



Plenary: Anti-Ephemeral Design for Responsible Production and Consumption of Mobility

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Abstract. This paper introduces the concept of Anti-Ephemeral Design through a discussion about automotive design responsibility on collaborating to the generation of consumption habits which have great impact on the environment. The paper examines the relationship between consumerism and the mythical images of the automobile. Findings from the Joyful Journeys (Mausbach in Fourteenth International Conference on Ecological Vehicles and Renewable Energies (EVER), pp. 1–9, 2019 [1]) and Ecofitting (Mausbach et al. in 2020 Fifteenth International Conference on Ecological Vehicles and Renewable Energies (EVER), pp. 1–9, 2020 [2]) projects are used to point out the need to look at tangible and intangible aspects of design to address both environmental, economic, socio-ethic and subjective aspects of sustainability. The paper proposes an alignment with new values, to design, produce and consume mobility sustainably.

Keywords: Automotive design · Sustainability · Consumption · Circular economy

1 Introduction

Anti-Ephemeral Design investigates alternative mobility processes and products aiming to support the transition to sustainability. While exploring the development of limited resources circular economy, looking at alternatives to expand the lifecycle of products, and examining designers and users' needs and aspirations, the project focuses on solutions which are at the same time responsible, joyful and meaningful at personal and social levels. This paper introduces the discussion about the relationship between the mythical image of the car and consumerism, presents alternatives to consumption and production through the Joyful Journeys [1] and Ecofitting [2] projects developed at the Intelligent Mobility Design Centre of the Royal College of Art, and questions in why, how and what form we can consume mobility responsibly.

2 Car Design and Consumerism

According to Yuval Noah Harari [3], the twentieth century presented a battle between fascism, communism, and liberalism, ultimately won by the latter, but as “history took an unexpected turn”, a crisis also hit the liberalism. While the economic crises of 2008, is cited as one of the reasons for the degeneration of liberalism, the climate crises and the sanitary crises highlighted that the aims and achievements of society were vain, and its values need to be reviewed. According to Umberto Eco [4] a crisis has extended to the concept of community, giving rise to “unbridled individualism”, and “led to the collapse of ideologies”; then, without sharing values or being part of something, individuals are pushed to follow consumerism. One which Stuart Walker [5] signals as the kind of consumerism that turns everything obsolete, creating more frustration than satisfaction, and cultivating a society of selfishness, envy, and greed. According to Robert Crocker, “consumers are now ‘trained’ by advertising, marketing, and peer example, to adopt a linear perspective of the products they buy, as short-lived, packaged products and only of real value when they are brand new, or nearly so, a perspective that is neither natural or unchangeable, but one that can be altered” [6].

The design developed as part of the twentieth century economic systems is a reflection of their values and production systems. In the automotive industry, the pursuit for higher qualities of the products has been aligned to the mindset of societies which were less attentive to the consequences of their actions to others and the environment, according to Jackson [7], a “age of irresponsibility”. Car design has served a system of consumption which depends on constant growth, massive amounts of resources for production and use, and responding to fashion cycles which ironically has rendered the contemporary car mostly irrelevant in meaning and emotional value. The ephemerality of car design raises questions about the designers’ responsibility, which has been discussed by Papanek [8], Bonsiepe [9], Manzini [10] and others, but has not yet reached car design to support a cultural shift.

Cars have never been merely a tool. From its inception, it was both a utilitarian and a symbolic object, which quickly evolved its own imaginary context, represented by the myths of Speed, Freedom and Comfort [11]. The twentieth century Car design focused on attracting the consumer, expressing personality, and innovation. According to Gui Bonsiepe [9] “design has increasingly moved away from the idea of intelligent problem solving, and has approached ephemeral, fashionable, fast obsolete, formal-aesthetic game, glamouring the world of objects”.

In the beginning of the twenty-first century the car is facing a moment of radical change. Electrification of powertrain, shared use, and autonomy are challenging the paradigms of the automotive industry and stimulating the replacement of the current fleet by new vehicles. While this might create a demand for new cars, it does not consider if people are prepared to replace their vehicles, financially or emotionally. How to deal with the current world fleet of 1.4 billion [12] cars has not been addressed by automotive design, which is focusing on creating the novelty. Ephemerality of products need to be discussed in relation to the possible design strategies. Both the embodied carbon and their meaning, cultural and personal sensitivities are significant parts of a product. Proposals of circular economy must start from existent objects, and its already embodied

carbon footprint. Moreover, the transition also interferes with the way people consume, use, and experience cars, and more widely, mobility.

Indeed, deeper transformations are needed to deal with the environmental, societal and climate crisis that humanity is facing now. Particularly, to improve the model of interaction between the industry and the natural environment in the direction of sustainability, our social, ethical, aesthetic, and economic paradigms need to shift, and both our subjective and objective experiences need to be addressed. Stuart Walker [5] proposes to extend the foundation of sustainability to a Quadruple Bottom Line, pointing out that creative design endeavors should be informed by their Practical Meaning, Social Meaning, Personal Meaning and Economic Means. Therefore, when looking at the transition of the automobile and its consumption, we should also investigate the subjective aspects of design. To be able to transform we need also to evolve our viewpoints and be open to change our assumptions in many areas. The following sections projects from the Royal College of Art present projects which explore the cultural shift necessary to achieve more responsible production and consumption of mobility.

3 Sharing Joyful Journeys

The Joyful Journeys project was developed at the Royal Centre with the Loughborough School of Design, to investigate how meaningful mobility experiences are created. The project used design research methods such as journey shadowing and interviews to identify experiences and values inside the current context of mobility. One of the journey shadowing subjects stared an older woman who gives people lifts in a rural location in the UK. The recording was transformed in a short movie, including additional animations, showed in the 2018 London Design Festival, and is available on YouTube [13] (see Fig. 1).

In the piece, it is noticeable that the experience of a journeys has values beyond the functional aspect of mobility. The lady points out her love for driving, also as something that she can still do, and that she likes to give lifts to people as a community bound. Moreover, the Joyful Journey was created to provoke a debate about the main market target of current MaaS (Mobility as a Service) on young city dwellers, and to remember that it is possible to share mobility outside of a monetized structure. The idea of sharing can immediately reduce the impact of a particular commute while including more people in an existing vehicle journey. Reducing the ecological footprint of mobility should not depend solely on the implementation of new technologies or services. There are four levels of designers' intervention to transition to sustainability, according to Vezzoli and Manzini [14]. The fourth level is the proposal of new scenarios corresponding to more sustainable ways of living: developing at a cultural level; promoting new standards of quality; changing the structure in response to demand.

4 Ecofitting Circular Economy

The Third level of intervention according to Vezzoli and Manzini [14] is the creation of a new and sustainable mix of products and services: offering a different and more sustainable way to achieve the benefits a product can give, through a new mix of products and



Fig. 1 Still from the Joyful Journeys video (REF)

services—must be committed to cultural change and new consumer behaviour. Circular economy proposals can be included in this group. For the success of circular economy, an important is the integration of the consumer, or user, in the system, expanding the activity as an integral part of community and creating cultural change. Therefore, design it is at the core of circular economy.

The Ecofitting project was developed at the Royal College of Art Intelligent Mobility Design Centre with the support of CENTS (Circular Economy Network + In Transportation Systems) from February 2020 to January 2021 [15]. Ecofitting is a sustainable solution for the large UK fleet of internal combustion engine cars that is rendered non-compliant with initiatives like the Ultra-Low Emission Zones. Focused on sustainability and conceived as circular economy strategy (see Fig. 2), Ecofitting goes beyond just electrification, opening an opportunity for new approaches to automotive design, and to cater for generational shifts in desirability. The project proposes the retrofitting to electric of cars mainly from 1980 to 2000s, which also incorporate alternative aesthetics and materials.

The project findings indicate that there are promising opportunities for developing automotive design differently. Car design has developed an aesthetic of perfection, which is represented by the sleekness of surfaces, thinness of the joint between panels of metal or plastic, the shininess of the chromes, sharpness of edges, or even the noise of closing doors which is not aligned with the taste of new generations and is too costly to maintain and unsustainable [15]. It also points out that Ecofitting is an effective sustainable solution which respects emotional and cultural values of cars, promotes long-term ownership, and can change how cars will be designed in the future.

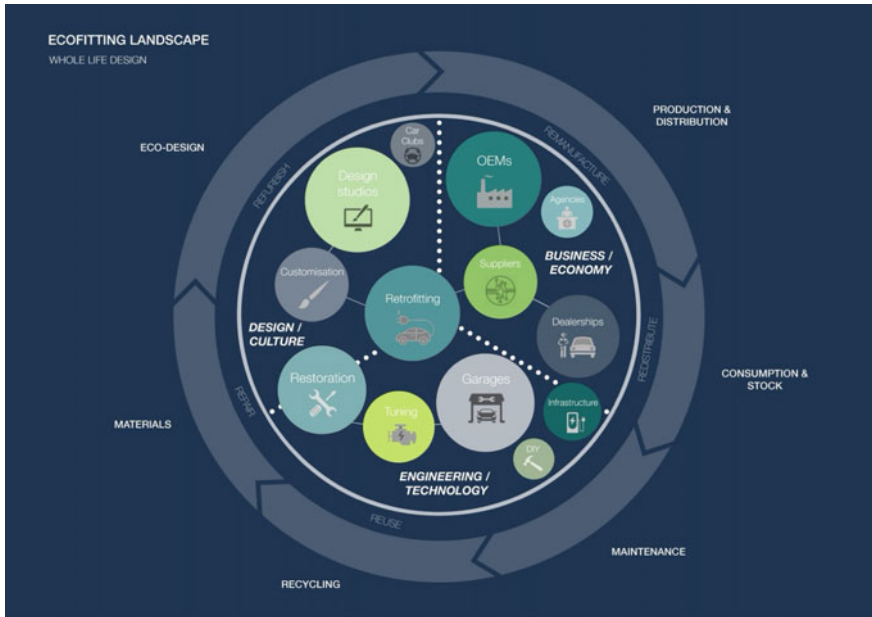


Fig. 2 Ecofitting Circular Economy landscape [2]. The concept of circular economy creates opportunity for new SME to participate on activities of retrofitting vehicles aiming to extend their lifecycle and reduce their environmental impact. Automotive design practice will be like architecture design practice, bringing professionals and users closer, and cars understood as long lasting platforms, like architecture

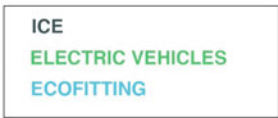
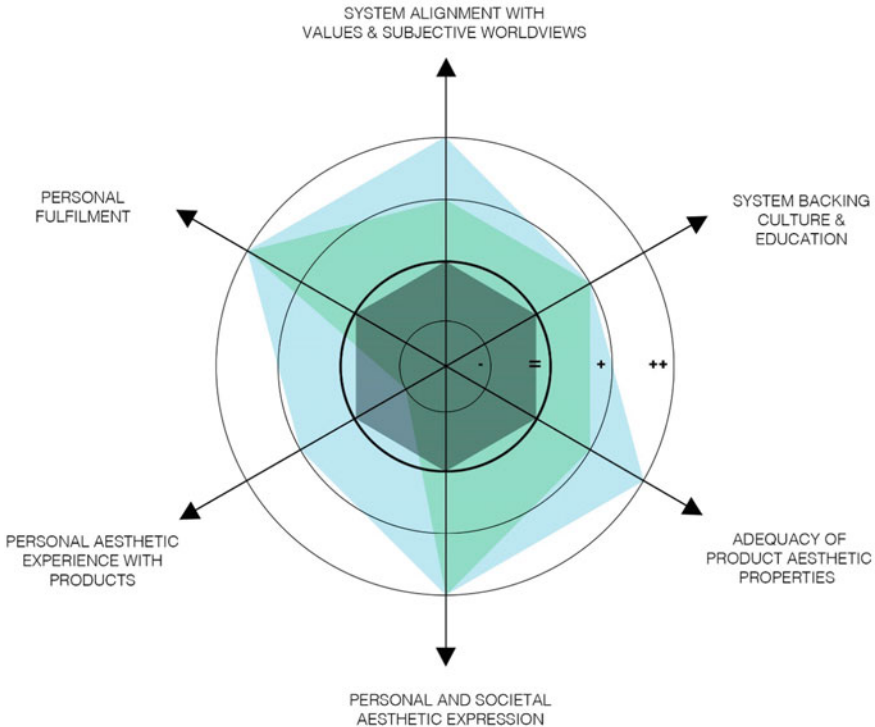
The circular economy solution and concept products developed at the Ecofitting project were analyzed applying the Sustainable Design Orienting developed to consider a quadruple bottom line for sustainability [16] (see Table 1). The tool which was originally developed by the Polytechnic of Milan [17] and included Environmental, Economic and Socio-Ethic Sustainability issues. It has now been updated with the inclusion of Subjective Sustainability issues. Benefits of Ecofitting are related to long-term ownership, waste and resource reduction, local production and wider distribution of opportunities, promotion of local culture, nurturing communities and responsible consumption, promotion of an aesthetic of sustainability, valorization of personal identity and deeper values. The research highlighted the importance of creating design development tools considering both the tangible and intangible aspects of design.

5 Conclusion

The transition to sustainable mobility is urgently needed to fight climate change, and at the same time it can produce great environmental impact. According to Ekins [18] the Impact on the environment is a product of People, times Consumption, times Technology ($I = PCT$). It is necessary to re-think production and consumption, and design becomes a strategic tool. It has an important role as an applied art that draws upon our

Table 1 Subjective Sustainability comparative analysis using the SDO tool

SUBJECTIVE SUSTAINABILITY



The performance of Ecofitting was compared to mainstream industry’s electric cars and internal combustion cars (ICE)

The values on the vectors come from a checklist [16]

imagination envisioning alternative perspectives, if informed by philosophical, ethical and environmental considerations, it can make a constructive contribution to the nature, extend and pace of positive change [5]. This transition should change the relationship between consumers and product to one of care. According to Crocker [6] “the object once possessed effectively ‘talks back’ to its owner, requiring time, place, maintenance

and attention: this is a material, psychological and social relationship, and not just a momentary transaction.” The relationship of “care” also establishes a connection to the materiality of the objects.

The Anti-Ephemeral Design research explores the idea of a meaningful engagement with objects as part of a circular economy, particularly focusing on dealing with the carbon footprint compromised by aesthetical, normative or technological obsolescence in the existent car fleet. Anti-Ephemeral Design aims at extending the lifecycles, adapting products, working with alternative materials and processes, including people through open source and economic opportunities, therefore, proposing a cultural and societal shift.

The Joyful Journeys and Ecofitting projects (see Fig. 3) pointed out the need to look beyond the creation of new products: changing the way we use and extending the lifecycle of products can offer alternatives for reducing the impacts of mobility in the environment. To achieve that there is a need for a cultural paradigm shift, we must think from the point of view of sustainability. We cannot judge sustainable solutions with a mindset of a non-sustainable society, economy or culture. As advocate by Papanek “designers have help to wield power to change, modify, eliminate, or evolve totally new patterns” [8]. It is necessary that design moves from being part of the problem to being part of the solution. Otherwise, the new paradigms of sustainable mobility Autonomous, Electric, and Shared will become the new myths. While designing sustainable mobility, we must consider environmental, economic, socio-ethic and subjective issues, and aim for joyful, meaningful and responsible mobility.



Fig. 3 Ecofitting Upcycled Golf: the design is used to challenge aesthetic conventions and provoke a debate about consumption habits [15]

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