing Interdisciplinary Research Collaboration (QIPIRC), the 5th Dimensional Camera was produced for the 2010 IMPACT! Exhibition as a metaphorical representation of quantum computation – a fictional device capable of capturing glimpses of parallel universes.

Design Fictions is a design studio which activities approaches are to provoke through products, services concepts, images and films that conceptualise future scenarios. In this case, they used design in a political context in order to incentive dialogue and questioning some aspects of legislation.

In the summer of 2015, the project *ProtoPolicy* used design to do so in the context of older people on aspects of the UK Parliament's Assisted Dying Bill.



Figure 31 *Design Friction*, 2015, *Soulaje* is a self-administered euthanasia wearable.
ProtoPolicy project

By engaging with community groups and older people in a number of workshops, the team created two design fictions – *SOULAJE*, a self-administered euthanasia wearable. The design fictions were then shared with civil servants and politicians at an event in Westminster.

The Faraday Chair is the work of Dunne & Raby, British parents of Critical Design. The object is named after Michael Faraday (1791-1867), an early pioneer of electrical research who identified magnetic forces. Dunne & Raby's interest is in the possible effect magnetic fields and electrical currents, emitted by everyday appliances, may have upon people. The Faraday Chair is a proposal for a space to be protected from these emissions.



Figure 32. Dunne and Raby, Faraday Chair, 1995

Conventional chairs offer us physical comfort, but Dunne and Raby are proposing that the Faraday Chair might offer us psychological comfort. The tank is only large enough to allow the user to lie in a foetal position, which makes us feel more protecting. But at the same time it is also tiny and restrictive, like a kind of sarcophagus. It has positive and negative connotations of imprisonment as well as shelter.

It is an ambiguous object, open to different interpretations; and actually it doesn't work, it is only a prototype but the questions it raises about the purpose and function of furniture are pertinent.

One day, in the future, robots will do everything for us. It's a dream that refuses to go away. Over the coming years, robots are destined to play a significant part in our daily lives -- not as super smart, functional machines, nor as pseudo life forms, but as technological cohabitants. But how will we interact with them? What new interdependencies and relationships might emerge in relation to different levels of robot intelligence and capability? These objects are meant to spark a discussion about how we'd like our robots to relate to us: subservient, intimate, dependent, equal?



Figure 33. Dunne and Raby, *Technological Dreams Series: No.1, Robots*, 2007



Figure 34. Dunne and Raby, *Robot 2*, 2007

This is the Robot 2: This robot is very nervous, so nervous in fact, that as soon as someone enters a room it turns to face them and analyses them with its many eyes. If the person approaches too close it becomes extremely agitated and even hysterical. Home security makes good use of this robot's neurosis.



Suited for Subversion, is a civil-disobedience suit designed by Ralph Borland in 2002. Its function is to be worn by street protesters to protect themselves from police batons, it is also a conceptual statement, paying attention to the risks that a protester has to face in order to defend his or her convictions. It features a wireless video camera mounted over the head to act as a witness recording police action, and a speaker in the centre of the chest to amplify and project the wearer's heartbeat, or also to play music or chant slogans. In a group action, when many people are wearing these suits, one would hear heartbeats increasing as tension and excitement mounted, like a natural soundtrack arousing the crowd. At the same time, the heartbeat exposes the vulnerability of the individual.



Ralph Borland designed and fabricated the first prototype of the suit as part of my Masters Degree in the Interactive Telecommunications Program at New York University.

As he says in his Webpage (ralphborland.net) "The project draws on my work as an activist involved in street demonstrations in New York, and is influenced by the work of other activists and demonstrators who wear protective clothing and make creative use of tools and technologies for

Figure 35. Ralph Borland, *Suited for Subversion*, 2002.

protest."



Figure 36. Examples of activists who wear protective clothing for protest



Figure 37. Siren Elise Wilhelmsen, *365 Knitting Clock*, 2010

365 Knitting Clock stitches the time. At the end of the year, the clock has made a scarf and you have to replace the wool. It represents the past of the time that never come back.



Figure 38. Chiu Chih's *Survival Kit for the Ever-Changing Planet*, 2013

Chiu Chih's Survival Kit for the Ever-Changing Planet is an equipment to survive en our changing environment and in the problems we will have in the future caused by the depletion of natural resources.

To conclude this part, I would say that I know about many more projects that can be found on the Internet and in related narratives. However, sometimes there is a lack of information that makes them understandable because the majority of critical designs need the explanation of the designer.

Also, even though there is a big group of critical designs related to technology and future scenarios, I attempted to show a greater variety of designs. Moreover, to differentiate critical design with other practices as speculative design or interaction design sometimes is a challenge or they are intermingled.

Many designs look like they don't have a function, but really, the function of critical designs is to stimulate questioning by the user/viewer.

4.3. Expected Future

Talk about the future is always a challenge. We have achieved a high level of complexity and everything moves faster in a range of different directions.

Attending to Critical Design we can believe that it helps to make future. To do so, it critiques the present by making future alternatives visible. Also, it even evaluates the future by speculating about feasible scenarios. We could say that Critical Design stands with one foot in the present and the other one in the future.

But, does this feature help us to make assumptions about the practice? The answer is negative, because Critical Design speculates about the topic which it is dealing with in each case, and it doesn't include Critical Design itself (for the moment).

It is a young practice (birth in the 90's) and it has grown its popularity. In fact, since 2016 The London College of Communication (UAL) offers a summer course called "Speculative and Critical Design Summer School", where in its description affirms that "Speculative and critical design is now

a central part of the current design landscape, working both as an interdisciplinary toolkit and a field in and of itself."

That makes us realize that Critical Design is a potential tool for examining and questioning the future that designers can use. So we can assume that its popularity is going to keep increasing.

However, this assumption presents us a problem. That is, if Critical Design becomes very popular, it could fall into the network of mainstream design, but the thing that is mainly popularizing Critical Design is as a tool of design research rather than a movement or style. Therefore, in the future designers are expected to use critical design as tool for finding problems to solve.

5. BEING CRITICAL
ABOUT CRITICAL DESIGN

5. Being critical about Critical Design

This is the conclusion of the first part that divides the research and the implementation of it. To carry out this task, a reflection is needed about what I have learnt, and the new perspectives and opinions I get during the study of Critical Design. Therefore, now is the moment of being critical to Critical Design in some aspects:

Critical design is opposed to mainstream design

I consider mainstream and affirmative design to be the same because both are the common practice. Which is in service of capitalism and sometimes is amoral while Critical Designers are described as moral agents who want to change society for the better.

This vision is based on the assumption that since affirmative design is pejorative and Critical Design is honorific, the question of who gets to decide if a design is critical or affirmative is key. But obviously, the mass talks, and the popularity in some way is what makes an idea, project or company survive.

There are examples of designs that are designed thinking in affirmative design but for some people or cultures could be critical because they are not familiarized with them. An example could be some Japanese designs that are weird for our culture, or some crazy beauty products and gadgets which reaffirm a status quo we don't like.

The label "Critical Design"

There is a group of designers that have practiced or are practicing Critical Design but don't want to call themselves "critical designers" because it could frame and reduce their work. Also, sometimes Critical Design has been considered elitist, so they don't want to be seen like that.

On the other hand, I think nowadays (without forgetting the past) there are more and more designers that are seeking and experimenting with other roles of design and not necessarily calling it Critical Design, but they are using design to provoke debate and critique.

Indeed, I have asked myself if I can consider myself to be a critical designer for developing this project, but I will answer in the general conclusion in the end.

Ambiguity

I can find ambiguity in two areas. Ambiguity as an attribute in critical designs, and ambiguity in the ideology/theory, which complicates the design praxeology about this practice.

In the designs, ambiguity plays an important role. It is manifested in the aesthetics and the function. It makes the audience feel not sure about what the design is against or for, so, this purposeful ambiguity incites you to ask yourself what is your position and what you should be against or for about the presented issue. This is ironic and satiric, which are other important attributes of Critical Design that are really attractive.

This ambiguity mentioned previously leads to the audience needing to make up their own minds. How dark and deep they want something to be is up to their own imagination.

In my opinion this is exciting because for each person the design has a different value and perception, and it becomes it poetic.

However, my attempt is not abuse of ambiguity because I want my design to be easy to comprehend and clearly demonstrate what I am criticising and then, the user agrees with it or not. And, of course, I am sure that I will express a bit of humour because simply I can't avoid it 😊.

The line between Critical Design and Art

There are some points that Critical Design and art have in common:

Both are totally subjective, liable to the author and the user who analyses it.

Both can be and are used as a communicative force.

Both are mainly visual, so the aesthetics is key.

Both are free to participate in the market (in theory).

Both share context being exposed in galleries and museums.

Yet beneath these statements I am not equating Critical Design with art. Art obviously is much broader, and it has a far greater culture and history.

Many critical designs are assimilated as art (postmodernist art) because they are “weird” and difficult to understand rapidly. They need the narrative and to be placed in the context where they have been developed. But on the contrary, when a critical design looks normal like an ordinary product, it is likely to be treated as a mainstream/affirmative design and therefore it misses the opportunity of being questioned, that is the main function of Critical Design.

For some Critical Design practitioners, their work is art as well, or also, they consider themselves in the borderline (Ralph Ball and Maxine Naylor could be an example). It can even be a strategic label because people usually take art more intellectually. Regarding this, we can see that design and art aren't enemies. In fact, we could say that we see art and design blended everyday out of the galleries.

Nevertheless, in my opinion design has more potential to disturb the everyday because it is inside it and its aesthetic has a function. But art requires an act of analysis and is more extreme and isolated than design, which is placed in our “real world”. I want my design to be used, even if it is in an imagined context.

Small Audience

That Critical Design has only a small audience is a fact, but it is understandable because to a major extent it rejects being subjected to the market. This results in it only being found in academic spaces (especially the RCA, where it was born), galleries and museums, design magazines and blogs, niche publics...-those composed mainly of other designers and worse still, other critical designers. I believe this condition makes it introverted, but at the same time, if it grows in popularity (in recent years I think is happening), it could become a parody of itself. What this means, is it to be a new commercial trend as happened with many movements (not only in design) that first rejected the market.

However, with a view in this context I think that the key is not to refuse radically the system because you miss your communicative force. For me, the matter is to find the way to transform your near environment and design responsibly in all the stages. From the idea to the treatment of the waste in the end of its life, considering the material, the worker's conditions, distribution... In summary, to be conscientious and faithful to your values.

It is hard and more expensive, and to be innovative it not easy, but for me it is also a way to be a critical designer, because you are refusing the issues you don't agree with and becoming the profession and its footprint for the best. If I am going to achieve it in the next pages with my own design, we will see it in the end conclusion.

Anyhow, it is also true that Critical Design is more focused on ideas rather than useful products. What it means is that the act of designing is seen as a critical thinking instead of problem solving. So, Critical Design in my opinion can serve for education, not only in the university environment but also in schools, or it can feature in a humanitarian/ecological campaign in order to make the public aware (graphic design has always had an important role here) and also at home, to force us to change our damaging habits.

Theory into practice

During the research I have seen so many critical designs about various themes and I am strongly surprised of the extremely small quantity of designs that deal with ecological/environmental issues.

Probably it is because there are other movements/practices that are totally focused on it (eco-design, green design, sustainable design...) and Critical Design was conceived in the issues of technology and speculative futures.

However, I prefer to focus on the present in order to contribute to a better future and I believe that is urgent to approach ecological issues we are living with and causing today.

Also, I think that the Critical Design's methods and features can work well with this approach because what I want to do is to critique regarding question and making the user aware about the importance of the issues.

And above all, Critical Design can and must be more than things a designer made, it must make people to be critical, and it is largely achieved by education.

Therefore, to start the task I launch a question:
"Why not use Critical Design as a strategy for education?"

6. MI USE OF CRITICAL DESIGN

6. My use of Critical Design

6.1 Introduction

This is the stage of the thesis where I try to implement the theory into practice. To do so, I use some reflections during the research explained previously that help me to drive the next step.

In the following pages, the reasons for the chosen theme will be explained as well as a little description about it. This will lead to a generation of ideas, where the most representative for the development of the process will be described.

Having identified the issue and the approach of the future design, the design brief and the concept will be presented and afterwards, the criteria for selection and the expected context will be explained.

Having explained the basic concept, some ideas that were explored will be presented and the final design will be developed and described.

Finally, a self-critique with the comparison of my design with Critical Design will be carried out, answering the question if my design could be considered Critical Design.

6.2 Theme

Almost since I started this research I have kept in mind that my approach for my design would likely be ecological issues. In fact, I have been paying attention to this during the investigation in order to get an idea about how Critical Design deals with this issue.

What I have seen is that, while Critical Design is engaged with reflection on various societal, political and technological issues (the original) and on design itself, I only found a very small group focused on ecology. Which, as with other themes mentioned previously, are mostly prone to be interrelated with present and emergent attitudes which finish in future dystopias.



Figure 39. "Chelonia Mydas" photo(c) National Geographic

However, I think that for this case I don't need to think in the future because if we look to our present time we can see problems and I want to critique what is happening now and needs to be solved now.

With this statement I am not trying to discredit this Critical Design feature, it is only that I want my design to be clear, comprehensible and aware of the user to act.

Furthermore, when you address ecological issues, even you are trying to deal with the present situation (the cure), you are contributing to a better future (the prevention). There are too many problems in the World but the one I was referring to before is the shocking quantity of plastics that is thrown to the ocean and its adverse effects.

By 2050 there will be more trash in the ocean than fish as reported by the World Economic Forum. They say that up to 32 % of plastic waste becomes pollution in our rivers and oceans, throwing in the equivalent to a one-ton truck load every minute.

Plastic pollution happens all over the world and the problem is that it doesn't decompose quickly and it can survive in the environment for thousands of years. This pollution is a danger to aquatic life. Sea turtles for example get caught in six pack plastic wrap or confuse plastic bags with jellyfish and swallow them. The same as other sea mammals and birds which eat little pieces of plastics and die from a ruptured intestine. (We can watch it in the impressive documentary "The Plastic Ocean", 2016, Craig Leeson).

Regarding this problem, there are two main areas that need to be addressed; the cure and the prevention. That means, to do something about the damage that has been caused already, and secondly but not less important, to prevent the problem from getting worse.

But, how could I deal with it using my Critical Design approaches? In the ideas generation I will explore some ways to do it.

6.3 Ideas generation



Figure 41 Simon Wooller, Saatchi & Saatchi for WWF

After having chosen the issue and being informed about it, idea generation starts in order to develop this information into a solution.

Our everyday life is full of plastics and a big part of them is for single use. I mean the packaging, specially for the food. So, the idea was to design something that reminds and encourages you to throw less plastics in you daily life at home and look for alternatives.

These are two bins with illustrations that remind you where your plastic wastes are going. They are inspired by this project that Simon Wooller from Denmark-based Saatchi & Saatchi, did for the World Wildlife Foundation.

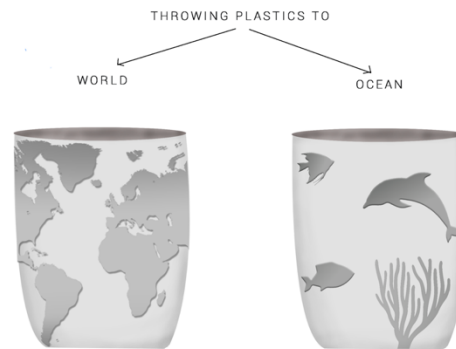


Figure 40 Idea 1: Two bins with illustrations that remind you that you are throwing your plastics to the nature



Figure 42. Idea 2: A Play on the words "Mind the Gap" of the London's Underground

Another idea that came to my mind was this illustration about a play of the words "Mind the Gap" of the London's Underground. Firstly I imagined it for the cover of a bin, but really it could be used in more contexts. In the streets for example, to encourage citizens, or at home spaces for London lovers.

Still on the theme of campaigns, I considered to design a satiric one with the slogan "Plastic lasts longer than true love". However, even the ecological issues in some part can be treated with graphic design, I still prefer to design a product which causes the same impact or more.

After some more ideas, I thought about toys to encourage and educate children. The reasons about my choice will be explained in the next page.

6.4 Design Brief

Introduction

With the idea to design a toy, I considered myself how to use Critical Design in service of education, in this case about plastic pollution. We all know the importance and the great responsibility that education has for the future in general.

Critical Design is described as a conscious practice, so I haven't found any problem to use it in this field, and begin to design a "critical toy".

Concept

Design a toy to critique the effects of the plastic pollution in the ocean.

Objective

The main objective is to make the children think about the causes and the effects of the problem, and encourage him to take action.

Expected Context

The design could be in the context of children's gardens, schools, workshops for kids... It could be also sold for raise funds for an environmental NGO¹⁶, or even it could be commercialized in the way I talked in the section 5. Being critical with Critical Design", as long as it is an environmentally responsible design with regard to concept, material, and production conditions through to the treatment at the end of life.

Criteria

The criteria by which to judge the resultant design are that it should be:

- Easy to use and visually simple
- Comprehensible with little narrative
- Critical in a positive way
- Playable
- Not too big
- Use a bit of humour
- Eco-friendly

¹⁶ A non-governmental organization (NGO) is a

not-for-profit organization that is independent from states and international governmental organizations.

6.4 Development of the idea

Based on the design brief showed previously, I had more ideas:

1. Bath Toys



Figure 43. Idea development: Bath toys

I thought about the typical toys for the bath that are normally sea animals, the yellow rubber ducks, mini boats...

My idea was to transform these bathtub toys into the exposed problem: Some sea animals and some plastic wastes. The objective of the play is to separate the plastics and place them in a "rubber recycling duck."

2. Fishing plastics

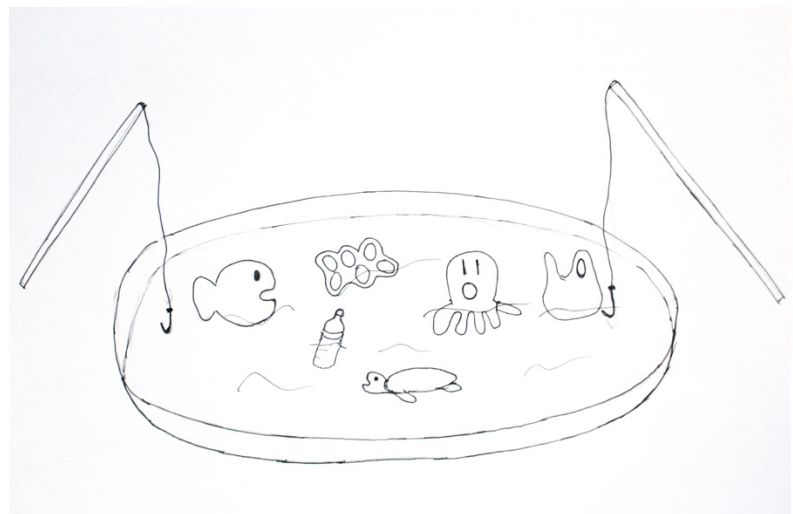


Figure 44. Idea development: Fishing plastics

This toy consists in fishing plastic trash rather than the sea animals. If you confuse them,, you loose.

3. "Operation fame"



Figure 45. John Spinnello, "The Operation Game", 1965)

Inspired by the toy "[The Operation Game](#)" (John Spinnello, 1965). The idea would consist in removing the plastics that the animal has eaten.

With this idea a consequence of the plastic solution is shown, and also, I think is easier to sensitize the user when a life is at a stake.

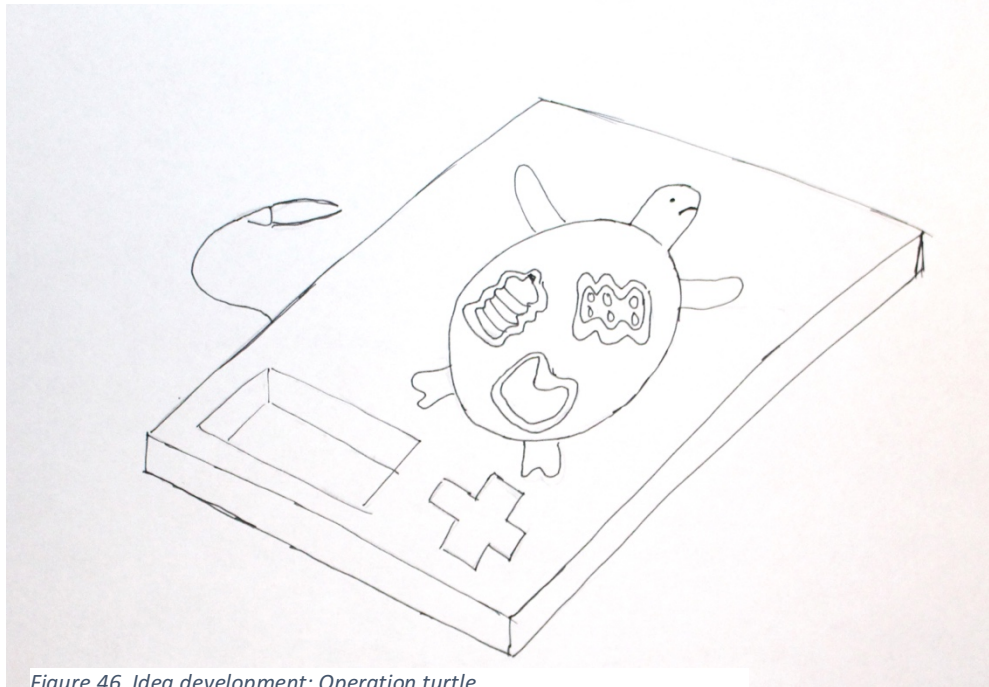


Figure 46. Idea development: Operation turtle

Following with the idea of the plastics intake, I did a little investigation and I felt inspired with these posters of Zoë Nowak, 2014.



Figure 47. Zoë Nowak, 2014

I tried to design a puzzle where the pieces are plastic wastes inside the body of an animal but it would be quite difficult for kids (even for me). Anyway, thanks to this idea I get the shape of the turtle for the next design.

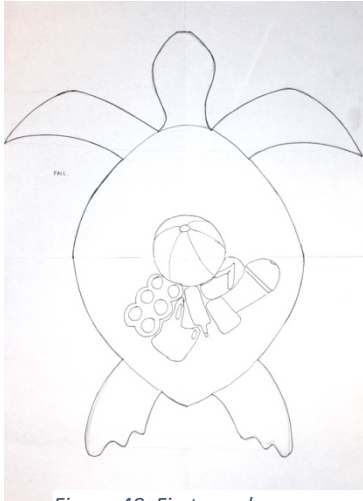


Figure 48. First puzzle

Then, trying to simplify the previous puzzle and I did this one where each piece is delimited by the black line and the plastic wastes are drawn.

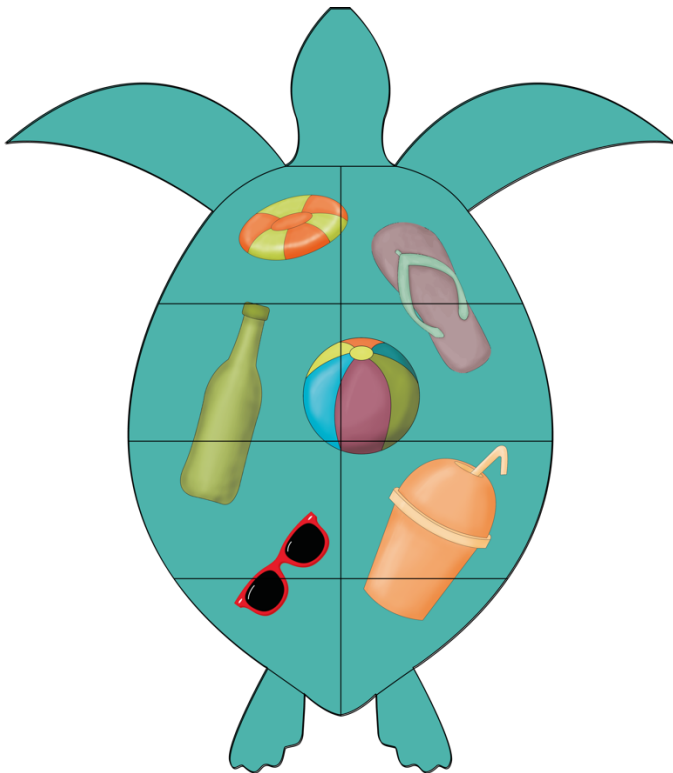


Figure 49. Second puzzle

However, I wasn't sure that the design could transmit the message correctly. So, on this idea of design, I thought and developed more about it and I did the final design which is described in the next pages.

6.6 Final design

In this section my own design is going to be described. It is my implementation of the previous research and the design brief.

Still on the idea of the turtle puzzle, I did some changes that are going to be shown and explained.

The puzzle is formed by three layers, the first one is the base, the second one is the interior of the turtle where the plastic wastes are, and the third one is the external part of the turtle. The puzzle is also accompanied by a pamphlet that explains the problem with the plastic pollution.

1. Base (Layer 1)

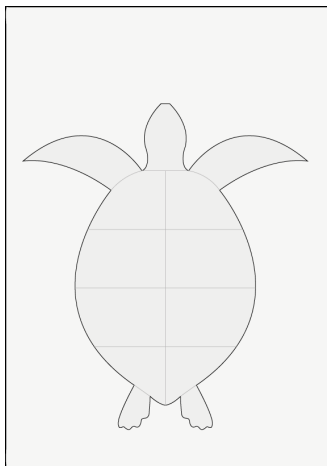


Figure 50. Base turtle, front.

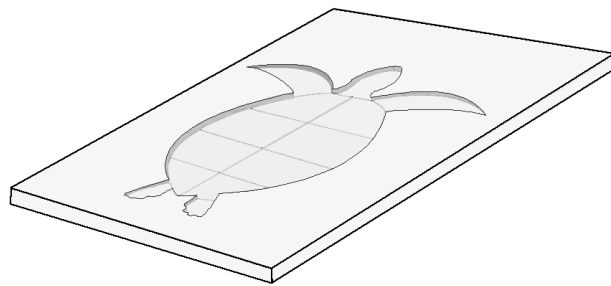


Figure 51. Base turtle, perspective.

Figure 51. shows the base of the puzzle where you have to introduce the pieces and the grey lines are guides to facilitate it. The total thickness is 9 mm, and the thickness of the turtle is 6 mm. The rectangle is an A3 (297 x 420 mm).

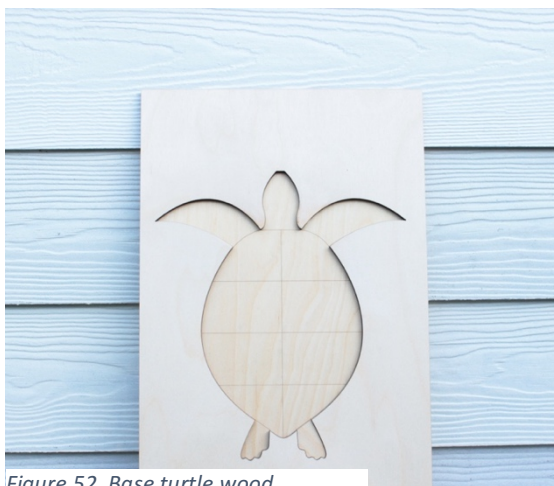


Figure 52. Base turtle, wood



Figure 53. Base turtle, rock

The prototype is made by lasercutting. The material is wood.

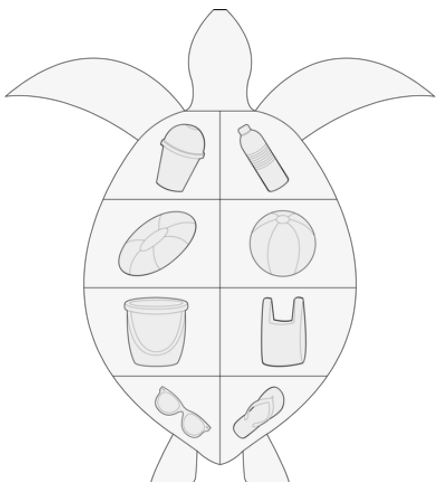


Figure 54. Layer 2, turtle

It is composed by 13 + 8 pieces. The thirteen pieces are the body of the turtle and the other eight pieces are the plastic wastes, that fix inside the body pieces.

The plastic wastes are objects that kids use to use like beach toys, and other more typical like the plastic bottle or the bag.

The plastic pieces are made by lasercutting, using the remaining parts of used sheets. However, in the real design, the plastic could be made of recycled plastics found in the sea. After this, the borders and the engraving lines are painted by hand in different colours.



Figure 55. Layer 2, wood

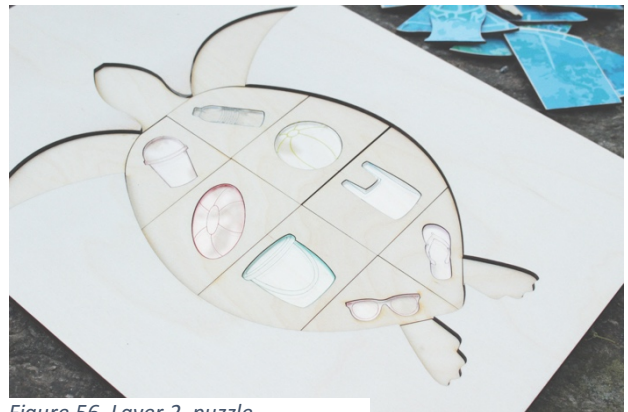


Figure 56. Layer 2, puzzle



Figure 57. Layer 2, wood pieces

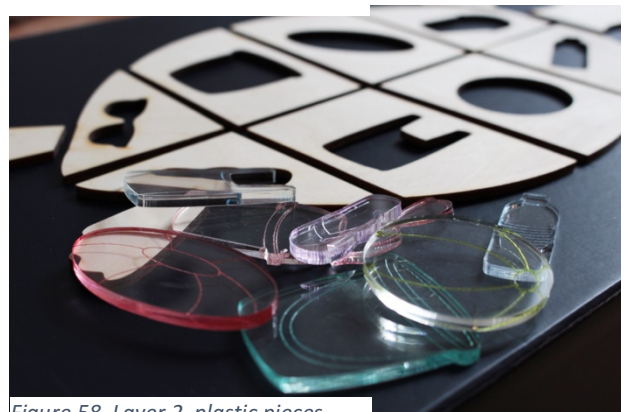


Figure 58. Layer 2, plastic pieces

2. The interior of the turtle (Layer two)

3.External Part of the Turtle (Layer)

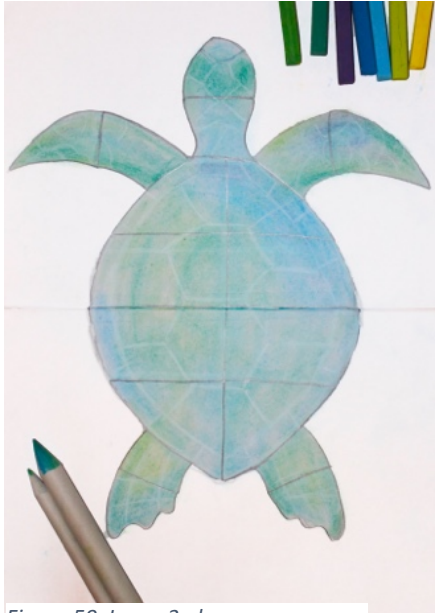


Figure 59. Layer 3, draw

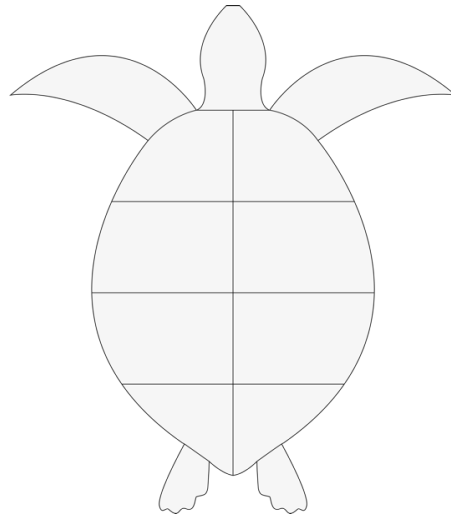


Figure 60. Layer 3, pieces

The Figure 59 is a drawn I did to choose the number of pieces, the colours and the style. Firstly, the head, the arms and the legs were divided in two pieces, but finally, as we can see in the Figure 60, I changed it because they were too little in comparison with the others, so finally there are 14 pieces (the same as the layer 2 without the plastic figures).



Figure 61. Layer 3, appearance

Based on the Figure 59 style and colours, I did this illustration Figure 61.

I decided that it had to be more or less similar, or at least remind to the Green Turtle (*Chelonia Mydas*) because is an endangered specie that has been reduced in population owing the ingestion of plastics.

*The colours in this illustration Figure 61 are green and the colours in the prototype changes to blue due to the print conditions.



Figure 62. Layer 3, complete

They reason which I decided to do layers, is to represent that even if we don't see that sea animals are eating plastics, it's really happening. From an external view the turtle looks normal and colourful, but really it is suffering. In order to help to explain this problem, the puzzle has also a pamphlet with this narrative that will be presented in the next page.

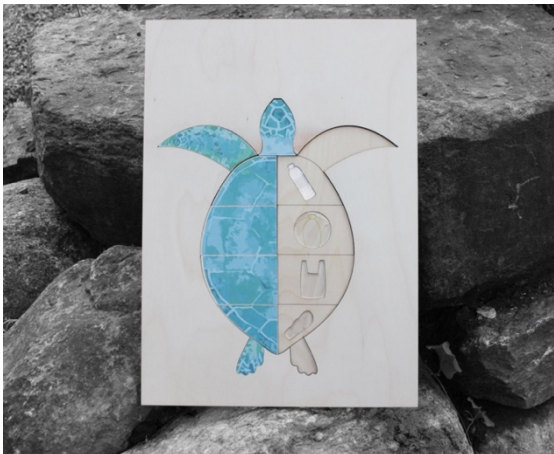


Figure 63. Layer 3, mixed

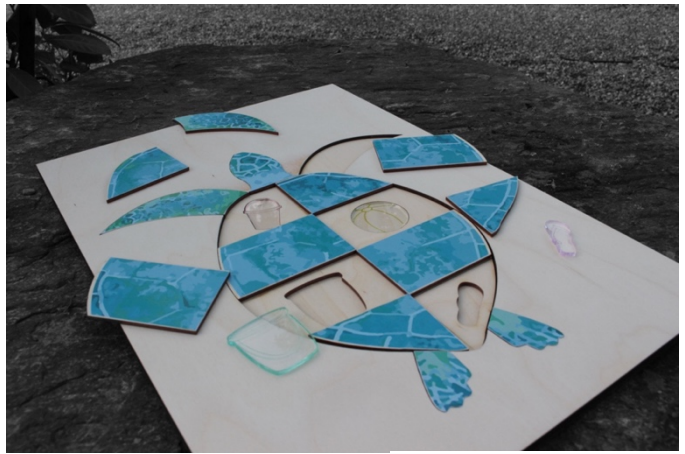


Figure 64. Layer 3, playing

For a better understanding of the objective of this design, the puzzle would be accompanied by this pamphlet, that is the narrative of this “critical toy”.



Figure 65. Cover and back of the pamphlet

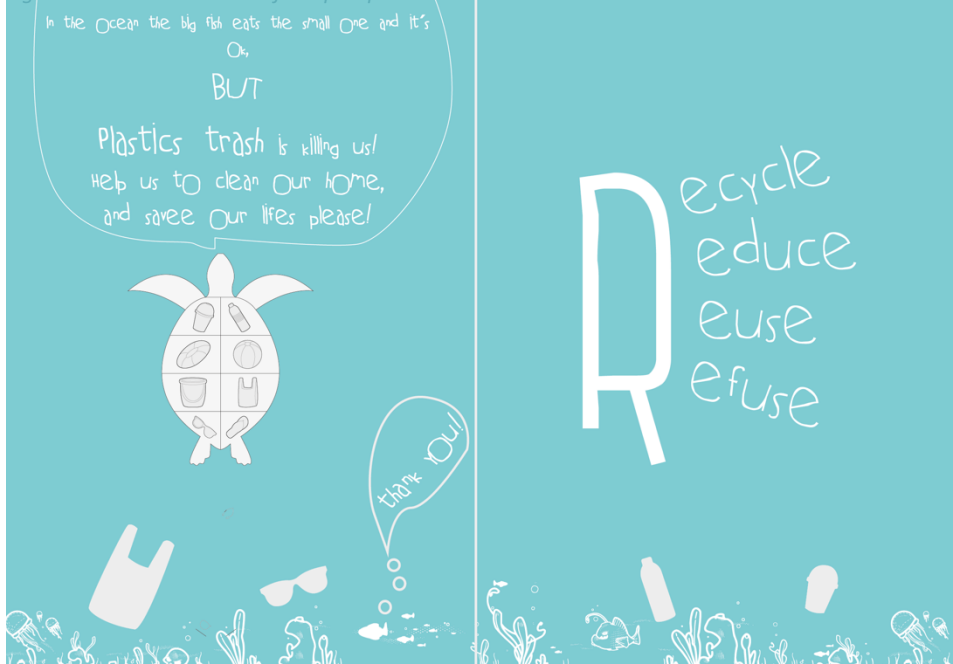


Figure 66. Interior part of the pamphlet

Interior part

6.7 Comparison of my design and Critical Design

Firstly, a table with the similarities and the differences between Critical Design and my own design is going to be presented. This table helps to do a self-criticism about if my design could be considered Critical Design. This question is going to be answered after the next table.

Similarities	Differences
<ul style="list-style-type: none"> · In Critical Design, designers collaborate with external disciplines and sources. In some way, I have collaborated in the discipline of toys for education. · The ambiguity in a critical design makes the user ask himself if the design is against or for. My design, if you don't read the pamphlet before, maybe you don't know clearly why the turtle have plastic objects inside and if this is good or bad. · Encourages the user to reconsider about the chosen issue and how we might potentially have the chance to change it. · Critical Design is typically positioned in neutral everyday domestic contexts. My design is a toy, that is very normal, and the issue is an effect of our everyday. · Both are a form of activism. In fact, this design could be sold to raise funds for an environmental organization. · In the narrative (pamphlet) there is a bit of humour and satire that maybe a children don't understand. · Both use a narrative to explain the issue and facilitate to understand the design. · Critical Design doesn't considerates itself art (in theory). My design clearly is not art; it is an object. 	<ul style="list-style-type: none"> · Critical Design is opposed to commercial system, but as I explained previously, I think this radical rejection causes a loss of communication force. This design could be commercialized in a responsible way. · Apparently, my design could looks like mainstream design because you have to use it to realize about the message. Critical Design, though, use to look different or weird, causing confusion. · The audience of Critical Design reduces to galleries, academic context (university), workshops... my design could be in more context such as schools, children's play areas, even as a normal toy. · The main function that the majority of critical designs have is to question. However, my design is a toy (puzzle), and the function of Critical Design mentioned before comes up while you are playing. · Critical Design is used to create future scenarios, my design is focused on the present. · I have only followed the methodology described in the research during the steps one and two. I didn't have the opportunity to test the product with kids.

As we can see in the table above, there is one more point in the similarities list. However, this means nothing because some points are more important than others.

After having written the similarities and differences between Critical Design and my implementation, I have to answer the question if my design could be considered Critical Design.

In some ways, I believe my design fulfils the main function of Critical Design because it encourages the user to reconsider about the issue, in this case, the plastic pollution in the ocean, and then, in the pamphlet presents how we might potentially have the chance to change it.

However, only for its external appearance, a critical designer would say that it is mainstream design. The truth is, as I explained in the section 5, I think a design has to be clear, simple and comprehensible and Critical Design prefers to create confusion by a weird appearance. I wanted my design simple and friendly because the user would be children and they couldn't understand the "typical critical design". Furthermore, following the objective of educating, I prefer to do it being friendly and positive rather than blame the children about the problem and make them feel sad.

On the other hand, the contexts that Critical Design uses and the possible contexts of my design would be different, especially because Critical Design rejects to be commercialized, and I think my design (hypothetically) could be commercialized under responsible commercial criteria.

It also happens that, maybe an external person or a critical designer could have a different opinion from his experience and perspective, but I have mine (as a result of this research) and as I have to answer myself the question, I would say that I am not a critical designer. What I did is to use Critical Design as a tool for design to educate children about the problem of plastic pollution in the ocean.

7. CONCLUSION AND IMPLICATIONS

7. Conclusion and implications

Even though in the section 5 (Being Critical about Critical Design) and the section 6.7(Comparison of my design and Critical Design) I have already done reflections, this conclusion is more focused in a general overview of the Bachelor Thesis.

Through this Bachelor Thesis I have hope to organise concepts and the main theory about Critical Design and see how can be implemented. In my case, it has been a personal implementation because there was no need to be strictly in accordance with everything about Critical Design. In fact, what I believe I did, is to use Critical Design as a tool rather than looking for give myself the label "critical designer".

However, this doesn't mean I think that Critical Design is not interesting, it is quite the opposite. It's just that, from almost the beginning I wanted to focus my implementation on sustainability and I didn't found too many critical designs about it, so I had to adapt Critical Design to my approaches and that's why I said before that I used it as a tool.

Moreover, regarding the structure of the project, I would like to make it clear that the "theory into practice" is not 50% + 50% because my intention was to spent a lot of time more in the research (and it has) rather than the design. For that reason, the design is only one section where I give a "direct" and simple description of it.

Even I decided the theme and the structure, this project has been a challenge for me because my lack of experience in research, and also the lack and the ambiguity of the literature and narratives about Critical Design, which furthermore is very subjective.

However, this thesis came from the concern of knowing new roles of design and thanks to it I have clearly seen that there are groups of designers that are working on it. Also, I have been able to see by myself that Critical Design is not an easy practice because it requires a lot of reflection and research, and also a great capability to imagine future scenarios.

Nevertheless, I believe my design is much more simple because I didn't want to design something "weird" as the typical critical design. Before beginning the research, I thought that Critical Design was only to critique a problem through design, but then, I saw that it was only the tip of the iceberg.

The one thing I really disagree with Critical Design is the small audience that it intentionally has, that ends up being other designers or interested agents. Maybe it's true that if the popularity of Critical Design grows, it could fall into a parody of itself. But nevertheless, I think that Critical Design is a good tool to improve the society through design and to do this, we should find the way to introduce and adapt it for many more themes and contexts and also making it more accessible.

With my research and my personal implementation, I have hope to demonstrate one way to achieve it; critical design as a tool for educate children about sustainability.

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List of Figures

Pag 9

Figure 3. Lei Xue, Drinking Tea, 2003

Pag 26

Figure 4. Mads Hagstroem, FLOWmarket Clean tap water

Pag 26

Figure 3. No Shop by Thomas Matthews

Pag 26

Figure 4. Proto Gardening Bench by Jurgen Bey for the Oranienbaum project for Droog

Pag 26

Figure 5. ParaSITE by Michael Rakowitz

Pag 26

Figure 6. Q Drum water transporter

Pag26

Figure 7. Conceptual diagram structure of teaching at the Bauhaus, developed by Walter Gropius in 1922

Pag 30

Figure 8. Dieter Rams, Braun clock radio (ABR 21 signal radio), 1978

Pag 30

Figure 9. Anthony Dunne, The Pillow, 1995

Pag 33

Figure 10. Anthony Dunne and Fiona Raby for Deezen

Pag 35

Figure 11. Tobie Kerridge for Goldsmiths University of London

Pag 36

Figure 11. Ralph Ball and Maxine Naylor

Pag 36

Figure 12. Noam Toran for ICON

Pag 36

Figure 13. Ramia Mazé for Design for Europe

Pag 36

Figure 14. Lina Kovačević for Croatian Design Superstore

Pag 36

Figure 15. Robert Čanak for Speculative.hr

Pag 37

Figure 16 Damir Prizmić in the exposition Objekti Opasnih Namjera

Pag 37

Figure 17 Nikola Bojić for Slobodna Dalmacija

Pag38

Figure 18. Nina Bačun for Mala-Scena_

Pag 38

Figure 19. Anselmo Tumpić for Metamedia

Pag 38

Figure 20. Andreja Kulunčić. Photo by Rasmus Jurkatam

Pag 38

Figure 21. Silvio Vujičić. Photo of his own Studio

Pag 38

Figure 22. Demitrios Kargotis & Dash Macdonalds illustration

Pag 39

Figure 23. Tobias Revell for Lift Conference 2016_

Pag 39

Figure 24. David Benqué for Future Everything

Pag 39

Figure 25. Anab Jain in Superflux Studio_

Pag39

Figure 26. Bastien Kerspern & Estelle Hary in their Studio Design Friction

Pag39

Figure 27. Lina Kovačević, 2011, Jewellery headphones

Pag 42

Figure 28.Lina Kovačević, 2011, Cornet Plate

Pag 43

Figure 30. Anab Jain, 2014 Superflux's 5th Dimensional Camera is a fictional device capable of capturing glimpses of parallel universes.

Pag44

Figure 31 Design Friction, 2015, Soulaje is a self-administered euthanasia wearable. ProtoPolicy Project

Pag 45

Figure 32. Dunne and Raby, Faraday Chair, 1995

Pag 46

Figure 33. Dunne and Raby, Technological Dreams Series: No.1, Robots, 2007

Pag 47.

Figure 34. Dunne and Raby, Robot 2, 2007_

Pag 47.

Figure 35. Ralph Borland, Suited for Subversion, 2002

Pag 48

Figure 36. Examples of activists who wear protective clothing for protest

Pag 48

Figure 37. Siren Elise Wilhelmsen, 365 Knitting Clock, 2010

Pag 49.

Figure 38. Chiu Chih's Survival Kit for the Ever-Changing Planet, 2013

Pag 49.

Figure 39. "Chelonia Mydas" photo(c) National Geographic

Pag 60

Figure 41 Simon Wooller, Saatchi & Saatchi for WWF

Pag 62

Figure 40 Idea 1: Two bins with illustrations that remind you that you are throwing your plastics to the nature

Pag 62

Figure 42. Idea 2: A Play on the words "Mind the Gap" of the London's Underground

Pag 64

Figure 43. Idea development: Bath toys

Pag 64

Figure 44. Idea development: Fishing toy

Pag 64

Figure 45. John Spinnello, "The Operation Game", 1965)_

Pag 65

Figure 46. Idea development: Operation turtle

Pag 65

Figure 47. Zoë Nowak, 2014

Pag 65

Figure 48. First puzzle

Pag 66

Figure 49. Second puzzle

Pag 66

Figure 50. Base turtle, front

Pag 67

Figure 51. Base turtle, perspective

Pag 67

Figure 52. Base turtle, wood

Pag 67

Figure 53. Base turtle, rock

Pag 67

Figure 54. Layer 2, turtle

Pag 68

Figure 55. Layer 2, wood

Pag 68

Figure 56. Layer 2, puzzle

Pag 68

Figure 57. Layer 2, wood pieces

Pag 68

Figure 58. Layer 2, plastic pieces

Pag 68

Figure 59. Layer 3, draw

Pag 69

Figure 60. Layer 3, pieces

Pag 69

Figure 61. Layer 3, appearance

Pag 69

Figure 62. Layer 3, complete

Pag 69

Figure 63. Layer 3, mixed

Pag 69

Figure 64. Layer 3, playing

Pag 71

Figure 65. Cover and back of the pamphlet

Pag 71

Figure 66.

