Springer Series in Design and Innovation 37

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Multidisciplinary Aspects of Design

Objects, Processes, Experiences and Narratives

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Introduction

This book is the result of a long research process. The work started in 2020 with an exhibition held in Parma (*Design! Oggetti processi esperienze*, CSAC Università degli Studi di Parma), and a book of the same title, edited by F. Zanella (with essays by G. Bosoni, E. Di Stefano, G.L. Iannilli, G. Matteucci and R. Trocchianesi) and published in 2023 (Electa Milano) centered on the role of archives as memory repositories and agents for contemporary design. This first period of reflection was followed by an international conference: *Design! O.P.E.N.* (https://www.designopen.it) held in Parma on May 5–6, 2022. The present volume contains most of the papers presented at the conference.

Starting from the first volume (*Design! Oggetti processi esperienze*), the research was always characterized by a multidisciplinary approach, which became even more multidisciplinary at the international conference held in 2022.

In fact, the conference was organized by a network of scholars from the world of design, philosophy and history of art, whose aim was to intertwine several types of knowledge. Consequently, multidisciplinarity is also the main feature of this second volume whose objective is to reflect, in an integrated manner, on the different dimensions of design, using competencies from the field of design and from that of humanities.

The aim of this project is to create a repertoire of opportunities of exchange and of relation among the culture of designers and the applied marketability of humanists in the project and in the innovation processes, in particular those design processes characterized by an important social and cultural impact.

In this context of exploration and experimentation in the territory of bordering subjects, stands the interpretative model in Fig. 1. It represents the potentialities in the interdisciplinary relations which verify the logics and dynamics in the "behavior" of a designer dealing with some project variables. On the vertical axis, humanities and techniques can be found, and on horizontal one, research and project.

Where these variables intersect, there can be four types of intervention:

- The intersection of techniques and research generates technological experimentation considering techniques and technology fields in continuous and fast evolution.
- Where research and humanities intersect, we are in the field of a historical/social/philosophical approach in which the analytical and critical dimensions of the research itself are developed.
- Between humanities and project, we are in the area on which our project focuses: here the meta-project approach becomes the synthetic expression of the relation among the two poles.
- Finally, between project and technique, we are in the area where the executive component of the project itself emerges.

There have already been significant studies which have stressed the importance of humanities for design and have shown that design can be a stimulus for humanities; this

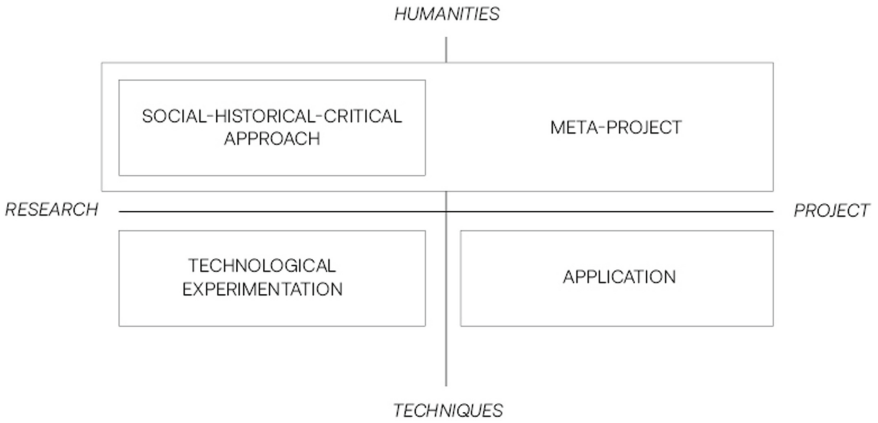

Fig. 1. Potential synergies between design and humanities [1]

is why the conference *Design! O.P.E.N.* intended to be an opportunity for research and debate with the objective of continuing this fundamental line of work.

Some crucial issues which interdisciplinary research must tackle are:

- The research of "new problems for design", that is, the collective need, as a scientific community, to find new directions toward which work must be periodically re-oriented, and this can be done only through a process of joint reflection.
- Research investigating the "meanings" that the product can have for design.
- Research that investigating the "value" that the design product shows.

As far as meanings are concerned, design and humanities integrated research can challenge, in a theoretically sounder way, "sustainability" by enhancing those concepts that are on the boundary between ethics and esthetics. Today, design cannot afford to dismiss ethical reflection, and, in this direction, humanistic culture can help to reinterpret the reflection on the mere functionality, in the more philosophically complex terms of the concept of "suitability for the purpose".

With regards to the analysis of the value generated by the action of design, it may be interesting to speak of "technology of value", which only humanistic investigation can help to process and fill with tools useful to produce not only ex-post critical knowledge, but first and foremost, oriented toward experimentation and to showing new corridors for contemporary design [1].

The volume follows the paths of reflection which structured the conference *Design! O.P.E.N.*, focusing on current themes and issues that are still at the center of the multidisciplinary debate on design, investigated through four keywords: objects, processes, experiences and narratives, which correspond to the book chapters.

The first chapter focuses on object-oriented design, enhancing its functional narrative and experiential values. In fact, objects, beyond their value in use, bear symbolic, anthropological, political and social meanings and worldviews. This section also develops a theoretical reflection on the esthetic categories used to interpret the design object

in relation to the classic dichotomy useful-beautiful, to the category of game, to artistic values and the relation between ethics and esthetics.

The second chapter is on the designer's self-reflective moment which is focused on the analysis and on the definition of processes in various contexts, spanning innovation, social engagement, reflection on emergencies or forecasting. This section investigates how designers develop and test their models, both at production, implementation and research levels. The areas of investigation are those addressing innovation, social engagement and pursuing a reflection on emergencies or forecasting. The section is intended as an arena for discussion on topics revolving around both the different moments in the history of design and the contemporary condition. The contributions collected in the Processes Section reflect the current condition of the disciplinary debate, which is strongly characterized by a profound transformation of design processes due to the comparison with scientific research methods, with a prevailing interest for methodologies and contemporary priorities as the environmental one, or to the dematerialization of processes.

The third chapter focuses on as a theoretical and practical strategy aimed at facilitating and fostering experiential interactions among people, between people and objects or environments. This section aims at investigating the foundations and the implications of a specifically experiential turn in design from various perspectives and in various disciplines. Due to the multifaceted nature of this turn, both theoretical and practice-based research are testified by contributors.

Finally, the last chapter is on narrative. The narrative vocation of design represents a crucial key of interpretation in contemporary cultural expressions such as making history, representing through different media, archiving and exhibiting. This section explores narratives in three different "dimensions": narrative as a scenario (envisioning new contexts, behaviors, uses, spaces); narrative as a tool (creating new ways to trigger innovation); and narrative as a process (framing new methodologies to face complex issues).

Each chapter reflects the results of the conference held in Parma and is constituted by the analysis of concrete case studies and theoretical and methodological proposals aimed at highlighting the "multiverse" character of design. It is organized in the thematic subsection defined for the conference program, just to emphasize the prevailing interpretative trajectories.

A special thanks to the institutions that have funded the conference and the present publication (The Department of Humanities, Social Sciences and Cultural Industries and CSAC, University of Parma; the Department of Philosophy and Communication Studies, University of Bologna; the Department of Humanities, University of Palermo; the Department of Design, Politecnico di Milano; and the Department of Engineering Enzo Ferrari, University of Modena and Reggio Emilia) and all those who, in different ways, have contributed to reach this result (particularly Alice Biancardi and Marta Elisa Cecchi, and also: Okuniev Avhustyn; Katia Botta; Gabriela Del Rosario Abate; Giorgia Ferri; Salvatore Martino; Serena Massimo; Diego Valle; and Laura Xhaja).

Without their help, it wouldn't have been possible to make this event and this volume happen. We hope that this book will become a useful tool of reflection on the theoretical and methodological aspects between humanities and design.

The scientific committee and book editors:

Giampiero Bosoni, Elisabetta Di Stefano, Gioia Laura Iannilli, Giovanni Matteucci, Rita Messori, Raffaella Trocchianesi and Francesca Zanella.

Reference

1. Celaschi, F.; Penati, A.; Trocchianesi, R. Design e Humanities al Politecnico di Milano, pp. 16–30. In M. Celi; E. Formia (eds) Humanities Design Lab. Le culture del progetto e le scienze umane e sociali. Maggioli editore, Sant'Arcangelo di Romagna (2016).

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OBJECTS

Beyond the Beauty-Utility Diatribe

Towards New Aesthetic Categories for the Eco-design

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Abstract. The aesthetics of industrial objects has traditionally been framed by the diatribe opposing beauty and utility. Modernism has privileged a simple but functional aesthetic, following the motto "less is more". In the second half of the twentieth century, new aesthetic categories emerged that enhanced playfulness, irony, and memory. At the turn of the century, industrial production faced the challenges of environmental sustainability: this is how ecodesign has come about. Originally quite a niche, this new trend is now practiced by many brands. Design today is geared towards natural fibres and recycled materials, reconciling beauty with the ethics of responsibility. Given these premises, this essay aims to outline a theoretical framework for the aesthetics of industrial objects, which goes beyond the useful Vs beautiful dialectics. In this regard, centre stage is taken by the notion of frugality. Already prominently featured by the sociological and anthropological debate, this notion is now also part of the architectural discourse (see the *Manifesto for a Happy and Creative Frugality*). As it combines beauty, health, and well-being, frugality provides an aesthetic-functional category, and it can notably provide a theoretical model for the production of sustainable objects and clothes. Nevertheless, the challenges faced by design in the ecological transition are broader. They concern in fact a different way of relating to the environment and designing lifestyles. In this regard, frugality can also become an ethical-aesthetic measure of life and a healthy way of inhabiting the world.

Keywords: aesthetics of care · aesthetics of frugality · ecodesign · eco-fashion · lifestyles; aesthetics of design

1 Introduction

The aesthetics of machine-made mass-produced objects has often been framed within the diatribe opposing beauty and utility. In contrast to the artisanal production of unique pieces, which can borrow from the major arts the values of originality, creativity, and beauty, industrial objects would boast greater cost-effectiveness, but little aesthetic value. Design research has consequently strived, as is well known, to bestow beauty on the objects of industrial design [1, 2].

While defining the architecture of the twentieth century, Modernism, and its favour for simple and functional forms, has also strongly impacted object design. The motto

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"less is more" coined by the German architect Ludwig Mies van der Rohe, pointed in the direction of essentiality. For Mies, the "steel skin-and-bones" form of an architecture or of an object is the result of rational research aimed at revealing the structure of things, bringing out their intrinsic beauty.

In the second half of the century, new trends emerged which, although pointing in diverging directions, opposed rigid modernist functionalism. In the wake of Robert Venturi—whom we owe the idea that the maxim "less is more" should be replaced with "less is bore" —, but also of Charles Jenks, and of the groups Alchimia and Memphis, a "postmodern" aesthetics featuring eclecticism and decorativism developed.

The industrial objects of the second half of the twentieth century are fun and extravagant, re-reading the Baroque in the light of pop culture. Therefore, they give up not only simplicity, but often also functionality—one could mention, for example, the imaginative creations of Alessandro Mendini, Andrea Banzi, Achille Castiglioni, among others on the Italian scene. Some postmodern objects aim at the recovery of memory and lost roots, becoming carriers of anthropological meanings and ritual values, others instead stimulate fantasy and humor, exaggerating shapes and colours. Form must no longer follow function, pace the well-known modernist principle (*Form Follows Function*), promoted by the American architect Louis H. Sullivan [3], but emotion (*Form Follows Emotion*), according to the intuition of the German designer Hartmut Esslinger.[1] In order to achieve this goal, it is not only necessary to visually seduce, but to stimulate all the senses, engaging the imaginative and affective sphere of the consumer: this is how emotional design comes about [5].

With the emergence of this new theoretical line in design culture, the big groups in the automotive, agri-food, and cosmetics industry have focused their research on the effects of sensory stimuli (i.e., noises, tastes, smells) on consumers. As a result, a paradigm shift has taken place: from a techno-centric design based on rationality and functionality to a holistic and anthropocentric design, which takes into account sensory experiences as well as the relationship between the objects and the user. This trend supports a new assessment of the space occupied by perceiving subjects as well as of the objects they interact with in the light of the aesthetics of atmospheres, as outlined by the German neo-phenomenologist Gernot Böhme [6, 7].

As it lays emphasis on sense perception (*aisthesis*), design culture has been influenced by those aestheticisation phenomena which, since the late twentieth century, have affected all areas of everyday life [8]. In the field of philosophical aesthetics, this issue has been first addressed by Wolfgang Welsch [9], however numerous studies have since then pointed out how the search for beauty, originality, and creativity has transferred the categories of art to everyday objects, and wrapped them up in a sort of "aesthetic ether" [10]. It is no coincidence that some scholars have resorted to the category of aura to indicate the halo of artistry that seems to emanate from certain objects turned into "cult goods" by their branding [11]. Paradoxically, whereas aura for Walter Benjamin was "the unique appearance of a distance, yet near it may be" [12] and was linked to the unrepeatability and authenticity of the work of art, aura is now attached to serial industrial products. Thanks to their brand, design objects acquire symbolic value and,

[1] Founder of Frog Design, Esslinger has collaborated with big international brands such as Sony, Apple, and Louis Vuitton. [4]

consequently, a higher economic value regardless of quality requirements. Although Jane Forsey [13] has remarked that aura is a "weak" category within the framework of design aesthetics, as it fails to explain the appreciation of objects in their ordinary use, there is no doubt that by now capitalism in Western societies has a strong aesthetic connotation and relies on the categories of art to seduce consumers and promote sales regardless of needs. In this scenario heavily featuring the "staging" of goods, design has had—and continues to have—a key role in the various areas of what Böhme calls "aesthetic economy" [14].

According to Lipovetsky and Serroy [15], four eras in the aestheticisation of the world can be distinguished; in each of these eras, the systems of production, distribution, and consumption have been variedly imbued and reshaped by operations of an aesthetic nature. In the most recent era, the "transaesthetic" one, the exposure value has replaced the functional and ritual values still featured in the previous eras. In this phase, the *homo aestheticus* has lost all cultural points of reference, and wanders around chasing the mirages of aesthetic consumerism, whose goal is not to satisfy desires but to always arouse new ones.

Marked by hyper-consumption, fast-fashion [16], excessive production of garbage, and highly polluting waste materials, this phase has had a major role in damaging the environment; consequently, the design must address the crucial issue of "planned obsolescence of products". Design culture today sees a new trend emerge, which—without giving up the aesthetic component (i.e., hedonism, playfulness, image, beauty, creativity)—has also embraced the ethical dimension. Mixed approaches have emerged, such as responsible consumption and sustainable luxury. The hybridisation of ethics and aesthetics, of art and ecology, is the defining feature of our time, what Lipovetsky and Serroy call new transaesthetic capitalism [15]. Products now embody values that go beyond the useful Vs beautiful dialectics, including respect for the biosphere and sustainable development [17]. At this turning point, new avenues are opening up for design culture, and new theoretical models need to be identified which can guide design to devise lifestyles in harmony with the world we inhabit.

2 Sustainable Design Between Ethics and Aesthetics

Nowadays design is facing a new cultural paradigm shift: environmental sustainability. The ecological question actually emerged with the oil crisis of the 1970s and 1980s. Bio-inspired design came about back then, and, based on the aesthetic category of mimesis [18], aimed not only to imitate the morphological aspects of nature, but also to emulate its operating processes and organisational and behavioural models [19]. However, environmental commitment was back then a niche and strongly ideological trend, linked to environmental activism, the political emergence of green movements, and the widespread opening of specific points of sale for organic and natural products—especially in the food and cosmetics sector. Differently, today the awareness of the depletion of natural resources and the risks caused by industrial pollution is more common and has led several people to change their lifestyles. As a result, people are often willing to spend more on sustainable, quality products that reconcile ethics and aesthetics. This is why, according to Lipovetsky and Serroy, in the new millennium the issue of environmental

sustainability has become a "big business" [15]. In fact, a new synergy between industry and ecology, as well as between market economy and sustainable development, has emerged. In these hybridisations, design plays a significant role, in that we expect the design of objects to take into account not only aesthetic and functional factors, but also their environmental impact. As a result, both mass-market and luxury companies openly boast their environmental commitment. A new "green" capitalism has then come about, which creates alliances between consumerist futility and planetary responsibility.

The sustainable aesthetics behind the new design orientations once again revolves around the materials. Modernism favoured solid and transparent materials, such as steel and glass, inspired by a minimalist aesthetic, which for Paul Scheerbart, one of the earliest theorists of *Glasarchitektur,* was also an expression of moral rigor [20]. In the second half of the twentieth century, design used indestructible, hygienic, and "disposable" plastic, in line with the fast-paced life of the economic-boom society.

Contemporary ecodesign uses instead natural fibers, recycles waste, exhibits imperfections, and therefore can find an interpretative key in the aesthetics of care, as outlined by the Japanese-American philosopher Yuriko Saito [21]. Along these lines, what has been thrown away or set aside by the consumer society undergoes creative rehabilitation and comes back to new life [22]. Within this framework, the imperfection of the products, instead of becoming waste, as in the traditional model of production, is enhanced and put on display, as in the Japanese art of *kintsugi* which, by gluing back pieces of pots and ceramic cups with a paste of gold powder, transforms fractures into ornament.

Along these lines design becomes the promoter of behavioural models which put care and respect before hedonism and appearance, guiding buyers towards responsible lifestyles or, as Vanessa Batut and Fred Causse argue [23], towards an "art of living" in which ethics and aesthetics find reconciliation. Among the many creations that embody this ecological philosophy, we could mention the *Spring Rain* lamp by the Japanese designer Nosinger, which is made of rice vermicelli; the *Ekobo* dinnerware in lacquered bamboo; the *Arka Ecopod* coffin in recycled and perishable—as its content—paper.

Research on materials has developed especially in the field of fashion, the sphere of the ephemeral and passing-by. As matter of fact, precisely to counteract the harmful consequences of fast-fashion, which creates new models every week, producing large amounts of waste, the fashion industry cannot avoid confronting the issue of environmental sustainability. This has led to the emergence of several companies that produce sustainable fabrics. Some examples can be found also in Italy. For instance, since 2014, Orange Fiber [24] has been producing fabrics from citrus by-products, that is, from juice production leftovers, which would be otherwise disposed at economic and environmental costs. By using technology to extract from citrus waste cellulose which is suitable for spinning, Orange Fiber is able to produce high-quality fabrics for the luxury fashion market.

Along the same lines, since 2016 Vegea Company [25] has been promoting the integration of chemistry and agriculture; the company name stands for the union of Veg (Vegan) and Gea (Mother Earth). Vegea transforms biomass and agro-industrial residues into new materials for fashion, furniture, packaging, and transport, and it has developed in particular an upcycling process for grape leftovers from wine production.

Other companies have patented materials made from the weaving of vegetable fibres (pineapple, mango, etc.) to replace the leather and avoid the pollution produced by chemical tanning [26]; the experimentation of fabrics derived from corn, soy, and milk—which produce the physiological well-being of those who wear them—has also been developed for the production of clothes and accessories in the field of women's, children's and even high fashion [27, 28]. These are soft fabrics that resemble silk and cashmere to the touch, but are more breathable, absorbent, and hypoallergenic. In particular, the milk yarn—produced from casein—is pleasant and comfortable on the skin. Dairy proteins have the characteristic of nourishing and hydrating and therefore this fabric turns out to be beneficial and stimulate blood circulation. It is no coincidence that these materials find great application in sports clothing and medical devices—such as sheaths, socks, leggings, etc.—that help microcirculation and drainage.

As a result, a new interpretation is provided of the dialectics between aesthetic and functional factors, inasmuch as beauty can no longer be separated from the comfort and physiological well-being of the person, nor can it go to the detriment of those moral values that define a behavioural habit. In light of this new lifestyle, designers and brands that resort to these sustainable fabrics have the opportunity to create objects and clothing items in which aesthetics is reconciled with the ethics of responsibility. Wearing a dress or an accessory is therefore not only a way to protect or beautify one's body, but it can also express a different relationship with the environment.

3 Frugality as an Aesthetic Category for Ecodesign

Although design is increasingly attentive to environmental issues, the theoretical debate is still ridden by ambiguities and uncertainties, and a conceptual framework suitable for the interpretation of eco-sustainable products is still missing. Design theorists are well aware that, in order to solve current environmental problems, it is not enough to develop clean technologies and sustainable processes and products, but it is necessary to impact lifestyles [29]. To this aim, the appeals coming from various quarters in favour of an economic model focused on reducing—i.e., reducing waste, consumerism, waste materials, and energy consumption—should not translate into a reduction in the symbolic value of goods; rather, their symbolic value needs to become richer and denser if it is to transform people's habits, directing them towards healthy models of life in harmony with nature. It is, therefore, necessary to identify aesthetic categories which are capable of promoting new lifestyles without diminishing the symbolic value of products.

In this respect, the category of frugality could produce the desired outcome. Already introduced in the architectural debate by the architect Paolo Soleri [30, 31], and later developed further by an international movement (*Manifesto for a Happy and Creative Frugality in the Architecture and Planning of Urban and Rural Areas* [32]), frugality stands for an architecture profitably integrating natural or recycled materials and counteracting the hyperconsumption and waste which characterises contemporary capitalist societies.

In the wake of Wright's organic architecture, Soleri supports the "lean alternative", which is not only a working method but also a lifestyle based on the principle of "more with less". According to Soleri, each of us, regardless of the amount of resources available, should use the bare minimum. It is not a question of reinterpreting Ludwig Mies

van der Rohe's rationalist motto "Less is More", but of establishing a new relationship between human beings and nature focused on leanness [33]. Soleri's "more with less" might recall Walter Benjamin's words. In *Experience and Poverty* (1933) Benjamin argues that poverty of experience could be an opportunity for renewal and a reason for building from scratch [34]. Upon closer inspection, Soleri's leanness seems to come close to the concept of frugality, that in classical culture expressed the golden middle way between too little and too much [35].

This category seems particularly suitable to interpret industrial production focused on natural fibres and agro-food waste, as the same etymology of the word (from the Latin *frux, frugis*) references fruits, the products of the earth. Moreover, as Roman civilisation believed frugality to be an "agrarian virtue", and connected it to the farmers' ability to know how to tell apart the essential and the superfluous, this notion can provide the "frugal" object or habit with a symbolic value aimed at promoting sustainable lifestyles. In time, the adjective frugal has in fact undergone a metaphorical spin and has been used to qualify a honest, upright, correct behaviour. When it comes to design such a moderation-based approach should not be understood as a renunciation of comfort and aesthetic aspects, but on the contrary as a critical space open to a positive and creative perspective, which symbolically reinterprets the ancient agrarian virtue of frugality. Today both the term frugality and probity have entered the sociological and anthropological debate to indicate a healthy way of life, capable of restoring a balanced relationship with nature. This new harmony between human beings and nature may lead to a condition of well-being—or even happiness [36]— what in the consumerist economic model was only a distant mirage.

Within this context, design can play a decisive role, inasmuch as it can transform an ideal of life into a socially structured and widespread practice. By designing objects made of recycled materials or natural fibres, design can offer "frugal alternatives", counteracting both the "conspicuous consumption" trend [37] typical of contemporary capitalist societies and its harmful impact on the environment. The goal of design, however, should not only be the production of objects, albeit made of recycled materials. In fact, it is not enough to give aesthetic value to waste, as no change is thus produced to the economic model; such a direction could even lead to increasing the production of waste to be recycled. Design should instead act on the symbolic value of goods, proposing lifestyles in which happiness is not connected to luxury but to frugality. Frugality is not, despite the general belief, a negative concept; it does not stand for decrease or renunciation, not even for simple life, as Emrys Weastacott points out [38]. Frugality expresses the pleasure (from the Latin verb *fruor* = to enjoy) that comes from a healthy and moderate lifestyle which, being fully satisfying, does not need the superfluous. By embracing such ecological aesthetics, design can mark out an important space for reflection but, above all, it can initiate creative paths leading to more widespread responsible lifestyles. These latter would ultimately call for a sustainable political and economic system that reconciles human beings with nature.

4 Conclusion

Design culture is nowadays facing the challenges of environmental sustainability. Although many solutions have already been tested in terms of technique and production processes, the theoretical debate still features ambiguities and the available interpretative models lack assertiveness. Design has walked past the traditional diatribe opposing beauty and utility, and new interpretative standpoints are required in order to include the ethics of responsibility and respect for the environment. In this regard, useful input can be provided by the aesthetics of care as aimed at positively assess the creative recovery of waste and the enhancement of imperfections. Furthermore, the aesthetic category of frugality provides a promising framework, inasmuch as, far from pointing to a decrease, it conveys the feeling of satisfaction produced by the right middle way between excess and deficiency. Originating in the agricultural milieu of Roman civilisation, this category does not only fit the production of objects with natural fibres and out of agro-food waste, but it is above all capable to guide design to devise healthy and sustainable lifestyles, ultimately restoring harmony with nature.

References

1. Bologna, F.: Dalle arti minori all'industrial design. Storia di un'ideologia. Laterza, Roma-Bari (1972)
2. Vitta, M.: Il progetto della bellezza. Il design fra arte e tecnica dal 1851 a oggi. Einaudi, Torino (2001)
3. Morrison, H.: Louis Sullivan Prophet of Modern Architecture, 2nd edn. Norton Co., New York (1952)
4. Edwards, O.: Form Follows Emotion. Forbes, 237–238 (11 December 1999). https://www.forbes.com/asap/1999/1112/237.html. Accessed 03 Nov 2023
5. Norman, D.A.: Emotional Design: Why We Love (or Hate) Everyday Things. Basic Books, New York (2005)
6. Böhme, G.: Atmosphäre. Essays zur neuen Ästhetik. Suhrkamp, Frankfurt am Main (1995)
7. Zumthor, P.: Atmospheres. Architectural Environments. Surrounding Objects, 5th edn. Birkhäuser Verlag, Basel (2006)
8. Di Stefano, E.: Iperestetica. Arte, natura, vita quotidiana e nuove tecnologie. Centro Internazionale Studi di Estetica, Palermo (2012)
9. Welsch, W.: Undoing Aesthetics. Sage, London (1997)
10. Michaud, Y.: L'art à l'état gazeux. Essai sur le triomphe de l'esthétique. Hachette, Paris (2004)
11. Francalanci, E.L.: Estetica degli oggetti. Il Mulino, Bologna (2006)
12. Benjamin, W.: The Work of Art in the Age of its Technological Reproducibility (Second Version). In: Selected Writings 1935–1938, Vol. 3, pp. 104–105. Transl. by Edmund Jephcott and Others. The Belknap Press of Harvard University Press, Cambridge (Mass.)-London (2002)
13. Forsey, J.: The Aesthetics of Design. Oxford University Press, Oxford (2013)
14. Böhme, G.: Critique of Aesthetic Capitalism. Mimesis International, Milan (2017)
15. Lipovetsky, G., Serroy, J.: L'esthétisation du monde. Vivre à l'âge du capitalisme artiste. Gallimard, Paris (2013)
16. Choi, T.-M. (ed.): Fast Fashion Systems: Theories and Applications. CRC Press, Boca Raton (2017)

17. Papanek, V.J.: The Green Imperative. Ecology and Ethics in Design and Architecture. Thames & Hudson, London (1995)
18. Halliwell, S.: The Aesthetics of Mimesis. Ancient Texts and Modern Problems. Princeton University Press, Princeton (2002)
19. Benyus, J.: Biomimicry: Innovation Inspired by Nature. Perennial, New York (1997)
20. Scheerbart, P.: Glass Architecture (1914). Sharp, D. (ed.), transl. by S. Palmer and J.C. Palmes. p. 8. Praeger, Westport, (Connecticut, USA) (1972)
21. Saito, Y.: Aesthetics of Care. Practice in Everyday Life. Bloomsbury, London (2022)
22. Dagognet, F.: Des détritus, des déchets, de l'abject. Une philosophie écologique. Institut Synthélabo pour le progrès de la connaissance, Paris (1998)
23. Batut, V., Causse, F.: Design responsable. Guide et inspirations pour un nouvel art de vivre. La Martinière, Paris (2010)
24. Orangefiber Homepage, https://orangefiber.it/it/
25. Vegea Homepage, https://www.vegeacompany.com/
26. Tessile Ecobio Homepage, https://www.tessileecobio.net/eng/
27. Priore, C.: Ricerca e innovazione per tessuti sostenibili e con effetti benefici. TechnoFashion, 54–55 (December 2020)
28. Emilio Ricci Homepage, http://www.emilioriccigroup.com
29. Manzini, E., Vezzoli, C.: Design for Environmental Sustainability. Springer Nature, Berlin (2008)
30. Soleri, P.: Arcology. The City in the Image of Man. MIT Pres, Cambridge, Mass (1970)
31. Soleri, P.: What if? Collected Writings 1986–2000. Berkeley Hills Books, Berkeley (2003)
32. Mouvement pour une Frugalité heureuse et créative Homepage, https://frugalite.org/en/manifesto-for-a-happy-frugality
33. Lima, A.I.: Soleri. Architettura come ecologia umana. L'opera completa. Jaca Book, Milan (2000)
34. Benjamin, W.: Experience and Poverty. In: Selected Writings 1927–1934, Vol. 2, pp. 731–736. Transl. by R. Livingstone and Others. Jennings, M.W., Eiland, H., Smith, G. (eds.). The Belknap Press of Harvard University Press, Cambridge (Mass.)-London (1999)
35. Di Stefano, E.: Frugality. An aesthetic category for a sustainable art of living. Contemporary Aesthetics (forthcoming 2024)
36. Rabi, P.: Vers une sobriété heureuse. Actes Sud, Paris (2010)
37. Veblen, T.: The Theory of the Leisure Class (1899). Oxford University Press, Oxford (2009)
38. Weastacott, E.: The Wisdom of Frugality. Why Less is More – More or Less. Princeton University Press, Princeton (New Jersey) and Oxford (2016)

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