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THE AESTHETIC VALUE - A GREEN ATTRIBUTE OF SUSTAINABLE PRODUCT DESIGN

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***Abstract:** In the present paper, we tried to create a philosophy and a methodology for the aesthetic dimensions of sustainable design. The arguments are: Aesthetics and sustainable design are not opposed to each other the beauty concept being inherent in the definition and principles of sustainability; There is the need for a clear set of principles for environmental conscious aesthetics; Aesthetic strategies in sustainable design have to evolved based on scientific method and the results validated through experience; Designers can promote sustainability by embracing the shape of things; Basic decisions about form, the visual and kinesthetic aspect of design, are essential for sustainability. The following paper offers a variety of ideas that together provide a more comprehensive approach to sustainable aesthetics, which we hope will expand the dialogue on how design can promote better products, and through extension, a better environment. Is the result of our attempt to provide a basis for including aesthetics in sustainable product development, bringing economic and social, moral and spiritual arguments.*

Key words: Aesthetics, Form, Sustainability, Sustainable design, Green Attributes, Product design

1. INTRODUCTION

Design practice began a reconsideration of its philosophy and final goals. Premise is the realization that products can be better for users at both qualitative and inspirational level. Designers are concerned with image and sustainable movement has a reputation of being entirely focused on substance rather than style. In terms of sustainable design, it mostly lacks aesthetic value, lack justified by the fact that sustainable design can be unattractive, attractiveness not being considered essential for sustainability. Owning the mark of sustainable design means a design equivalence perceived as unattractive, because beauty and sustainability are considered incompatible.

Sustainable products wears obligation to prove otherwise, showing deft balance between stunning aesthetics and sustainable design. There is a constant confrontation between aesthetics and sustainability, issues liable of improvement by accepting that if not beautiful, a product is not sustainable [1]. An exclusive

focus on environmental management is irresponsible some of the most unsightly

viewed products are bearing the label "eco". Special efforts must be made to design as sustainable as possible, also considering the aesthetic perspective. There is the possibility of cohabitation between art and performance. For most people there is a preconceived notion that design experience is limited to one functional or aesthetic satisfaction in relation to a product used. For contemporary designer, design is always a form of art, or risk a permutation in the register of engineering design.

2. CONTENT

2.1. Art and technology within design

Design is considered the result of interference between art and technology, giving the impression of an unconditioned totality, while being dependent on human skills and their purpose, closer to the type of machinist work, which it accentuates and exceeds towards originality and perfection. Suggestions on the industrial aesthetic object, its multilateral

description in point of phenomenological aspect and its spatial and temporal connections: a) The phenomenological description of industrial creation outside its relations of space / time; b) Following the way in which the industrial aesthetic object constitutes in space, namely the appearance of the main categories of form; c) Establishing the connections of the industrial aesthetic object in the social space, namely its links with other material products and influence on each individual; d) Presenting the life cycle of industrial object in time, how it works, lifetime, end of functional life, redesign or recycling, clearing and storing it in landfills.

2.2. Consumer satisfaction

Design includes: a) ensuring comfort (ergonomic considerations); b) beautifying the appearance of a thing (for aesthetic reasons); c) safety (safety measures); d) a long service life (durability); e) economic production cost (economic considerations); f) convenient packaging and distribution (distribution efficiency); g) fulfill a specific function or multiple functionality (multiple-functionality effectiveness); h) relationship with the environment (environmental considerations); i) induction of behavioral types (psychological reasons); j) satisfying human needs (human factor); k) mediate experiences (sensory considerations); l) dissemination of knowledge (cognitive considerations).

The design process is a deliberate visual creative process whose product must meet consumer demands. Good design means the best possible visual expression of the essence of a thing [2]. In view of streamlining the design, the designer has to find the best way in which this can be formally defined, manufactured, distributed, used, and connected to the environment. The vision of the designer must be embodying in a product both functional and aesthetic, reflecting and especially guiding taste and choice of the masses in contemporary context. Expression of good design is recognized globally, interpreted differently depending on local context and situation. Sustainable feature of encouraging diversification and respect local laws, expresses the normal quality. Most decisions are taken in a given cultural context and under the influence

of entourage. Both the cultural context in which we operate and entourage are determined by our experiences and observations on them, and education resulting from observation [3]. (Figure 1). There is interdependence between the development of cultural object (product) and the mode of existence, which leads to the final decision on the meaning of good design.

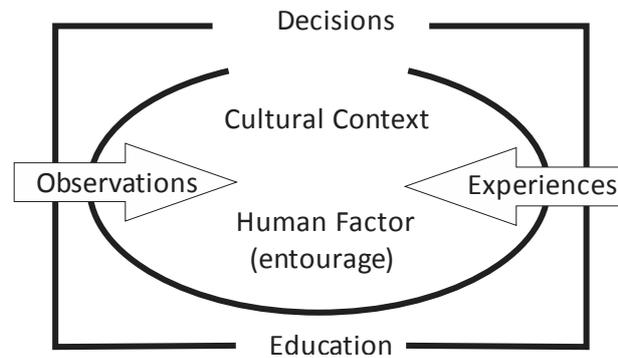


Figure 1. Factors that influence design decisions in the developing process

Central process is to harmonize each constituent forms of a given ensemble. Sustainable design is expanding the definition of good design to include a wider set of issues. Traditionally, design cost, schedule, functionality and aesthetics drove the decision-making process. The issues considered by sustainable designers are related to the quality of the product, the responsibility of choices, the effects of these design choices on the environment and human health [4].

2.3. Aesthetic durability

Aesthetics should not consider in a superficial way. Shape and appearance can directly affect the success and life extension of a product. Sustainability of a product is offered by incorporating aesthetic and emotional value (receptive stimuli) that induces attachment: a) Shape affect performance; b) Image affects durability depending almost entirely on visual and emotional appeal; c) Products must not fail to excite and challenge the imagination; d) Products must appeal to our senses and impulses; e) Durability depends on products ability to be desirable; f) Products must be designed to be adorable; g) An attractive design discourages abandonment and replacement

intention; h) If not inspiring is intended to be discarded.

There can be no professional caution when design projects materialized go waste. In this regard if not appealing, is not sustainable.

Aesthetic appeal is not a superficial concern, is an ecological imperative [1]. Further arguments: Users tend to form positive associations with things considered beautiful; emotional attachment occurs; there is a tendency to personalize favorite things; attractive products are considered as functioning better than the unsightly; preference is not generated by ecological considerations, but by subjective ones - impression on a deeper human level. If people do not want something, it will not last, no matter how economical it is.

2.4 Green techniques and environmental performance

Green techniques are divided into two categories: A) invisible green - issues such as embodied energy, renewable materials, chemical content, etc. - has become a more familiar agenda, because these factors are easier to regulate and measure. Many designers limited environmental performance only to such factors; B) visible green - shape, profile and image - can have a greater impact on both conservation and comfort. Profile of a product can have a huge effect on how a product works, being estimated that 90 percent of a product's environmental impact is determined in the early stages before decisions on technical details. In other words, basic decisions about form, the visual and kinesthetic aspect of design, are essential for sustainability [1]. Form is essential for environmental performance and human feedback. However, in general, the aesthetic design is not considered relevant for sustainable design, and, in fact, often sustainability is considered antithetical to beauty.

Aesthetics seen from the perspective of sustainable concept - Triple Bottom Line [1]:

1. Social - places rich in landscapes can encourage socialization, lowers crime rates, and promote well-being, and iconic design can enhance community identity.

2. Economic - A compelling single structure can increase property values and even improve the economy of a whole region.
3. Environmentally friendly - well-designed are well maintained and discourages abuse and attractive containers can reduce the rate of litter

2.4 The concept of beauty and order

Artificial products are manifestations of human qualification, thought and emotion, providing a kind of image of our inner being, thus imposing an attitude towards them.

Regarding the appearance of a product attention has been paid to the need to provide a harmonious effect of the whole. The aim was to achieve an order of proportional magnitude, proportions that seemed harmonious. If things look similar, either individually or collectively, some order must prevail in them. In principle, this order can be divided into four groups:

- 1) Operation and competence (functional objects) - Where the appearance of an object talks about how is to be used, will derive feelings associated with our own experience and knowledge. Functional objects can not be seen as abstract shapes, referring to their inherent function;
- 2) Form or formal agreement (geometric shapes) - In terms of geometrical shapes reaction is given by the abstract quality of geometric order;
- 3) Organic structure (organic bodies) - The hardest to order is the organic order that exists in many versions, and which is more perceptible than demonstrated. The nature is combined with an appropriate multiplicity of expressions.
- 4) Aesthetics (decorative objects) - Beauty is considered in relation to an implemented order, but is not necessarily the immediate result of the established order. Different types of orders entail different reactions.

The shapes can be designed as organic or geometric configurations. Generally speaking, natural forms are more easily adapted to organic configurations where abstract forms are more easily expressed as geometric configurations. Geometric configurations are created using straight lines and circles. The intrinsic geometry requires careful planning to

establish a regular pattern [2]. The safe feeling of balance between forms is based partly on experience and partly on purely abstract terms of visual character. Our experience may apply versions of balance in the interaction between forms, if desired results are static visual effect.

Order requirement may be taken as a call to "unite". This urge is so deeply ingrained that the eye will begin to do this by itself in an attempt to create some kind of order even in a situation of chaos. This can be seen in connection with the concept called "group." Through imagination eyes select those elements which are particularly evident, and draw invisible lines between them, turning them into groups - figures which the mind can hold, giving them a familiar character [5].

3. Form and content

Design as the product of technique aims towards achieving the organic harmony, justification, indispensability and perfection of nature. The design, unlike nature is the result of a final act. Design process a material, gives a certain organization to the material and to the conscience data of the designer and thereby obtain a product. During the act of incorporation of the product are introduced other values of human culture whose origin band is coming from inside of the designer, the context in which he was formed and evolved, its own way of experiencing and interpreting the world and life. One can say that, viewed in its totality, the design project is the product of a bent subsumption, various kinds of materials in the area of various values and property resulting in aesthetic sphere.

Aesthetic expressiveness, its spiritual depth is made of these various values interwoven in its unity. From the point of view of the theory of values, the design project therefore has a hierarchical structure. Hierarchical design project allows the analysis to isolate and treat separately either the content of values that drive the project or the action of that subsumption. Project content appears only in its formal unity (content - form). If we exclude those cases where or form or content have priority, the design project is subsuming various values into

the autotelic aesthetic - taking therefore one form or another. As a material that a designer uses decides the character of the whole, so does the nature of values that they subsume. The solidarity between form and content is so great that between one and the other is a continuous functional relationship. All these sensory or relational data together form the complete product appearance. Both the sensitive data of a project and their relations are closely related to the organic content values they manifest. Are fully realized only products that merges form and content of concrete intuition, allocating their symbolic value. Product design as a symbol involves a representation determined by the signifying item relations with the signified element – the relation between sign and significance [6].

3.1 Interdependence between form and material

Forms taken by design are determined by objective conditions thereof, for example the nature of the material which it employs, the values they express and in which genre. There is a special dialect for design, led by laws quite different from those of aesthetic emotion. Designer's concept is almost always related to the material, further on, work execution depend on its implied characteristics. What eventually results appear as obvious as the product of an action to restrain matter, by complying with the virtues sought or prohibitive. When conception and execution are not reported to the spirit of the material or the material is treated in another spirit, aesthetic unity of the impression is crushed from the outset. Analysis of the elements that complete the product design allows this theoretical distinction between values content and the relational sensitive appearance, namely shape and material of the ground. But only mutual adaptation of these elements inside the aesthetic unit reconstructs what we can call a product design.

The surface of any material object has a particular texture. Textural qualities are perceptible to the touch. A composition patterns can have the same effect as a color composition. In the same way, we can say that certain textures blends, as do certain colors. Our reaction to texture is rooted in practical

experience and instinct. The surfaces emit signals that are attached to the eye, which transmits the spinal cord and nervous system to decipher. We can see if a material is soft or hard, brittle or harsh, cold or hot, and whether we like it or not. We have become accustomed that there are more textural qualities in the same object [5].

4. Relationship between values and goods

In the case of science and morality the good is only the foundation on which we can ascend to the value, so the values are in a ratio of

"transcendence" to the goods, unlike aesthetic value melted in the good [6]. Relationship between value and good is one of immanence.

This twofold relation possible between values and goods is full of consequences. Theoretical, moral and religious goods (outsiders) adhering to their values, not doing the same body with them, are replaceable, fungible. Because value is free and transcendent, the good that represents it is indifferent and able to be replaced [6].

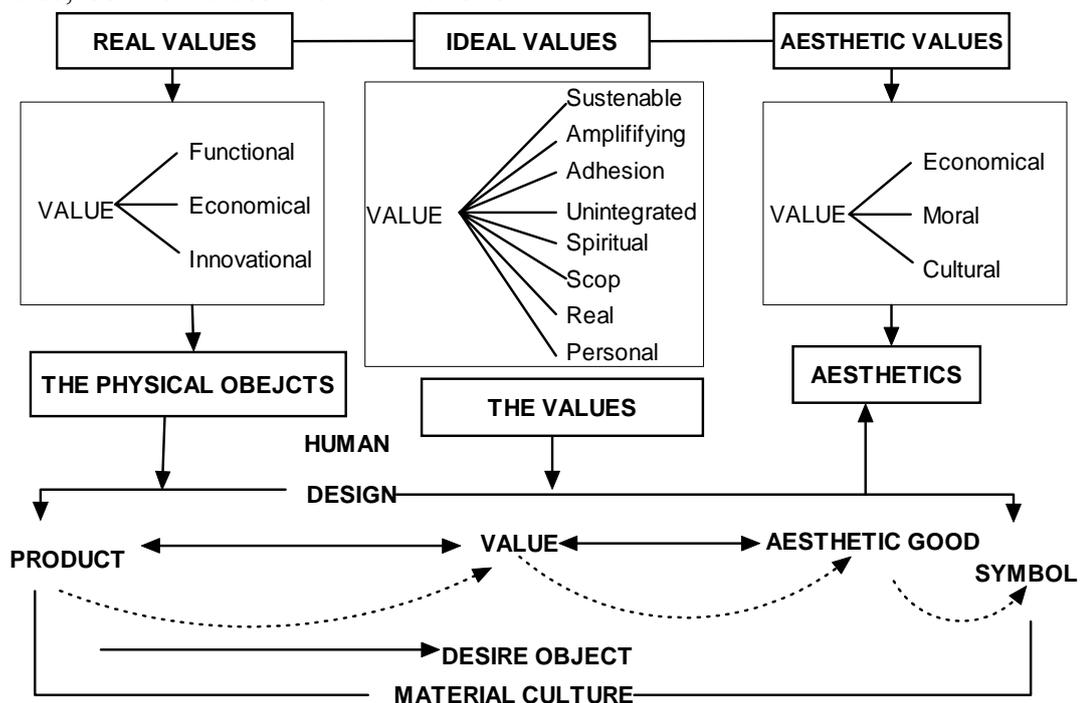


Figure 2. The position of aesthetic value within sustainable design

Vianu proposes the development of a system for determining the structure of each value. Aesthetic value is one: real and personal, spiritual, purpose, not integrated, adherent, amplifying [7]. Inside the design field, an axiological scheme must be established considering values: 1) economic value, 2) functional value, 3) value through innovation, 4) aesthetic value, 5) moral value, 8) spiritual value, industrial product [Figure 2].

Aesthetic attitude is perceived as a particular optical as compared to the general, that is open to all values and goods, a central perspective rather than eccentric, an axiological perspective on the whole existence [6]. Aesthetic attitude in design, does not remove the moral or technical,

but associates the various values within a psychic structure becoming a way of interpreting reality. There is a sense of solidarity between beauty and reality as that between attribute and substance. As we cannot

distinguish the substance of its attributive forms, so it is not possible to record the beauty apart from that reality that supports it [6].

4.1 The aesthetic value of unity

Industrial product design aesthetic is the result of the designer's aesthetic concept on world surrounding, on ambient. An industrial product aesthetic is a harmonious, perfectly textured form, a system as a whole and in its parts - nothing can be added or taken away.

Perfection relates to harmony, ideal harmony being the guarantee of consistent beauty. Beauty is with functional, economic, social, moral and spiritual value, one of the values of sustainable design. In design, it reflects in a certain tangible good that is product design, described in the particular characteristics of its structure.

Beauty, that is quality appearing by subordination of an object in the field of aesthetic value, is the product of human intervention. This intervention is to coordinate multiple elements inside an organic unity, so that aesthetic value to be understood as unity value [8]. Aesthetic value includes according to Münsterberg both values of life (harmony, love, happiness) and those obtained by means of creation. Münsterberg distinguish, however, between the former, to which reserve the name of *unit values*, and the latter for which uses the name of *beauty values*. It may be noted that beauty as product is a value of unit. What we appreciate in a design object is largely unity. Based on what Münsterberg called unit values, we can say that they are nothing but beauty values achieved in the field of creation and morality [8]. Objects do not ever present themselves into units, in harmonious combinations, except those from nature. The unit is a product of man. But against the aesthetic arrangement within actual and existential values it oppose the fact that it is never attributed to things, but only their phenomena, the way in which they appear to our consciousness. What participate to aesthetic value are not things or actions like practical experience data, but their appearance [6].

Not the object itself is beautiful, but only how it appears, namely that ideal reality in correlation with consciousness to which we could not assume any existence outside of consciousness [6].

4.2 Views on the beautiful and the ugly

It is doubtful determining exactly what makes a product to be beautiful or ugly.

Table 1

Beauty - Relative
<ul style="list-style-type: none"> • That which helps confirming our general ideas about the right and proper

<ul style="list-style-type: none"> • Things that seem to predict future improvements • That which increases self-esteem and well-being • What is made to be beautiful, well-done or, suitable for human beings • Will be apparent through the fact that everything is in order and done properly • From all points of view and intentions are not observable due to their naturalness • They do not seem eager to attract attention – the so called anonymous beauty • That which has traditional foundation and no aims at promoting personality
Beauty- Absolute
<ul style="list-style-type: none"> • What has been done with care both intellectually and technical • Appropriate to the nature of activity and place in the general context • Requires order, be it technical, practical, formal or organic • Is in accordance with sustainability norms

Table 2

Ugly- Relative
<ul style="list-style-type: none"> • Represents an opinion, an attitude towards life, which for some reason we desire to dissociate from • Shows new forms of expression that may be considered disturbing, because they are misunderstood, and because they represent a threat to the old rules
Ugly- Absolute
<ul style="list-style-type: none"> • Generates a natural feeling of dissatisfaction • Is a waste and a lower quality • Is trying to look better that it actually is • That which appears discordant • Something worn and broken • Is testament to the lack of consideration on the part of the designer or owner • It is obviously unnecessary for its

purpose

- Was made with less care and thought than it would indicate the nature of the activity, available skills and resources involved
- Lack in environmental, social, economical considerations

Listing criteria for nomination of what is beautiful is probably easier by eliminating what is usually called ugly.

Beautiful or ugly qualifier can be made only by comparing the performance achieved under similar conditions and with similar purposes. According to Brochmann [5] there are two kinds of ugliness respectively of beauty that looked absolutely or relatively [see table 1 and table 2]. It may seem that everything is relative, but some products will always be considered more valid than others established by a common assessment of beauty.

In assessing product's quality should be considered: a) Quality - that is if they are skillfully made of suitable material, durable; b) Functionality - the degree of inherent functionality within an object, from a practical standpoint: if the function is simple or complex, and whether it is desirable to bring to light new idea; c) Physical and emotional attitude - things may seem static, radiate peace and harmony, or express movement may seem interesting dynamic to the point of being aggressive. Things can be made to seem heavy, hard and severe or soft, bright, friendly and cheerful; d) Qualities considered in a physical and abstract plan- qualities may arise directly out of shape or may acquire meaning by provoking viewer's memory; e) Influencing user behavior - items may underpin important parts of morality and life attitudes, temperament and emotional life, while acting as manifestations of a standard of living and understanding inherited or acquired.

In many cases genuine natural materials, supports wear more worthy, long-term use somehow elevating them. Products that do not perform as promised are below. They make user feel cheated in its expectations. Products that claim to be what they are not, should be placed in this category, even when their

technical quality is the same. The user wants to know what he sees and uses. Things that make us feel insecure, are ugly. Our views about the ugly and beautiful, can also be based on a different kind of morality, namely, our idea of what is regarded as existential value and how it is expressed in one's attitude towards it [5].

4.3 Beauty – an additional value

Our opinion regarding the good and bad aspects of things depend on the circumstances and our attitude to life. This means that our opinions are influenced by the environment. One of the most interesting aspects of people's attitudes towards ugly and beauty is related to the extent to which differences are tolerated in its forms of expression, in different circumstances [5]. In order to be accepted industrial products must satisfactorily answer that necessity they are designed to meet when viewed against the backdrop of practical possibilities.

There has always been a connection between the position of an object and the desire to give a more or less ornamental aspect. That which is utilitarian is always associated with a corresponding prosaic aspect while additional values are retained for things that are ceremonial and social [5]. People no longer require functional objects to be decorate pretentious, but rather considerate tools are good enough to serve the purpose. Such additions may result from the manner of assemblage. Simple, functional, accessible objects, are things that people with higher social ambitions consider beneath their dignity because they equate what is cheap to what is degrading and therefore can not appreciate their appearance. Conventional considerations, especially in relation to what is seen as symbol of social position, are among the biggest obstacles in the way of impartial appreciation of beauty [5].

The idea of what looks beautiful is linked to a preference for a certain degree of uniqueness. A popular image lowers its attraction - an ubiquitous object should be unique, otherwise it will induce satiety. Our entire high standard of living is based on mass industrial production, in other words, we are surrounded by standardized things. These things should have aesthetic value,

but their overwhelming amount requires them to present a discrete, anonymous form. Far from being a matter of indifference, this requirement requires great skill and humility on the part of the designer [5].

5. CONCLUSION

Being sustainable is equivalent to an absence of aesthetics. To look green is to show the unsightly green, reason why it is necessary to conceal such quality by styling it. The sustainable concept claimed extending the scope of contemporary design by adding ethical value and aesthetics; in fact aesthetics has been replaced with ethics. Now that the ethical value is accepted and understood, its aesthetic value requires increased attention because only by embracing both values design will not fail to achieve its true sustainable potential. Sustainable design must offer more to satisfy the senses it must demonstrate a aesthetic touch. Measures to environmental performance exclude considerations based on image, profile, and form. Sustainable design may be unattractive because attractiveness is not considered essential for sustainability. With the rise in popularity of green agenda, the designers realized that virtuous goods should not amount to an indifferent design. Sustainable projects should make a statement about how design can bring in same performance and sustainability

plan without the intervention of aesthetic compromise. There was not encouraged an approach to define a personal style that facilitate recognition and popularization of sustainable design. A new aesthetic language is encouraged that is destined to become iconic.

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Valoarea estetică – un atribut verde al designului sustenabil de produs

Rezumat: În lucrarea de față autorii au încercat să creeze o filozofie și o metodologie pentru dimensiunile estetice proprii proiectării sustenabile. Argumentele sunt: Estetica și designul sustenabil nu sunt opuse una alteia, conceptul de frumusețe fiind inerent în definiția și principiile sustenabilității; Există nevoia unui set clar de principii pentru estetica durabilă și cu conștiința mediului; Strategiile estetice în proiectarea sustenabilă trebuie să evolueze pe baza unei metode științifice și rezultatele validate prin experiență; Designerii pot promova sustenabilitatea prin intermediul formei lucrurilor; Deciziile fundamentale privind forma, aspectul vizual și haptice al proiectului de design, sunt esențiale pentru sustenabilitate. Următoarele pagini expun o varietate de idei, care împreună oferă o abordare mai cuprinzătoare a esteticii sustenabile, care sper că va extinde dialogul cu privire la modul în care designul poate promova produse mai bune, și, prin extensie, un mediu mai bun. Este rezultatul încercării mele de a oferi o bază pentru includerea esteticii în dezvoltarea de produs sustenabilă, aducând argumente economice și sociale, morale și spirituale.

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