

ANALYSIS OF MEXICAN IDENTITY IN FURNITURE DESIGN IN MEXICO

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— Abstract—

The present document analyses the Mexican identity in furniture design. In this explorative investigation the authors did a referential framework of Mexican identity in furniture design, using a semiotic point of view. The main purpose of this research is to distinguish the features of the Mexican culture and to analyze their application as identity in furniture design in Mexico. The image of the Mexican furniture presents reminiscences in the decorative part and volumes derived from the Spanish furniture that are identified through the semiotics of the furniture image.

Keywords

Mexican Identity; Mexican furniture; semiotics; image semiotic; furniture.

Industrial design as a discipline is a creative activity that has the purpose of determining the formal qualities of objects, produced in mass (Tovey, 1997). Not only delimits the external characteristics of an object, but also is responsible for delimiting the structural and functional relationships between a user and a product (Maldonado, 1963).

The visual appearance of the products is crucial in determining consumer response and product success. Clients value these products mainly considering their elegance, functionality and social meaning, as perceived attributes and frequently associated with satisfying the customer's wishes, rather than their needs (Crilly et al, 2004). In this way, product design considers that customer-product relationships are manifested in the understanding of cultural identity through symbolic and semantic aspects (Padilla, 2014).

In design, the use of culture as an identity enriches the interaction between the product and the user (Chen, 2011). Culture is defined as "the complex that includes knowledge, beliefs, art, morals, law, customs and any other habits or abilities acquired by man as a member of society" (Tylor, 2016). While cultural identity can be defined as the set of characteristics, and expressions of a social group in a given time and place (Padilla, 2014). These characteristics achieve a distinction from the rest and cultural identity is expressed mainly through symbols, projected implicitly or explicitly in a product.

Through cultural identity in design, designers can demystify nationality, as well as improve interactions between user and product and boost the identity expression of it (Chen, 2011). That is, they can somehow affect what is called a global cultural identity, in which the coexistence of a wide range of beliefs and behaviors are embedded in various degrees, in both local and global discourses (Cleveland and Bartikowski, 2018). The identity of a design goes hand in hand with the cultural identity, which is affected by the social group and its set of symbolic values and beliefs, for which it can be said that industrial design is an expression of itself (Aldersey, 1990). This identity is transmitted through morphology and manufacturing processes, among other aspects (Sarmiento, 2004).

It is important to mention that when it comes to the appearance of the product, the limits between the different disciplines relevant to the perception of products are very difficult to establish. In this way the disciplinary fields include aesthetics, psychology, market research, sociology, marketing and semiotics (Crilly *et al.*, 2004).

The development of design with identity involves different areas, among which are those that help the expression of cognitive meanings and symbolic functions (Lee, 2011) and which are part of the culture, telling the stories of a country (Chen, 2011). The cultural identity of the design enriches the semantic design of a product. This semantic design is the guide to understand cultural traditions. A good design should help the user to understand the cultural, historical and emotional meanings (Williams, 1990). Furthermore, in an innovative world it is necessary to identify concepts that adapt to the reality of a society and that allow a vision that represents an approach to the market and new products (Santamaría Aguirre and Lecuona López, 2017).

All forms designed by men are from sociocultural histories. There are archetypes that imply cultural meanings that are used as symbolic contexts, such as the shape of an object, its function, usability and quality (Lee, 2011). In design, the use of ornaments, shapes and lines have always been part of cultural identity (Williams, 1990). In the same way, although visual information frequently dominates our culture and environment, it is also accepted that different human senses influence the response to design. For this reason it is important that the appearance of the product is congruent with other sensory aspects of the design (Crilly *et al.*, 2004). That is, the design of products is related to the creation, communication and the meaning of the brand, which implies both aesthetic and semiotic issues (Warell, 2015).

In this context, Hjelmlev understood semiotics as a system in which the elements of a functioning system are associated (Gomez, 2001). Therefore, a semiotic function is the correlation of the expression of an element contained in another one (Fragoso, 2016).

In the case of furniture design, lines and shapes are part of the identity characteristics of it (Aldersey, 1990). According to the Real Academia, a piece of furniture is defined as "Each one of the moving objects that serve for the necessary uses or to decorate houses, offices and all kinds of premises" (RAE, 2016). The furniture was born at the same time as the civilizations and their development in housing. It is an object that contributes to the interaction of men and the space he inhabits (Padilla, 2014). It is important to note that the design of this type of objects is a historical concept that is constantly changing. It has acquired different nuances and characteristics over time, which are related to its culture and the social events in which it has been developed (Comisarenco, 2006).

The first furniture of Spanish-Mexican origin was in the sixteenth century, showing the reflection of the place where they were created. The strength

of the Hispano-American furniture was rooted in its dominant qualities of robustness, a characteristic that arises from the sumptuousness and dramatic nuances of Mexican society in that century, giving it the first touches of cultural identity (Garbana, 1969).

The furniture industry in Mexico, and especially in the state of Jalisco, is the most important manufacturing industry in the Mexican economy, both nationally and internationally, through their exports (Padilla, 2014). Although the international market requires products with a global identity, it is also true that it is necessary to grant an identity to the Mexican product, to distinguish it from that manufactured in other countries.

The furniture industry, relative and wooden in Mexico, is in crisis. From 2001 to 2011, it had a growth of only 25.1%, equivalent to 2.28% of the annual average" (Espinosa, 2012). Nowadays, the furniture industry in Jalisco represents 18% of GDP, and recently in May 2016; 34, 824, 034.00 million pesos in exports were reported (IEEG, 2016).

In comparison with other countries, Mexico lacks cutting-edge design with cultural identity in its furniture. Countries such as Italy and Spain have furniture with artistic and avant-garde design (IEEG, 2016). However, in this country there have been few examples of efforts in this area, highlighting those that occurred during the transition from rural to urban, when there were designers who left a modernist pattern in the design of furniture with identity (Restrepo, 2015).

Therefore, this research aims to distinguish the features of Mexican culture in the design and analyze its application as an identity from the semiotic point of view in the Mexican furniture.

2. DESCRIPTION OF THE METHOD

The present investigation was made based on a referential framework analysis through an extensive and systematic review, consulting databases, with a search strategy designed to perform an analysis of the features of Mexican identity through semiotics.

56 articles were selected, all in the Spanish or English language, which addressed in their content the Mexican identity, design, the study of semiotics and the history of furniture in Mexico. The relevance of the sources includes some old ones because the studies in furniture with identity are limited, so it is important to make reference to some studies with over 5 years.

For the semiotic analysis of the case studies, the criteria mentioned in Table 1 were taken into account.

Table 1. Analysis criteria used during research

Analysis criteria	Descripción
Plastic material image or iconic qualisign	Image that only shows visual qualities: <ul style="list-style-type: none"> • texture • color • shape
Visual material image or iconic insign	Image that shows an analogy with the already existent image.
Conceptual visual material image or iconic legisign	Material image that shows through determined shapes relations and features of a society. It has a symbolic attractor that establishes the communication between the receiver and the material image.

Five case studies were selected for the semiotic evaluation of the image. For this, the criteria mentioned in Table 2 were taken into account.

Table 2. Selection criteria of case studies

Selection criteria	Descripción
Industrial design icon	<ul style="list-style-type: none"> • Furniture made by famous designers • Furniture that has reputation within the design
Furniture that shows Mexican identity	<ul style="list-style-type: none"> • Furniture made based on typical materials of the country • Furniture made with artisan techniques of the country • Furniture made with symbols that represent the Mexican identity

3. BACKGROUND

3.1. Semiotics

In general, consumers do not have access to the designers of the products with which they interact. In this way the interpretation of the design is based on its interaction with the product. Designers can only communicate attributes such as elegance, functionality, mode of use, social meaning, etc., through the product. Thus the perspective of semiotics in product design focuses on products as signs capable of representation (Crilly *et al.*, 2004).

The theory of signs also known as semiotics or semiology is a communication science dedicated to the transmission of information by means of a sign (Malmberg, 1972). Modern semiotics opened quickly in two directions: semiology that focuses on the sign as an object of study, and semiotics, which aims at the significance of an object (Blanco, 2006).

Semiology is the science that studies sign systems: languages and codes in the same environment (Guirard, 2011). Saussure defined semiology as "... the science that studies the life of signs as part of social life" (Guirard, 2011).

On the other hand, the semiotics developed by Pierce, is defined as the science that relates more to the signs of social life; there is a difference between semiology and semiotics. Semiology refuses to consider the relationship between language and society as a fundamental object, while semiotics is characterized as a theory that focuses on meaning (García, 2011).

Saussure and Pierce had different perceptions about what the sign was. Pierce proposed that the sign consists of a triple relationship, formed by the representamen, the object and its interpretant (Cobley, 2006).

To Pierce, reality and logic are unified in the world of the sign. That is, unified logic and thinking extend beyond the individual, forming complementarity in meaning (Botero, 2009).

On the other hand Saussure proposes the sign as a self-sufficient dyad, formed by a signifier and a meaning. The signifier is the material aspect of a sign, while the meaning refers to the mental concept of the signifier (Cobley, 2006).

In this sense it is important to mention that the basic communication process consisting of source, transmitter, channel, receiver and destination is used for the design of the product. The designer is seen as the source of the message, the product as the transmitter of the message, the channel is the environment in which the consumer interacts with the product, the perceptual senses of the consumer are seen as the receiver of the design message, and due to their faculty of response can also be seen as destiny (Crilly *et al.*, 2004). That is why there are different ideas about the function that semiotics should have, from the identification of the mechanisms of language to the culture that the contents reflect.

In this way it can be said that industrial products have functions that correspond to the elements that establish the relationship between man and object, encompassing practical, aesthetic and symbolic functions (Espinel, 2013).

3.2. Semantics

Semantics is a branch of semiotics that focuses on the process that establishes meaning. The purpose of semantics is to study a relationship between the meaning and understanding of the person trying to understand it (Melina, 2011).

The semantics of the product was born as the proposal of redesigning the design, since it was born as the idea of being able to express the identity of a product for the user's understanding. The term appears first in the American Society of Interior Designers, thus marking a new paradigm in product design (Krippendorff, 2006). The semantics of the product is related to what the product seems to communicate about itself. The way in which products seem to reflect the identity of their users is seen as a symbolic association. That is, we must differentiate between what the product indicates about itself and what it symbolizes for its owner (Crilly *et al.*, 2004).

Table 3 shows the contrast between the old paradigm and the new paradigm in the semantics of products. Here is explained how with this paradigm the designer can take a new role in the semantic decisions of product design.

Table 3. Comparisons between the old and new philosophical paradigm in product design through the use of semantics in the product

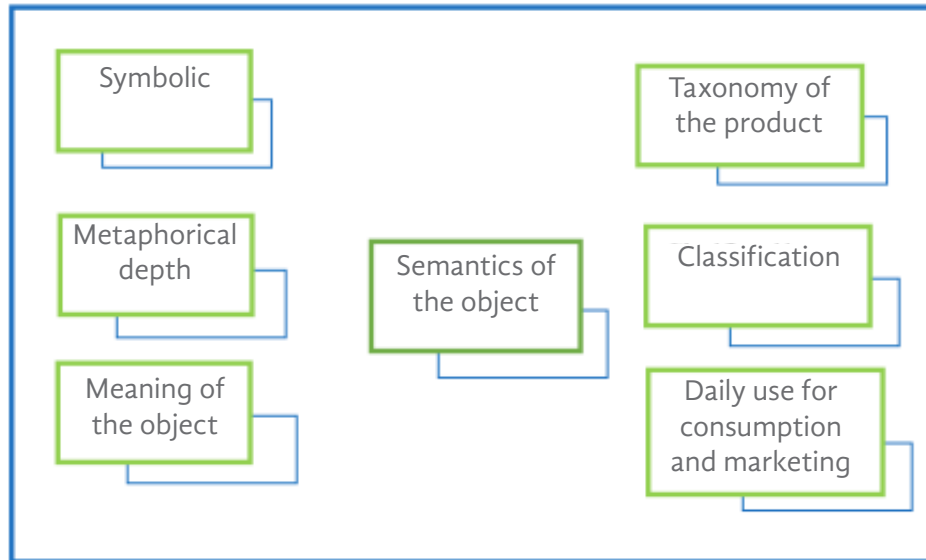
Previous paradigm	New paradigm
The design adapts the shapes to the required functions.	The design allows through its shapes, that the user interacts with the product.
The design focuses on simplicity and functionality.	The design focuses on an identity that allows to communicate with the user.
The products are made for only one purpose.	Creation of interfaces designed for the cognitive development of the user before the product.
Instructions are not part of the product, but are necessary to the understanding of it.	The user's interaction with the object shapes the relationship with the understanding of the later.
Mistakes are human and the user must learn to deal with them.	Mistakes are samples of incomprehension of the designer and its user.
Designers are authorities and point out how the object must look and how it should be.	Designers study the day to day life of their users to improve their lives.

Source: Krippendorff, 2016

The symbolic and emotional aspects in the design are also considered as design requirements (Crilly *et al.*, 2004). Roland Barthes (2013) observes

two coordinates that allow us to study what is the semantics of the object: the symbolic and the classification. One refers to a kind of metaphorical depth, which is the meaning of an object and the second refers to the necessary taxonomy for the user to understand (Image 1).

Image 1. Semantics of the object based on Roland Barthes' study of the semantics



Source: Barthes, 2013

3.3. Semiotic of the image

Within semiotics of the image there are three varieties that determine the identification of a proposal of visual perception, configured by an image, which will be valued by a receiver. Table 4 explains the differences between the types of images described by Pierce (Magariños, 2001).

Tabla 4. Tipos de imagen material

Plastic material image or iconic qualisign	Visual material image or iconic insign	Conceptual visual material image or iconic legisign	Combinatorial material image
Image that only shows visual qualities, like color, texture, and shape. The receiver understands this image through subjective sensations.	Image that shows an analogy with the already existent image. The constructions of these material images trigger the interpreter, the operation to configure an existential attractor, related to visual memories that the receiver has.	Material image that shows through determined shapes relations and features of a society. It has a symbolic attractor that establishes the communication between the receiver and the material image.	Image that has iconic qualisigns, insigns, and legisigns.

Source: Magariños, 2001

For the identification of an image the attractors must be taken into account, which are a set of forms that are organized with certain constancy in a mental image for the recognition of a perceiver by means of their visual memory (Karam, 2011).

There are the symbolic attractors that are part of the interpreter and intervene in the recognition of the figure that each image has (Magariños, 2001). On the other hand, existential attractors are constituted by images of dynamic transformation that are related to the recognition that occurs regardless of its truth and falsity (Karam, 2011).

The attractors are updated based on the recognition operations of the axes and occlusion contours. The axes are one of the aspects of the visual representation of the shape of an object and give information of the spatial arrangement, orientation and size, while the outlines of occlusion are the silhouette of an object seen in a two-dimensional projection (Magariños, 2001).

3.4. Mexican identity

Identity is constructed through a system of symbols and signs in which a reality is represented and to which it gives its true meaning (Acosta, 2010). The culture, context and experiences of the consumer are important to determining the response to products. The designers of a given product are separated by a time, place or social group. For this reason, the context of consumption within which the consumer operates is an important consideration, since it is within this context that the design message is interpreted and from which the interpretation that originates will be influenced (Crilly *et al.*, 2004).

According to Espinel (2013), the symbolic function of an object is determined by social, spiritual and psychic aspects of use. It is expected that a product has an emotional response. The affect to a product has been described as the psychological response to the semiotic content of it (Crilly *et al.*, 2004). In order to understand the concept of identity it is necessary to know the concept of culture that refers to the set of distinctive, spiritual, material and emotional features that characterize a society or partner group. In addition, it encompasses arts, letters, ways of life, beliefs and traditions (Molano, 2007). In Mexico, the interest in establishing a process of reconstruction and national identity began with the post-revolutionary governments, whose efforts focused on indigenous customs and traditions (Mallet, 2010). The national culture has been understood as a dynamic and historical process

that is transformed, incorporating new needs and perspectives, with the inclusion of ethnic groups, national minorities and classes in their diverse social expressions (Puga, 1999).

The concept of social identity depends on places, culture and traditions, and has been related to aspects of design (Humeyra, 2016). In this sense, Moreno (2016) considers that the Mexican identity is characterized by being incomplete, fragmentary and diversified. For him, the Mexican is mestizo since birth, with traditions of ethnic groups and other countries. Thus it can be said that the Mexican nation is heterogeneous, and that the process of biological and cultural miscegenation has been largely what makes it up (Giménez, 2012). For example, one of the main celebrations is the Day of the Dead, which allows us to create an interpretation of the world in which Mexico is unique, culturally discrete and distinguishable from its Spanish tradition, or from American influence (Brandes, 1998).

From the point of view of the furniture industry, some of the main contributions to design with Mexican identity have been attributed to Van Beuren, an American born in New York in 1911, who studied at the renowned German design school Bauhaus, a collaborator of the also a prestigious Cuban designer Clara Porset (Mallet, 2010).

3.5. Symbols and signs of the Mexican culture

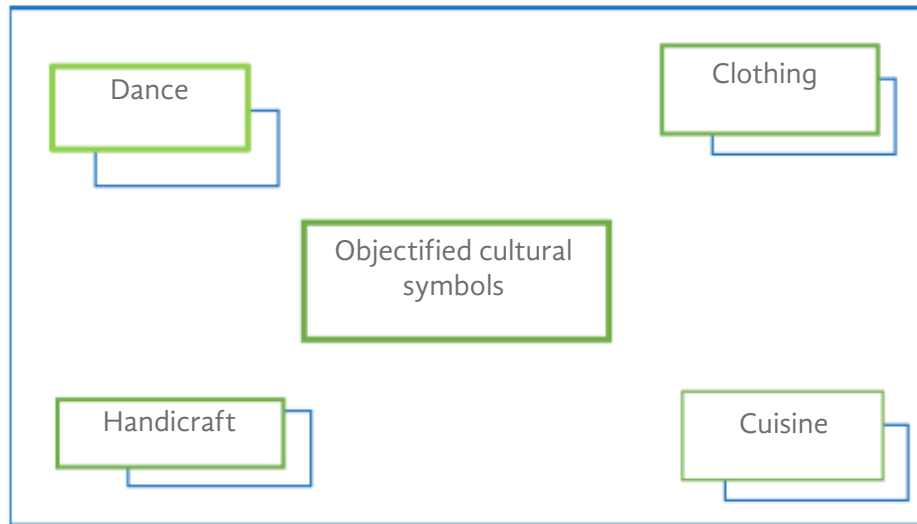
Culture is an anthropological term referring fundamentally to values, beliefs and codes of practices that make a community what it is (Razzaghi, Ramirez, & Zehner, 2009). The products are used by people to communicate their identity not only to others, but to themselves. The objects that are consumed reflect and contribute to the identity. That is, possessions can impose their identities on people, but also people take possessions as part of themselves (Crilly *et al.*, 2004). In this way, products can be considered as a means through which culture is manifested or embedded (Razzaghi *et al.*, 2009).

The function of the sign is to communicate an idea through a message. In this operation you need an object. For the communication of the idea, a code and a means of transmission are needed and for the whole system to work, a sender and a receiver are needed (Guiraud, 2011).

The symbol is defined as that sign whose meaning represents a certain sign from another plane. The symbol is signified, and is linked to the idea of certain content that serves as a plane of expression, often with a cultural value (Lotman, 2002). Cultural symbols are objectified in the form of observable

artifacts or behaviors (Image 2). For example: works of art, rituals, dances, gastronomy, etc. These signs are those whose task is to denote the Mexican identity (Blanco, 2006).

Image 2. Mexican cultural symbols



Source: Blanco, 2006

The aesthetic impression is influenced by the semantic interpretation of the product (Crilly *et al.*, 2004). When interpreted in a design, it defines the character and may have a symbolic meaning that reflects the character of its owner or user (Crilly *et al.*, 2004). Previous efforts have been made to transfer cultural elements to design attributes in countries such as Taiwan (Lin *et al.*, 2016). In Mexico, the relationship between culture and society has begun to be studied through the principle that culture is nothing more than the symbolic dimension of social practices (Giménez, *La cultura como identidad y la identidad como cultura*, 2012). In this sense it can be said that Mexicans know better what identifies them, and for that reason they appreciate it. The Mexican is what is identified as familiar. Therefore, it is all that is recognized and sends a sentimental message (Batalla, 1997).

3.6. Furniture with a Mexican design

All aspects of human life are influenced by culture, so designers' work is also influenced by it (Razzaghi *et al.*, 2009). In this sense, the consumer's response depends on visual cultural references to which the designers must anticipate (Crilly *et al.*, 2004). For this reason, it is not surprising that the International Council of Societies of Industrial Design (ICSID) considers that culture plays a significant role in industrial design (Razzaghi *et al.*, 2009).

In this sense the history of furniture design starts with human civilization, as a result of the function of helping the human to rest, sit down, organize, etc. The furniture as such is linked to the needs of civilization and develops based on it (Postell, 2012). Furniture design is a continuous process that aims to create a product. It involves conjectures of form and functionality, to then synthesize the ideas created based on these principles (Postell, 2012). For Espinel (2013) furniture is organized or arranged by a series of cultural conceptions and its meaning is obtained in the process of interaction of human relations established in a space.

In Mexico, the design of the furniture has fostered new industries, integrating artisanal design with the industrial part of the design and taking advantage of the artisan's ability to add value to the product with Mexican design (Flores, 2014). The Mexican design was born from the first cultures, in which the inhabitants of the communities had the need to elaborate articles that satisfied a specific need. From these needs were born the workers who were the first to dedicate themselves to manufacturing objects with a certain function (Haro, 2008).

3.7. Characteristics of the Mexican furniture

Design is an active human intersection between material products, social interactions and the environment, so it occupies a pivotal position for any change in a cultural direction (Sheehan, 2011). Previously it was documented that responding to an increase in cultural diversity of the market, many companies referenced ethnic cultures, as an attempt to emphasize communication and gain approval from the audience (Chattaraman *et al.*, 2009). The international buyer seeks that the Mexican furniture has a furniture identity that cannot be found elsewhere. This manifests itself as an area of opportunity (Madrigal, 2016).

Aesthetically, the Mexican furniture does not have its own features. Indigenous reminiscences are identified in the decorative part and general lines derived from the Spanish furniture (Obregón, 2016). This is identified by its formal aesthetic values, which are its large volumes, bright colors and textures derived from Mexican textiles, or materials, which can only be found in Mexico (Villalobos, 2016). In this sense it is important to mention that the cultural symbols used in the design of products pretend to anticipate emotional responses on behalf of the clients (Chattaraman *et al.*, 2009).

The properties of a material contribute significantly to the structure, integrity, comfort and aesthetics of the furniture to be designed (Postell, 2012). In Mexico, the designs, treatments of materials and the wide variety of wood


used are complemented by the different rustic styles of Mexican furniture design (INAES, 2016).

Due to the importance of the furniture industry in a nation, it can be said that the industrial designer in Mexico has as an area of opportunity the strengthening of the national identity of the product that is consumed.

4. RESULTS OF THE SEMIOTIC ANALYSIS OF THE IMAGE IN MEXICAN FURNITURE

Image 3 shows the semiotic analysis developed for the Butaque Chair by Cuban designer Clara Porset. The effort focused on identifying the iconic qualisign, insign, and legsign, as well as the recognition attractors. This same analysis was performed on the Acapulco chair (Image 4) and the Matt Matthai Academy chair (Image 5).

Image 3. Semiotic analysis of the Butaque Chair

Name: Butaque Chair			
Designer: Clara Porset	Year: 1950 (Nationalist era)		
Materials: Wood (cedar, <i>aguacatillo</i> , mahogany and <i>segrillo</i>) ixtle			
Manufacture process: · Textile fiber fabric · Chops of wood pieces			
Semiotic analysis of the Butaque chair			
Iconic qualisign: Scratched texture based on the ixtle fabric and smooth texture on the edges of the butaque. The chair has brown tones and natural wood. While the morphology is based on a curvature in the seat, which was made in this way for the seat.	Iconic insign: The iconic insign of this chair is based on the image of prehispanic butaques	Iconic legsign: The features of society associated with this chair are based on prehispanic features of the butaque, on Mexican materials such as ixtle and cedar, and on the robust lines of the Spanish furniture; but the symbolic attractor of this chair is in the ixtle tissue objectified in textile patterns recognizable in Mexican handicrafts	Recognition attractors: Axis: As axis it has a curvature on the seat Outline of occlusion: The occlusion contour of this chair is an x on the sides of the chair

Source: Sunderman, M. (2006). Silla Butaque. [Fotografía]. En El diseño de Clara Porset: inventando un México moderno (p .2). México, Turner, 2006).

Image 4. Semiotic analysis of the Acapulco chair


Name: Acapulco Chair		
Designer: Anonymous. MOB Collective contributions for restoration	Year: 1970	
Materials: Chromed steel and textile fibers.		
Manufacture process: · Textile - based fabric bending · Welding and metal		

Semiotic analysis of the Acapulco chair

Iconic qualisign: Tactile texture weaved of natural fibers. The color is similar to warm tones and the structure has different materials, like plastic and stainless steel. The morphology is based on a three-legged chair and a round seat that shapes the back.	Iconic insigin: The iconic insigin of this chair is based on a vernacular desing, since it shares characteristics with hammocks and petates.	Iconic legsigno: Social features related to this chair are based on a vernacular desing with Mexican materials like cotton, pita and sisal textile fibers. The symbolic appeal of this chair is on the weave of the textile fibers on the back, which reminds us to the vernacular desing of hammocks and petates.	Recognition attractors: Axis: As axis it has a curved structure that shapes the back with a three-legged support structure. Outline of occlusion: The outline of this chair is a curve whit a lineal structure. In three legs and the continuous seat in a circular shape to create the back
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Source: BOQA y Einrichten Design. (2017).[Fotografía]. From <http://www.admexico.mx/disenio/editors-pick/articulos/la-icónica-silla-acapulco/3170>

Image 5. Semiotic analysis of the Academy Chair

Name: Academy Chair			
Designer: Diego Mattahi	Year: 1970		
Materials: Chromed steel and weaved tulle			
Manufacture process: · Textile fiber fabric · Bent and welded fabric			
Semiotic analysis of the Academy chair			
Iconic qualisign: Palm touch texture woven into the backrest and chair seat. Made in brown tones and its structure is made of is based on a four-legged chair that supports the woven seat and a semicircular backrest	Iconic insign: The iconic insign of this chair is based on the structure of an equipal	Iconic legsigno: The features of society associated with this chair consist of the equipales desing with the use of Mexican materials, such as palm. The symbolic attractor of this chair is the palm fabric that makes up the seat and the backrest	Recognition attractors: Axis: As axis it has a metal structure that serves as support for the seat and backrest Outline of occlusion: The outline of occlusion of this chair is a curve with a linear four-legged structure

Source: Farca, E. Silla Academia (2015). [Fotografía]. From <http://www.admexico.mx/aniversario-ad/articulos/la-silla-mexicana-y-sus-creadores/1066>

CONCLUSIONS

Semiotics is a tool that in industrial design can focus on analyzing products as signs capable of representation. In this way the industrial designer can reflect the identity of its users through a symbolic association with Mexican cultural elements. Mexican furniture, which incorporates cultural aspects, has the potential to be used as an art object in international fairs and exhibitions. However, it can also be directed to a specific market through a usage analysis. The semantic value of these products will allow greater acceptance in an avid market to identify with the furniture used in their spaces.

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