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Fashion design: the project of the intangible

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Abstract

This study is part of the surveys conducted in the doctoral research about the methodological tools of fashion design, which focuses in the techniques and methods for the elaboration of visual support of the semantic aspects of clothing products in the educational context. In assessing the design process in this field, it was analyzed the interaction system between the fashion clothing product and its users. An exploratory research was conducted, including literature review and documentary analysis, through which we identified the main requirements of interaction between product and user. The criteria identified as essential for examining the body-artifact-environmental system are distributed in projective parameters of physical adaptation, expression and representation. For these reasons, this article aims to relate concepts drawn from theories of human factors, hedonomics, communication and emotional design, to demonstrate then that fashion clothing is a dynamic and interactive space that mediates the relationship with the environment. Therefore, this text addresses clothing as an amplified interactive space, envisioning exchanges that perform with the body, the surrounding space (physical and cultural) and time. By associating the literature and the documentary analysis of academic practices, it was possible to highlight the key indicators to understand the attributes that guide the development of wearable interfaces. Among these attributes, the communicative potential receives greater emphasis, as these artifacts are converted into individual vehicles of expression and collective identification, becoming instruments of symbolic constructions and mobile records of the space-time relations incorporated in the material culture. The results reinforces the hypothesis of a methodological approach to fashion design in which the visual thinking and systemic reasoning is valued, in order to integrate the socio-cultural codes to the usability requirements of the products, allowing the aesthetic-symbolic factors to create identification links and build the affective experience.

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1. Introduction

The contemporary socio-cultural changes generated a multifaceted reality, hybrid and continuous movement. In this context, the social order is fragmented, producing a mutant environment, regulated by a complex and dynamic logic, in which the needs and expectations are diverse and the relations, transitional.

The setting, marked by successive shifts of time and space, puts individuals in touch with systems of meaning and cultural representation that multiply, confronting a number of possible identities.

In line with this, Cardoso [1] reported that human identity "is in constant flux and subject to transformation, equivalent to a sum of experiences, multiplied by the inclinations and divided by memories. When you think that the individual exists, throughout his life, surrounded by statements and information, products and brands, design and project, you begin to get a sense of the multiple ways in which memory and identity can interact to shape our view of the material world and condition our relationship with the artefacts that surround us."

Thus, everyday life is experienced under the mediation of many man-made objects. In the course of the day people use a variety of artefacts in order to interact with the environment, promoting the formation of multiple values on the artefact in use, which extend from its operation to its emotional appeal.

The user-artefact-environment system can meet the physical, emotional, intellectual and cultural needs. However, Moraes [2] points out to the rupture of the hierarchy of human needs identified by the psychologist Abraham Maslow pyramid. The author argues that the current context brought to the primary levels the satisfaction of needs that relate to self-esteem and personal fulfilment, marking a significant relevance of subjective values in the relations of use and consumption of artefacts. Thus, such values become fundamental requirements to the conception of products and services.

Considering that subjective values may be subject to material expression, it is presumed that sensory experience with the artefact produces meanings. Under this reasoning, the semantics of fashion clothing can be expressed through the orderly integration of elements such as shape, colour and texture, establishing a system of signs. Therefore it is reasonable to think that there is a syntax thinking in order to relate these elements in recognizable codes by its users giving shape to the content of the information. For this purpose, it is indispensable to distance from the purely linear technical scope in the conduction of design projects, giving space to the interactions with areas that consider the psychological and aesthetic values.

Based on the foregoing, it is evident that investigating the design process requires a flexible approach and a systemic conduction, especially if the focus is on fashion design, in which the designed artefacts are clearly a reflection of the immediate socio-cultural transformations, immersed in a system governed by variability and transience. In this sense, this study approaches the interaction system built between fashion apparel and its users, identifying the types of benefits originated by the user experience. Under these provisions, an exploratory study was conducted to examine the body-clothing-environment system, relating concepts drawn from theories about human factors, hedonomics, communication and emotional design. Therefore, it is demonstrated that fashion clothing is a dynamic and interactive space, where the formal configuration mediates the relationship with the environment, placing the garment as an active interface between body and inhabited space where affect sensorial experiences, that produce meanings, may trigger affective benefits to the human daily life.

2. Theoretical bases

In this explanation, the point of interest is to emphasize the flux of interactions occurred in the user –clothing system of fashion-environment, which enables personal, interpersonal experiences as well as cultural transferences. Such processes are closely linked to the teaching of project in fashion design, which is the focus of the doctoral research that includes this study. In order to investigate the project conduct in this field, it was imperative to understand the user experience of this artefact, examining the interface that builds with the user and the context in which it appears, as described below.

The set of artefacts produced and used by human social groups over time is qualified as a "material culture". However, the function of these artefacts goes beyond the requirements of adaptation to the physical environment; it involves symbolic, psychological and emotional factors that, in turn, hold no fixed meanings. In this sense, Ono [3] states that for every society, the objects take on particular meanings, reflecting their values and cultural references.

Upon this platform of thought, it appears that the universe of everyday objects offers numerous possibilities to experience the surroundings, shaping the space and being an instrument of social exchanges.

Note that, in the information age, the relationships with things can be just vehicles for non things; in experience with an artefact, what it says is more valuable than what it does, as explained by Flusser [4]. The human existential interest dislocates increasingly to the consumption information. Therefore, when entering the fashion spheres, we see the relevance of intangible consumption, because in this context the symbolic representations of the artefact often take precedence over their practical utility. As a means of physical adaptation, expression and representation, clothing is converted into an instrument of construction of meaning and a mobile registration of the relations between time and space incorporated into the material culture.

Thus, in the cultural sphere, a fashion clothing artefact is a way of articulated expression that manifests a chain of statements binding to the body discourse which wears it and simultaneously it is linked to a larger discourse, the fashion itself, as confirmed by Castilho [5]. On the other hand, analyzing the physical interaction between user and clothing, Montemezzo and Santos [6] argue that the garment can be considered as a "Global Primary Interface", once that as an extension of the body, it is present in the majority of daily life, it joins the human physical / material and interacts with the organism in a general and direct manner, intervening in the realization of human actions and the body's relationship with any spaces.

In agreement to this, Saltzman [7] describes that the condition of human existence, at distinct levels, is conditioned by the circulation in the numerous spaces that succeed in integrating the environment, organizing themselves in concentric contexts where the presence and relationship with the environment are filtered by the characteristics of the clothing. In this line of thought, it is clear the intimate and symbiotic relationship that clothing can make to the body that carries it. Therefore, in terms of "habitat", an outfit - or body accessory - is the closest and immediate to the body between the inhabited spaces. Thus, the garment can be understood as the first body habitat, since it is the first space it occupies.

Saltzman [7] clarifies this thought in defining spatiality as inner and external, public and private spaces: the textile surface is expressed for the body and the surroundings. To the outside it defines shape, volume and silhouette, transforming the anatomy and promoting interfaces within the surrounding space, and to the inside, it sets the habitat, a private space of sensations and perceptions that comes before the relationship with other spaces and other bodies. Therefore, to investigate the design process of such artefacts it is essential to observe this system of interactions and understand that space is the planning object of fashion design, more properly a space system that connects body space, clothing space and surrounding space.

Based on the foregoing, it is consistent to think that this system establishes close connections which are full of meaning, in which the generated links situate clothing as a second skin, creating a succession of mutual influences, where the clothing is integrated to the body and is involved in daily experiences as well as in the articulation of human relationship with time and space, becoming a means of social interaction. Thus, the garment fits the morphological structure of the body, being modified by it, as the body is covered with colours, shapes and textures that change it, building messages and orchestrating semantic relations with the space around it. In this system, body and artefact are interlaced and coupled to other spaces where other dressed bodies transit and integrate (even though temporarily), creating a communication network which manifests a continuous and reciprocal movement of transformation of the social scene.

The world experienced under these artefacts-messages, which reveal its contents (information) through its formal setting, is not something unknown to designers who design fashion clothing, as the symbolic contribution is clearly exalted in relation to the body that wears it, as well as its shape is also understood as an interactive space of meanings. From this guideline, the planning of these artefacts should manage the integration of their material and informational dimensions, expanding the parameters for ergonomic analyses in fashion design.

It is important to reinforce that the perceived value of a product / artefact is closely linked to the subjective evaluation of their performance in its use relationship, in other words, it will be considered good to the point it establishes some sense in the daily life of its user. For this purpose, it is assumed that the messages conveyed by their shape can generate perceptions of a diverse nature, evidence about the operation, use, cultural references, etc. Such perceptions, when superimposed, are assimilated and interpreted, deriving decodes that compose the symbolic

content of the artefact. Therefore, a product configuration project integrates the practical and aesthetic functions to build its symbolic function.

This link between configuration and significance is supported by Lobach [8], when he analyses the functions of a design product, he classifies it into practical, aesthetic and symbolic. The author considers practical functions all the relationships between a product and its users that are in the organic-body level, in other words, the physiological aspects of use. They fulfil the fundamental condition for the survival of man and maintenance of its physical health. On the other hand, the aesthetic function meets the psychological needs in terms of sensory processes, acting through the aesthetic elements of the product appearances. Finally, the symbolic function is determined by all the spiritual, psychological and social aspects of use, when man's spirituality is stimulated by the perception of this object, by establishing connections with its previous experiences and sensations.

Thus, the symbolic function derives from the aesthetic aspects of the product, manifesting itself through elements such as shape, colour, surface treatment, etc., which may cause the association of ideas with other aspects of life, promoting chaining subjective stimuli. On the same path, Cardoso [1] adds that the symbolic concepts attributed to an object in reality are not fixed qualities nor directly derived from its physical configuration, but a cultural repertoire and assumptions and by consequence, the meaning is constructed by the integration of human perception of the artefact with time, space, culture and memory.

By this line of reasoning, the production of meaning in the field of fashion is structured mainly on nonverbal messages, in the domain of visual. The fluency of visual stimuli caused by aesthetic and formal elements of the artefacts transmits information and transfers concepts. Through the fabric surfaces, arranged in dynamic volumes, which become simultaneous oscillations to the movement of the body in space, there are sensory experiences that boost the user perception and connect to their repertoire of social and cultural experiences.

Upon an ergonomic platform, one can infer then that the products studied here establish a wearable interface, full of subjective interactions that can establish emotional bonds, which result from the sensory experience, filtered by the user cognitive repertoire, marked out by the socio-cultural context. Therefore, it is reasonable to affirm that design clothing is to plan a spatial system of interactions that relies especially in the social use. Therefore, by defining which requirements the project must meet is important to consider the user's perceptions in a holistic approach, in which the concept of ergonomics is amplified, ranging from the physical adaptations to the affective benefits.

Jordan [9] highlights the importance of pleasure in the creation and use of artefacts. His studies define pleasure from emotional, hedonic and practical benefits generated in the interaction with everyday systems. In this approach, the focus of the project is to expand the user's satisfaction. To accomplish this aim, it is essential to add pleasant experiences to the usability. However, the pleasantness is not simply a property of the product, but the result of this interaction with its user.

Mont'Alvão [10] reinforces that the user is focus of ergonomics in a design project. For this reason, the aspects of effectiveness, efficiency and satisfaction, that define usability, should also cover the emotional benefits. In this way, the study of the interaction system will expand and the designed artefacts will be attractive, friendly and pleasant. The author argues that, under the perspective of Hedonomics, after meeting the functionality and usability questions, the project aims to achieve the satisfaction of psychological and sociological needs of the user, making the user experience pleasurable. Thus, the affective value is inherent in the design context and becomes fundamental to consider it as a criterion of project delimitation within the ergonomics of its conception.

Based on the theory of pleasures by the anthropologist Lionel Tiger, Jordan [9] distributes the human pleasure in four levels: A) physiological: derivative from the five human senses (sight, touch, etc.); B) Social: associated with interpersonal relationships, identity and social status (favoured by products and services that promote social interaction); C) Psychological: linked to emotional and cognitive reactions of people (associated with emotional reactions arising from the use of products); D) ideological: on the repertoire of people's values, including tastes and beliefs (refers to the identification with the appearance of artefacts and the values they represent).

To give substance to the previous thought it is relevant to rescue the research by Norman [11], that identify the brain processing levels of cognitive and emotional systems, defining three levels of design: visceral, behavioural and reflective. The first level would be centred on the appearance of the object, causing an immediate and purely emotional reaction, which can make a person say "I want", even before knowing what practical use they will make of the product. At the behavioural level the focus is "What does it do?", thus the effectiveness in achieving the basic

function (or practice) is what matters. Finally, the last level and also the most complex, involves the sense that an object produces in the relationship of use. It relates to the messages it transmits and therefore it is intrinsically linked to culture and communication codes that permeate the user universe. It concerns the self-image and the messages that a product emits. Hence appreciated the importance of aesthetic and symbolic questions in the fashion apparel use cycle, it is natural to think that this type of product represents very well the visceral level and the reflective. Even though these levels do not act alone, by understanding of their processing it is possible to note the importance of clothing as a space of expression, perception and representation.

The above considerations confirm that the interaction with fashion clothing indicates an experience that builds close ties and produces meanings. Therefore, it is essential that the project conduct in this area may be guided by the knowledge that the designed shape is, first of all, the interface for the construction of meaning by taking the surfaces, volumes, colours and textures as active elements in this affective mediation.

3. Methodological approach

This study integrates to the surveys performed in the course of a doctoral research on the methodological tools of fashion design. The research focuses on techniques and methods that are intended to the conception of a visual support for the semantic aspects of fashion clothing products in an educational scope. In assessing the project process in this field, it was vital to analyze the interaction system built between this type of artefact and its users.

In order to identify the main points to the project delimitation, an exploratory research was performed, including literature review and documentary research. Such strategies were integrated in the following conduct:

- a) From the theoretical bases, it was delimited functionality indicators (in connection to questions on materials and utility), usability (referring to the questions of comfort, safety and maintenance) and pleasure (in relation to language questions and symbolic representation), for the classification of the documentation and content;
- b) The documental study set its analysis on the records of projective practices in the Course of Fashion Design at the State University of Londrina, where this author worked as a teacher in the Project Methodology discipline. For this purpose, the records made by the students were examined and organized into synthesis files, a document commonly used in the course to synthesize the design boundaries and facilitate interdisciplinary;
- c) Based on the indicators, the "needs to be met" topic was analysed in these synthesis files. This allowed the classification of records and the identification of the most mentioned attributes as projective parameters;
- d) The main guidelines were investigated to approach the body-clothing system of fashion-environment.

The methodological approach was qualitative, since the doctoral research already had participant observation notes in class, made by this researcher. These records provided the basis for choice of strategies of this study, assisting the definition of focus and objectivity of the analysis.

4. Results and discussion

By associating the theoretical basis to the analysis of projective boundaries in project education, it was found that the guidelines for the interface with fashion artefacts (products or services) convey to the affective sensory interaction. Possibly this occurs because within fashion It is often the symbolic value of clothing that overrides the basic utility value of protecting the body, once such artefacts become obsolete not by their physical degeneration, but before that because of the degradation of their meanings in the social environment in which it is inserted.

The analysis of academic documents (synthesis files) showed that the projective context includes attributes that are distributed in questions of physical adaptation, individual expression and, especially, social representation. These results show that the experience of use extends to the four levels of pleasure highlighted by Jordan classification [9], and confirm that the attributes required as design parameters focus on generating cognitive experiences.

The study also pointed out that although the importance of the intangible factor may be striking and sometimes even being the main focus of the project, the parameters of comfort, safety and bodily protection were mentioned in

all the documents. In view of the direct and general physical interaction that clothing establishes with the user's body, this led to deduce that the essential ergonomic principles were considered obligatory in the experimentation of the product. Equally, the parameters relative to the maintenance and properties of the materials involved express the concern about the artefact in previous situations as well as in post-use. These findings corroborate the extent of the user-clothing of the design – environment system.

To enable the perception of the connection between the listed parameters and ergonomic indicators, the key parameters were classified and organized in Figure 1.

In the previous diagram, the parameters listed in the synthesis-files were ordered to demonstrate the flow of experiences that can stimulate, revealing that the usability parameters are closely linked to those of pleasure. The finding seems to confirm that the sensorial experiences play an important role in the exchange of cognitive experiences and the personal and collective universe. Therefore, the aesthetic and symbolic aspects are paramount in a fashion design project, once that the aesthetic quality of the artefact is associated with pleasure that evokes its use and the meanings it produces.

To clarify this point, it is emphasized that in the case of clothing, the functionality system is linked to the adaptation of the body to the environment, giving it protection and especially a favourable look for the acceptance and integration within the socio cultural context. Thus, the fashion clothing always brings an intrinsic affective role, social use purpose, for which the sensory experience is its vehicle. Therefore, when planning this interface, it is imperative to take into account that the user's body experience unifies perceptions in physical, psychological and social levels, including the private and public space.

Press and Cooper [12] confirm that, in contemporary societies, the role of the designer is to understand design as a process of decisions that generates meaningful experiences for its users, creating a connection to everyday life. These authors advocate in favour of the relationship of use as a process of tangible and intangible experiences (sensations, feelings, desires, aspirations and social relations) that arise from the interface with the projected surroundings. This reasoning sanctions the role of clothing as a mediator of a nonverbal discourse that is integrated with the messages from the environment where it operates, promoting a process of identification and transfer of meanings.

Key parameters listed	Experience Category	Indicators
Security (materials and accessories)	EXTRA BODY EXPERIENCE	FUNCTIONALITY
Weight and resistance (materials)		
Maintenance facility		
Body protection	SENSORIAL EXPERIENCE Physical adaptation Wearability	USABILITY
Movement freedom		
Tactile comfort		
Thermal comfort		
Handling facility		
Practicality	COGNITIVE EXPERIENCE Individual expression Social representation	PLEASURE
Attractiveness		
Versatility		
Personal/social identification		
Symbolism		

Fig. 1. Interaction levels in experience of use in Fashion design. Source: elaborated by the authors based on the research conducted.

5. Final remarks

The meanings promoted by the experience with an object are conditioned by personal and collective repertoire of the user, involving previous experiences, cultural context and individual perceptive aptitudes. Thus, the construction of meanings originates in the sensory experience of the artefact, which in the case of clothing this occurs by the visual and tactile channels. However, fashion involves an elaborated dynamic of consumption. It is observed that the experience with the product- artefact may start before the physical presence of the object, through the wide availability of fashion information. Thus, the process of identification between user and artefact certainly begins with the visual perception.

From this perspective, fashion clothing is an important vehicle of communication processes, especially for non-verbal channel. This leads to the context of visual communication, understood as a process of interaction between non-linguistic signs, specifically those that are pronounced in the plastic composition of the visual form of artefacts. This type of communication must be considered as one of the inherent requirements in the design process, which means to plan how best to visually convey a certain content.

However, it is emphasized that cultural elements are the determiners of the possible meanings to the various visual forms of communication. As an example, it would be a mistake to believe that a colour can have a connate meaning, that its material aspect and content maintain a unique bond, a non-arbitrary relationship. The meanings are generated by the association of perception with the repertoire constructed by culture, spatial experiences and memory. Therefore, it is impractical to establish some degree of communication in any universe without the identification and knowledge of the organised cultural representation of signs.

Therefore, to make a project in fashion clothing means to plan an interface in which matter is manipulated into formal structures containing the human body space, mediating a continuous and fluid interaction with the living space, people and time. The essence of the project is to facilitate the experience of sensory and cognitive stimuli, through the syntax of formal elements, in order to integrate the flow of current codes in the user context. Thus, the artefact can be recognized as a sign, assimilated and finally absorbed as symbolic value, providing emotional benefits.

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