

# Dialectic of the Sustainability: Design and Art New Frontiers

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## ABSTRACT

Sustainability is currently one of society's main paradigms and, above all, it depends on how we plan and chart new paths so that, in a systemic, integrated and transdisciplinary way, choices are objective and made based on a greater collective good. It is precisely at this specific point that sustainability meets design and art, as all formal, informal and non-formal artifacts are, at some level, constituents and agents of change. The complementarities between design and art are more and more explicit in the smallest of details and that is precisely why we often see art migrating to stores and design artifacts to museums. This relationship between art and design aims, above all, to develop a new language for industrial culture. Applying a theoretical perspective capable of articulating the fundamental dimensions of man's relationship with the environment, highlighting the aesthetics of sustainability, we expose and highlight the beauty of the complementarity of antagonisms in art and design interventions. This dichotomy plays a fundamental role in the process of "socialization" of society. Since sustainability is a paradigm that we consider extremely important and relevant in the current and future context. This article presents itself as an investigative tool of the dialectic between design and art in order to foresee future practices that will be the answers of tomorrow.

**Keywords:** Sustainability, Art, Design, Environment, Upcycling

## INTRODUCTION

The current ecological crisis that the planet faces, arises from Humanity's behavior towards the environment, we can even say this relationship has been metamorphosed in a drastic and sometimes irreversible way. Humanity as a curious and eager child suffers from the consequences of this behavior, one of the causes being excessive consumption, consequently, the increase of excessive production with an impact on nature (Meadows, Donella and Randers 1992; McLaren *et al.*, 1998). Ecosystem life is constantly changing and the consequences of this crisis are among many others, desertification, the increase in CO<sub>2</sub> emissions and the consequent acidification of the water and the ozone depletion without, forgetting the climate changes resulting from the greenhouse effect. We are currently facing extreme climate changes. The decrease in the number of plant and animal species that are part

of biodiversity and contribute to the ecological global balance, as well as the appearance of new species of flora and fauna that would not have existed without these changes and that have made nature to adapt without mention those species considered a food resource and for human use (Brezet and Hemel, 1997; Vezzoli and Manzini, 2008). These modifications emerged as consumption established itself as the main criterion of social distinction marked by the constant search for novelty. We can consider that the desire to express affinity with the new has itself become a new lifestyle (Bauman, 2008), that is, consumption has become a new collective ritual (Baudrillard, 2008). However, this disproportional behavior drives to large-scale production, beginning in the infinite abundance of materials and the unquestionable availability of raw materials and energy for production without considering that production and consumption patterns are the root of the environmental crisis due to exploitation of colossal amounts of natural resources (Jorgensen, 2001). In response to this transformation, concepts and terms such as “sustainability” were developed automatically demanding a re-education of human, social and business behaviour (Weizsäcker *et al.*, 1998; Hawken *et al.*, 2013). These renovations are part of a dynamic process that, through the potential of human beings, allows for the improvement of the quality of life and simultaneously its protection as well as life support systems. So, the art critic Alex Coles uses the term “desinart” (Coles, 2010) in which he highlights, from an artistic point of view, the function of art as an element of design attraction when art is introduced to start the process.

Thus, art and design add competencies, complementing and mutually expressing each other with the acquisition of social, intellectual, artistic, moral, ideological, political, business, environmental, community, social and humanitarian values, among others, since depending on the approach and design point of view, this also changes when exploring the “aesthetic function” of artifacts and media, making the final product almost a work of art. Design is involved with actors, factors and needs that shape society in solving fundamental problems such as sustainability (Ehn *et al.*, 2014) and (Muyanja, 2011). Consequently, a wide range of paths, ideas and methods can be followed, but sustainability can be a process of aestheticization (Dieleman, 2008) now, looking at sustainability as a restructuring process, we need a reflexivity that goes beyond cognitive and technical rationality and it is precisely here that art and design as potentially relevant agents of change can make all the difference.

In this study, a protocol was defined to ensure the transparency and accuracy of the study. We defined a systematic literature review process searching in the SCOPUS and ISI Web of Science digital databases. The search process in each database was performed using search queries containing the keywords. Our work was oriented by three research questions: i) How design can create a dialectic for processes and materials that reflects aesthetic, functional and sustainability? ii) How design research, articulated with art as an element of inspiration, can contribute to sustainable development? and iii) How the sustainability has projection for dissemination and to relate the products and our society as a new attitude? The search protocol was organized based on Preferred Reporting Items for Systematic Literature Reviews and

Meta-Analyses (PRISMA) statement (Matthew *et al.*, 2021). The literature review, the search and analysis of the selected articles took place during the year 2022.

## THE CONTEXT

Sustainability means that the environment must be protected and preserved so that its environmental capabilities (environment's ability to perform its various functions) are maintained and preserved over time (Lenzi, 2006). According to the United Nations Secretary-General's Report in 2022, since the mid-20th century the world has seen unprecedented population growth, with population density tripling between 1950 and 2020. The world's population growth rate peaked between 1965 and 1970, when the number of people increased by an average of 2.1% per year.

During the period from 2000 to 2020, even though the global population grew at an average annual rate of 1.2%, 48 countries or areas grew at least twice as fast.

Renewable and non-renewable resources are subject to the predatory demand of the industry whose main objective is to increase its profits exponentially. Sustainability refers to structured conditions at regional and planetary levels. Human activities cannot and should not interfere with the natural cycles on which they are based, nor should they deplete their natural capital (Manzini, 2008). The threat to the balance of sustainable development arises due to disharmony in the relationship between economic and social development, dramatically affecting the desired ecological balance.

## RELATED WORK

The literature demonstrates that design has a significant capacity to produce changes with the purpose of materializing ideas, enabling solutions and generating alternatives, enhancing them. At the same time, and as seen in the political discourse of the last twenty years, terms such as environmental responsibility, social inclusion and sustainability gained a new stage and became extremely popular (Cardoso, 2016). Design plays a relevant and influential role in the way people behave through emotional design (Norman, 2005), regenerative design (McDonough and Braungart, 2010), design with intent (Lockton, 2017) and design for social change (Papanek, 1971). These renowned authors analyse and opportunely reflect on this type of propositions that have an influential and prominent role for design in human behaviour.

Currently, society is more alert and has a greater concern with issues related to sustainability. These concerns were already present, even if on a smaller scale, in 1972, the year in which the Environment Commissions were created by the United Nations. Among other important movements, it is in 1987 that this organization publishes the Brundtland report, later known as "Our Common Future". This report has the particularity of warming up to the model of economic development based on non-renewable resources and, consequently, alerting to the possibility of disappearing resources in the near future. Since

then, several conferences have followed with the aim of alerting, disseminating and unifying the theme, culminating in 1992 with the United Nations Conference on Environment and Development. Also known as ECO-92, this conference was held in Rio de Janeiro with the main objective of seeking ways, discussing projects, ideas and reconciling socioeconomic development with the protection of our ecosystem. In this conference we find the importance of sustainable development enshrined and disclosed in the Agenda 21 document. However, it was only in 1998, at the Stockholm conference, that sustainable development was recognized, stating that cultural progress and sustainable development depend on each other.

It was only in 2011, at the conference of the German society *Das Institut - Kulturpolitische Gesellschaft*, that Tutzinger's manifesto appeared. It is only from this document that the relationship between art and sustainability flourishes and intensifies. We can therefore conclude that this manifesto advised and supported the urgency of giving continuity to what had been started at the Rio Conference with Agenda 21. On the other hand, it was in Johannesburg in 2002 that another important conference on sustainability was held, resulting in a new agenda with new structural implications in the cultural and aesthetic dimension of sustainable development. It is understood that in order to achieve the objectives proposed in Johannesburg, art must interact and become intimately involved with the issue of sustainability. This new relationship is what allows us to state that more than any other event or fact, currently, the search for new models of sustainability aims, above all, at the social needs of everyday life. This is the fundamental point of designers and the direction of their projects. In other words, they assimilate the lack of something on the market as a problem, but they don't always delve into the user's real need. Design is a new liberal art of technological culture that has the ability to connect knowledge of great utility for both the arts and the sciences and with awareness of the problems and purposes of the present and the future.

Design follows movements in response to the limitations that imply a broader view of it. Based on two distinct poles, the first concerns the utilitarian and functional qualities of an artefact (Eco, 1985) and the second concerns the symbolic qualities associated with the status of an artefact characterized by (Norman, 2005) as "visceral design". We can therefore state that design is a new liberal art of technological culture that has the ability to link highly useful to both arts and sciences in aspects oriented towards the problems and objectives of the present knowledge (Buchanan, 1992). The evolution of society has also allowed the construction of new theories about the relationships and distinctions between art and design. Art, cognitive world, is an extension of the brain and has been in constant mutation and evolution for 40,000 years. Parietal art is an extension of the brain, where the artist is an 'interpreter', illustrated the paintings on rocks and in caves were man's first attempts to preserve information by means of symbolization or pictorial notation, preserving personal and then, collective memories (Avital, 2017).

The instrumental world of design has been evolving for 2.6 million years. The selection, manipulation and transformation of artifacts as a form-function relationship represents the extension of the human body. In other

words, the designer is a producer (tool) who produces his artifacts. We can see that over time the number of artifacts increases according to each need and function and this is what we call specialization. That is, design has always had something more than its utilitarian function and, with the emergence of the Memphis group, it brought to itself a kind of emotional utility reflected, for instance, in postmodern furniture.

In this way, it is evident that the process of making art is close to the production and making of design. Following this “modus operandi”, the artist starts to have organizational and productive processes distributed among collaborators and a productive chain. Thus, we can say that Antidesign fueled the utopia of a world that is freer and more respectful of the environment, and this can be seen from the notoriety achieved by the Memphis, Alchimia and Olivetti groups, among others (Byars, 2004). Artifact production has evolved in line with the way people “consume” artifacts. In turn, the Antidesign manifesto established a dialectic centered on social complexity and psychological behaviors. That is, the functional dimension of the object is a response to consumerism and objects of temporary use. Antidesign had a self-annulation of how design should be, had its role in society by creating functional objects, intersecting the art world and, all of these, was evident with the exhibition of works from the Antidesign movement at the Museum of Modern Art in New York in 1972. In the 1960s and 1970s design principles changed, challenging paradigms and expressing criticism through objects and artifacts, part of the critical design movement and with this the importance of conceptual design start to growth, with different approaches. After the “Design for Need” conference organized by ICSID in 1976, was seeds for two design approaches that will walk alongside with environmental design: the elimination of toxic materials or the use of recycled materials.

This green design process was the position taken by the industry for the adoption of end-of-line pollution treatment systems and had as its main objectives the prevention of waste and better management of materials (Dewberry and Goggin, 1996). As far as ecodesign processes and strategies are concerned, they have never ceased to exist. In the late 1980s, an approach to the design process began to develop that focused on the environmental problems of the artifact throughout its entire life cycle (Dewberry and Goggin, 1996). This approach would later be called eco-design. However, and as advocated since the end of the green design period, it is necessary to adopt a life cycle perspective of the artifact, which implies the responsibility of the various actors in the chain, namely the producer (Ansems, 2005). The focus of design then shifts from the artefact to the satisfaction of human needs, resorting to new solutions that use less energy and less materials (Lofthouse and Bhamra, 1999).

When reducing the environmental impact of artefacts, it is important not to neglect the sociocultural susceptibility that will frame them (Vezzoli and Manzini, 2008). That is, we cannot ignore the role that products had and still have as a symbolic value (sometimes more important than their initial function) and the factors that contribute to their subjective quality of life (Spangenberg, 2011). In 1978, the first manifestations of art with environmental concerns appeared. With the title “Time Landscape”, Alan Sonfist

presents these same concerns in a symbolic and unique way. With this work, by designing a 17th century landscape in a vacant lot in New York through the planting of native trees, he brilliantly manages to create a lung inserted in a very metropolitan and cosmopolitan environment. This social intervention draws attention to the city and its many environmental problems, as well as to the course of economic development at the time (Dieleman, 2006). It is evident that the arts are well equipped to touch feelings and emotions and can influence human behavior, worldviews and lifestyles.

## **DIALECTIC**

The relationship between art and design was already observed in the remote past. The artistic and cultural matrix, recognizable in design theory and practice through the implementation of a formal linguistic style, influences existing avant-garde movements in art (Brüdek, 2005), or as the two disciplines are often recognised, one technical and the other cultural (Maldonado, 2012). These characteristics are often explored through a more mature response with the aim of reinforcing the creative processes transmissible between art and design. Art explores its limits to the fullest, as well as its role in contemporaneity, in the creation of narratives (Tremblay, 2009), with the specific actions of a place and time (Sheren, 2009). In other words, art changes over time and by including popular culture in modernity it stimulates sensations and emotions in social relationships.

While in art there is a conception of a whole, the term fragment only makes sense in an instrumental, cognitive, biological, physical or ecological world. And this is why we understand when it is said that in this discipline there are no parts and it is just a process. Thus, in the cognitive structure of art, when something is changed it usually completely changes its meaning, automatically giving rise to another purpose or meaning. Given that, meaning is constituted by a set of intertwined knots that connect to a whole and these same characteristics, seen from the point of view of art and design, become complementary (Avital, 1992). We can then understand and affirm that there is no unity without multiplicity and multiplicity without unity consciousness. And this particularity is grounded and based on the law of complementarity which tells us that unity is the opposite of contradiction.

Design and art as opposite directions on the cognitive ladder allow us to state that art is trapped in its own circumstances of production and consumption. In design, the artist absorbs territorial influences and represents them (colors, shapes, sounds, ideas, movement, materials). The artist's adaptation of these elements is similar to the image of a conductor directing his own orchestra. That is, he presents himself with the ability to communicate, express and aesthetically apply his work at the service of the society that understands him. We can say that it is like a set of hypnotic relationships. And therefore, with the inclusion of usability traditionally associated with design, covering it with the contemplative value of art, we observe the overlap and complementarity of these two artistic disciplines.

Nowadays, the emotion inherent to the absence of borders leads us directly to the metaphorical domain of transdisciplinary. It is precisely this nebulosity

that extends when approaching limits that generates strangeness and enhances the new aesthetic models of design. We can thus relate the work of Gunjan Gupta (Industrial Designer) who, by using the symbolic language added to the artefacts, demonstrates that these become stronger and generate more importance than the set of materials that support the work itself. The work itself forms a material and therefore we can say that sustainable principles with artisanal production work together with traditional communities and use visual elements characteristic of indigenous culture. It is all these principles and elements that subsequently make the work unique and unrepeatable. The recognition of his works results, in large part, from the creativity and rupture of aesthetic standards in the field of design, which deliberately bring him closer to art. It is precisely this absence of borders that will allow us to conceive a comprehensive concept with the aim of producing local value. In opposition to Gunjan Gupta, we find in Jeff Koons a reference to understand the process of desecration of art as a weapon of protest, repetition and difference. Jeff Koons has created a unique journey through an exhaustive, expressive art design process that has contributed to connecting art with consumer culture and design with advertising. Currently, we say that the boundaries between work and the market are very tenuous, creating an association between work and merchandise. The boundary between art and design is equally permeable as the artist decides or is inspired by the objective/theme to pursue, the creative process being very similar to that used in design. In turn, the designers work with their own production and create prototypes, small series or unique pieces, applying an artisanal and artistic approach to their projects and processes. In this case, it is this unique approach that gives his production the status of a work of art. However, a designer, unlike an artist, works for people and is primarily concerned with their problems, difficulties, needs rather than their personal desires and interests. Knowing already that artists are not able to distance themselves (Potter, 2010), the relationship between art and design is the existence of a symbolic artifact. In other words, we understand that artifacts are always space-time entities that create relationships.

Sustainability is often used to seek new results in design and new possibilities in formal and conceptual creation processes. This particular type of design, which is characteristic for its interrelations with art, finds, proposes and enhances new languages. Consequently, the artist projects social models that collectively allow the exchange of messages and meanings, as well as the exploration of new theoretical horizons and the establishment of new spheres in inter-human relations. We can also frame this theme according to the opinion of (Kester, 2004) who classifies it as a performative aesthetic of conversation or dialogue. In this sense, art is the result of an interactive process where originality and creativity (creating from nothing) erase the post-production paradigm, transforming the artist into a mere producer or a simple technician. Simultaneously, designers create shapes and objects through multiple operations of addition, recombination or even the incorporation of new solutions in artefacts with less impact on the environment. This search for new solutions aims to include sustainability in the manufacturing process of materials or in the content of its concept and message. In this way,

the use of highly critical formal or conceptual content gives art the ability to judge and impose changes capable of educating and guiding recipients towards a more promising future. These methods can be implemented according to the different objectives of those who use these two disciplines. However, it is unequivocal that both will intervene creatively in social and cultural realities, since sustainability presupposes such a territorial and organizational impact that by including it we are promoting changes that we hope will be the answer to the needs of future generations. This new reality that prevails and is based on the phenomenology of sustainability intrinsic to the artifact and the way we experience the world, makes it a true creative, emotional and relevant experience for the growth, adaptation, learning and evolution of humanity.

It is factual that the sustainability used in these two disciplines is an overlapping of conventional differences. In other words, by mixing the use value of the artefact associated with design with the contemplative value of art, we create an “exemplary” design to be reproduced and unique. This sustainability trend is well represented in these two disciplines with artefacts aimed at a market of series and limited editions. Art & craft, exemplifying this particular trend, is nothing more than the rebirth of design and art.

## **NEW FRONTIERS**

Design is a discipline whose growth was based on industrial development. However, having its origin in art, the approximation of design with craftsmanship is a form of cultural rescue that also expresses its degree of maturity (Cardoso, 2008). The presence of art in design was exposed in modernism, finding in the Bauhaus one of its most important symbols. Despite the famous maxim, the function is always above the aesthetic issues of artifacts (Droste, 2002), it is in art & craft that design has its most striking feature and that involves the creation of artifacts that interact with users also through aesthetics. This interaction is triggered by materials or their combination. We can even say that the designer and the artist understand the material in depth, in terms of experimental properties, physical properties, with a specific purpose in a specific context (Karana et al., 2018). Since the material is the stage for the entire staging (Macarthur, 2013), thinking about materials is the only way to integrate sustainability and direct it towards the future. In this context, “upcycling” means thinking about raw materials, or if you prefer, it is about the integration and preservation of non-renewable materials through their reuse. This is a common practice for thousands of years before the industrial revolution and is still used today in developing countries mainly due to financial issues (Szaky, 2014). It is necessary to explore, through art, the possibilities inherent in a material worn down by the action of time and bring them to the surface, collect them to return them to design.

The raw material allows the realization that such an artifact or material is always present in everyday life and is successively neglected by the eye. The existence of a boundary between everyday life and art demonstrates that materials can very well be an important tool for reflection on issues related to environmental sustainability. Observing them, from the point of view of



art, means the possibility of being redefined by the act of transformation and, therefore, a movement that goes from art to the world and vice versa (Oliveira, 2007). The appropriation of an industrialized material, consumed and discarded by man, can be modified and reorganized into a new material in order to create a new form and function. In addition, materials that went unnoticed by the eye and that would naturally be discarded after use, when deprived of their original form and function, are reconverted and replaced in a new place of visibility that pertains par excellence to design.

## DISCUSSION

Sustainability is determined from a human-centered perspective and emphasized by sustainable development with environmental responsibility as its main basis and premise. Constant changes generate needs and, as such, a dialogue that facilitates the cooperation between design and art becomes essential. Interventions in design and art play an important role in the socialization of man as they allow a reading, albeit unconscious, of needs and desires promoting their transition and consequent evolution. Design invokes art to explore possibilities and, in this way, stimulates transformations through the creation of artefacts capable of provoke changes and make a sustainable consumption system in response to programmed obsolescence.

Consciously, the designers, through their artifacts, touch the perennality of works of art seeking to create a contestation of the present and an exuberance for the future. Art and design interventions subjectify through powerful artifacts symbols of solidarity between citizens, artists and academics willing to negotiate a social, cultural, economic, practical or political reality. It works like the ignition of a creative process, it is not about solving or finding problems but, about stimulating transformations marked by the balance between action, ethics and social responsibility. It is urgent, therefore, to articulate fundamental relationships between man and the environment using the aesthetics of sustainability as a highlight of the beauty of nature and the complementarity of its antagonisms.

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