

The sense of belonging: Emotional aspects in participatory design in relation to products and services for cities

O senso de pertencimento: aspectos emocionais em design participativo em relação a produtos e serviços para cidades

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Abstract

This work presents a discussion on the design process related to the emotional infrastructure that reinforces the sense of belonging to a place. Considering the recent interest in products and services related to the urban environment, this research considers the relevance of the participatory design process to the wellbeing of citizens. Some recent experiences demonstrate that the inclusion of citizens in the design process has increased the sense of belonging. These empirical approaches, however, need to be better understood in order to contribute to a strategic design. The understanding of what kind of elements and processes reinforces or creates the sense of belonging may help with structuring the design process. The research question that led this study was how to include emotion in the design process, taking into account the participatory design aiming at the sense of belonging. The structure of the present work considers the concept and elements of belonging, belonging under topological psychology and design, and emotion. Against these backgrounds, the article presents a frame for an infrastructure to explore the emotional sense of belonging towards a meta-design, and relates it to the participatory design for cities.

Keywords: participatory design, design and emotion, place attachment, design for cities.

Resumo

Este trabalho apresenta uma discussão sobre o processo de projeto relacionado à infraestrutura emocional que reforça o sentimento de pertencer a um lugar. Considerando o recente interesse em produtos e serviços relacionados ao ambiente urbano, esta pesquisa considera a relevância do processo de projeto participativo para o bem-estar dos cidadãos. Algumas experiências recentes demonstram que a inclusão dos cidadãos no processo de design aumentou o sentimento de pertença. Entretanto, essas abordagens empíricas precisam ser melhor compreendidas para contribuir para um projeto estratégico. A compreensão de que tipo de elementos e processos reforçam ou criam o sentimento de pertencimento, pode auxiliar na estruturação do processo de design. A questão de pesquisa que conduziu este estudo foi como incluir a emoção no processo de design, levando em conta o design participativo visando o sentimento de pertença. A estrutura do presente trabalho considera o conceito e os elementos de pertencimento, pertencentes à psicologia topológica e ao design, e à emoção. Diante desses antecedentes, o artigo apresenta uma estrutura para uma infraestrutura para explorar o sentimento emocional de pertencer a um meta-projeto e relaciona-o com o projeto participativo para cidades.

Palavras-chave: design participativo, design e emoção, apego ao lugar, design para cidades.

Introduction

As antagonistic as that may seem to be, due to several factors, public administration consider its financial, personal and political aspects for public projects as a rule. But do not consider the citizen as an element of the design (Carr *et al.*, 1997 [1992]), as it is usually the case with the strategies developed for product design (Norman, 2006).

Prahalad and Ramswamy (2004) point out that institutional strategy which put the user at the center have a higher degree of success in contemporary society and this can also be considered in the design of products and services for collective and individual use in the cities.

By putting people first, design brings significant gains. Copenhagen, in Denmark, where public projects must be approved by the population (Norby, 2016), is a

case in point. As data shows, after 10 years of this practice, the public administration of the city obtained 85% approval of the population (Norby, 2016).

Projects with participatory approach have created a sense of belonging, of attachment in people. This can be observed also in cities such as New York, London and Santiago. This shows that by providing public spaces for the people and by taking the citizens into account during the project phase, people want to look after those spaces (Lewicka, 2005). They do that because they feel that they belong there (Felippe and Kuhnen, 2012).

Thus, taking into account the perspective of using users' emotions as core competence (Prahalad and Ramswamy, 2004), this article proposes to discuss the emotions arising from the participation of citizens in the design process.

The literature on the subject is yet limited, according to previous empirical research (Keil *et al.*, 2016). Hence, this study aims at broadening the discussion on the emotions associated with the design considering participatory design. This is a complex theme, and involves various fields of knowledge, such as user-centered design and emotions as elements for the creation of the sense of attachment and belonging.

The present article begins with the concept of feeling of attachment to a place, followed by considerations about emotions from the design point of view, that is, when they are connected to products and services. The discussion brings elements to be considered in guidelines towards designing for a place, taking into account the participation of their inhabitants.

The notion of attachment to a place, or the sense of belonging

This section aims to deepen the understanding of the sense of attachment to a place, and to address the aspects related to emotions, which lead individuals and communities to react in a certain way.

The notion of attachment to a place "can be defined as the emotional bonds between people and a particular place or environment" (Seamon *in* Manzo and Devine-Wright, 2013, p. 11). For Low and Altman (1992, p. 2), it constitutes a "bonding of people to places". And Augé (2007) defines a place as a geographical space with relational identity (here considered to be individuals and social groups) and history. This makes it unique. This relational aspect is also highlighted by Santos (1998), who states that a city is a place in constant movement, which rearranges and reorganizes itself, from the moment that it creates new forms of products and services. From this relational process, the identity of a city is established.

According to Damazio (2013), the identity of a place is made up of:

- the features of the place (both natural and constructed);
- its historical origins and culture; and
- the relationships established there and which manifest themselves in the artifacts for individual and/or collective use.

Taking this into account, in Rio de Janeiro, ice tea can be considered an artifact typical of the identity of its beach-

es, directly connected to the local landscape and weather, the lifestyle of its inhabitants, their values, habits and social practices, all of which relate directly to the city's history and its culture, contributing to the makeup of its identity.

But the factor that triggers the feeling of attachment to a place is the importance that people give to a place (Augé, 2007). Thus, a geographical space has a special meaning to an individual or community because, by appreciating it, they become attached to it. The feeling of affection and of favoring a place over another result from this fact.

However, the value assigned to a place is not linear, i.e., it has no homogeneity, single linearity and serial structure according to Casey (2013). Moreover, it depends on various associations related to its significance (Augé, 2007). This explains why certain places, which once had a special meaning for some, over time, have lost it.

Caxambu, a city in the state of Minas Gerais, Brazil, is a case in point. It was considered a luxurious tourist hub in the 1940's, but nowadays it is no longer the successful water resort that it once was. As stated by Silva and Barreira (1994 *in* Martins and Alcântara, 2008, p. 4-5), "between the years 1860 to 1945, Brazilian water resorts were equipped with such a level of sophistication that they equaled the best hydrotherapy centers in Europe" (translation by the authors). Wealthy families from various locations were regulars. However, with the decrease in the number of studies about hydrotherapy treatments and the closing of the local casinos, the city's identity has changed (Silva and Barreira, 1994, *in* Martins and Alcântara, 2008). Thus, we can conclude that the people, the place and the relationship between the two make up the meaning of a place.

In order to account for cases like this, Scannell and Gifford (2010) created a tripartite representation scheme for the sense of attachment to a place (*The tripartite model of place attachment*). This scheme consists of three elements, namely, people, place and process. These elements are composed of other basic elements, which are in turn also influenced by other elements (Figure 1).

By establishing a correlation between Scannell and Gifford's scheme (2010), Santos (1998) and the definition of place proposed by Augé (2007), a new representational scheme for the sense of place attachment can be built, as shown in Figure 2.

According to this analysis, people, collectively, relate to a place when they belong to cultural groups. They are connected by culture, religion and genre, same history, values, symbols, all of them represented by their artifacts, to quote Manzo and Devine-Wright (2013).

An example of this can be demonstrated by the Zombie Walk in Curitiba, Brazil, seen as one of the identity representations of Curitiba Carnival (Figure 3).

At the individual level, the feeling of place attachment stems from the elements which evoke personal memories, such as achievements and experiences had in a particular place, as well as landmarks which are produced or remembered (Scannell and Gifford, 2010). For instance, a souvenir representing the Eiffel Tower on the mantelpiece brings to mind a memorable experience of the place. Manzo and Devine-Wright (2013) corroborates this statement and adds that it is not only the place that is significant, but also the experiences had in that place which give it a particular meaning.

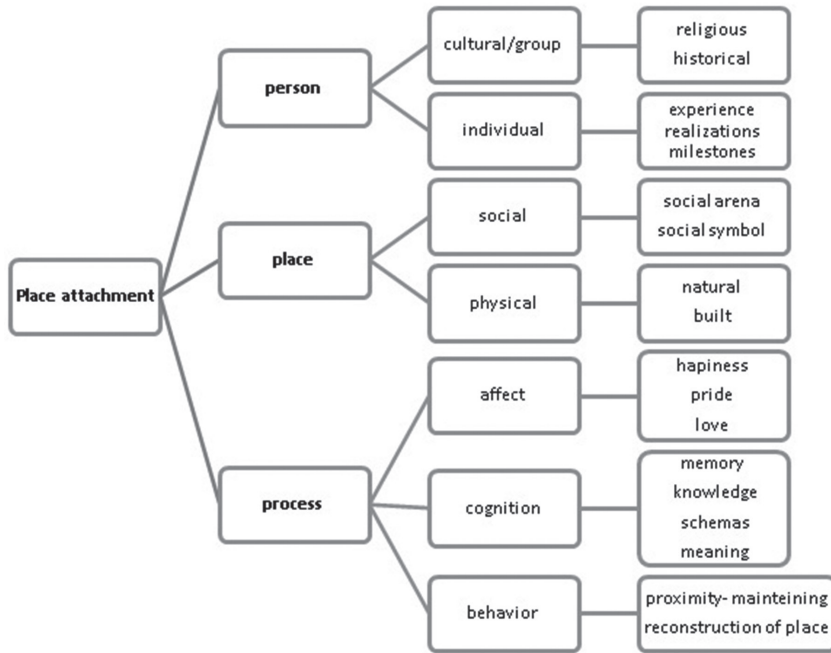


Figure 1. The tripartite model of place attachment.
Source: Adapted from Scannel and Gifford (2010).

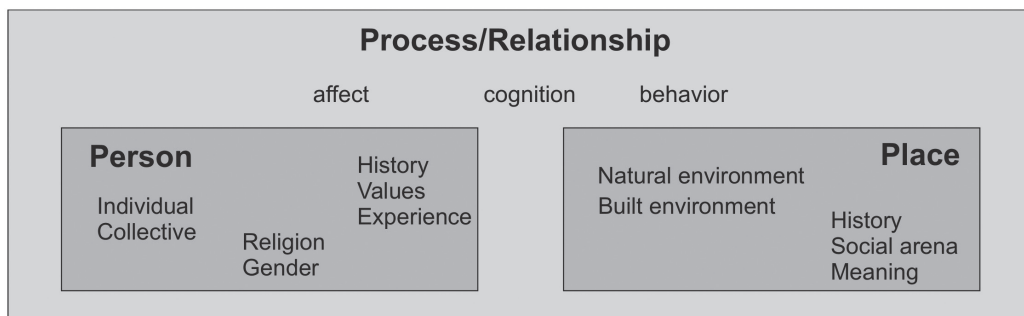


Figure 2. Construction scheme of place attachment.
Source: Adapted from Santos (1998), Augé (2007), Scannel and Gufford (2010).



Figure 3. Zombie Walk as a representation of Curitiba's Carnival.
Source: Photo by Virginia Borges Kistmann (2016).

The most important element is perhaps the place itself. Regardless of its scale (home, neighborhood, city), social bonds are created from the perception of belonging to the neighborhood or local area, from the familiarity with its members, and from the place's physical characteristics (Altman and Low, 1992; Sopher, 1979; Garcia *et al.*, 1994; Giuliani, 2004). The physical place is also important to create a pleasant identification with a natural or constructed environment, with symbolic and memorable meanings. The strong identification bond that exists within a group makes one want to remain in the place and to create roots there (Fried, 1963 *in* Scannell and Gifford, 2010), and the reverse is also true.

On the other hand, Figure 4 shows a Tudor style house, a kind of construction very common in the German colonization region of Santa Catarina, Brazil. Inhabitants used aesthetic and construction references from their homeland, exploring technical, symbolic and use functions, categories defined by Ono (2006). By doing it, they maintained some bond to the place they left, which was kept alive in their collective imaginary, as an identity reference.

Therefore, the attachment construction process operates at the emotional/affection, cognition and behavior levels. A positive emotional relationship with a place is the main aspect of proximity maintenance with the place (Hidalgo and Hernández, 2001), and what makes people feel "at home". The set of information generated from the cognition of memories and knowledge about the place, such as how the operating system works and how people interact with each other and with the place, generate a unique meaning. This perceived meaning is so important to people that they want to maintain it and, if necessary, to reconstruct it. For instance, the people of the city of Xenia, Ohio, chose to rebuild the city after it was destroyed by a tornado in 1974, exactly as it was before, even if this meant creating and having to deal with the same problems (Scannell and Gifford, 2010). In this particular instance of place attachment construction, Scannell and Gifford (2010) point out that some elements may be stronger than others, they may be interconnected or even inseparable.

Furthermore, Fried's studies (1963, *in* Scannell and Gifford, 2010) indicate that neighbors who share a sense of attachment to a place tend to have more interpersonal interactions, which facilitate social relationships, creating a group identity.



Figure 4. Family Fleith Tudor style house.
Source: Sasse (2014).

Affection, cognition and behavior, and the relation with emotions

As shown above, affection, cognition and behavior are all part of the process of construction of the sense of attachment to a place. These elements are directly related to emotional responses, which have been classified by a number of authors.

Russell (1980) states that every emotion can be described according to their position on the pleasure and excitement dimensions. Thus, an emotion depends on the positive or negative level of excitement. A single event can awaken both positive and negative emotions, depending on the predisposition of people and the level of actuation stimulus.

Manzini (2009) argues that, in relation to social sustainability, social actors that live in the same reality have shared visions about the same reality. Wielewicki (2010) applied this concept to the relation between people and places. In his study, city inhabitants, neighbours from other cities and visitors were considered. The results showed that inhabitants tend to have a more negative feeling towards the place where they live and point out what bothers or dissatisfies them.

The same was confirmed in research done in Santa Catarina State (Brazil). Even if 90% of the city considered themselves happy in the place they live, all of the interviewed have suggestions to improve the place (Keil *et al.*, 2016). On the other hand, neighbour from a close city were asked about strengths and weakness of the neighbour place. They considered with more frequency strong points, which they would like to have in their own city, similarly to what Wielewicki (2010) states.

Different perceptions about one single place are justified by studies related to the hedonistic asymmetry, proposed by Frijda (1986). The author proposed a law of hedonistic asymmetry, where the asymmetric adjustment to pleasure or pain is verified: the emotion of pleasure is always subject to change and disappears with continued satisfaction, tending to neutrality. The emotion of pain, nevertheless, persists under adverse conditions. The negative emotion emphasis is related to survival necessity, according to Frijda (1986).

Products of urban collective use, such as bus shelters, parks and squares, require another approach, one that takes into account the common perceptions and emotional responses of users. Collective emotion results from "the converging synchronism in emotional responses given by individuals with relation to a specific event" (von Scheve and Ismer, 2013, p. 411). For this synchronization and the convergence of the emotional response to occur, it is necessary for individuals to assess an event in a similar way, following a minimum number of shared cognitive, behavioral and symbolic assessment structures, or that these individuals share the same interests. This can be seen in the way people who do not know each other tend to cross a street together and in the same place. They all want to cross the street safely, respecting the traffic lights, and if the traffic lights take time to change, they simultaneously experience anger or frustration (von Scheve and Ismer, 2013).

In the cognitive assessment structure (von Scheve and Ismer, 2013), the status of group and emotional convergence are key. For this reason, actions that are directed to an improvement of a place could be initially derived from pointed necessities by its inhabitants, having a better success chance. On the other side, it would be useful to identify what were the elements of greater concern and affection towards this place by its inhabitants, and so intensify the emotional and symbolic bonds to the place.

Emotional and symbolic bonds to a place are constructed by four key mechanisms that characterize the symbolic structure: (a) the formation of collective memories built over time through discourse; (b) lasting feelings based on the group; (c) social norms which elicit collective emotions as shared assessment components, and as a mechanism of social control of emotions; (d) social practices that contribute to the spread of feelings on a large scale and to the validation of appropriate and expected feelings (von Scheve and Ismer, 2013).

These emotional structures are subject to two triggers. One trigger is the mutual knowledge/awareness of behavior and feelings, with verbal or non-verbal communication. Physical proximity reinforces emotional convergence through facial expressions and contributes to their assessment with the descriptive label of emotions. The other trigger is the evaluation structures within the existing social group, which usually share beliefs, values, models of interaction and common understanding of relevant events, and as such constitute a point of reference for social identity (von Scheve and Ismer, 2013). For instance, one hundred people took part in the event 2nd Annual No Trousers Tube Ride, held in London, which is part of the larger event called *Improve Everywhere*. This event took place at the existing social collective structure and brought together different social groups, called convergent synchronism, accordingly to von Scheve and Ismer (2013).

To sum up, even if they are not familiar with the entire mechanism of collective emotion, designers are more likely to succeed if they make the interactions that consider the emotional assessment structures and the triggers that originate these interactions their starting point. Moreover, designers should have a good understanding of the group they are designing for and the place where the interaction occurs.

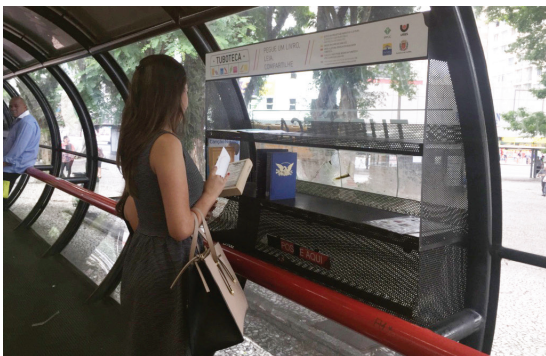


Figure 5. Tuboteca.

Source: Photo by Virginia Borges Kistmann (2016).

Emotions according to environmental psychology

Another way of analyzing the notion of place attachment can be seen in the work of researchers from the field of environmental psychology. According to them, three emotions are important for the construction/establishment of the concept of place attachment: (a) safety (protection) (Lewicka, 2011; Giuliani, 2004; Sanchez Vidal, 1988, etc.), (b) search for proximity (social ties) (Lewicka, 2011; Hernández *et al.*, 2007; Sopher, 1979; Scannel and Gifford, 2010, among others) and (c) comfort (wellbeing) (Fried, 2000; Low and Altman, 1992; Lewicka, 2011, among others).

The sensations of safety or protection are considered both objectively (history of criminal activity in the area) and subjectively (sense of security in private and public spaces) (Brown *et al.*, 2003; Scannel and Gifford, 2010). The presence of people in open public spaces can promote a sense of security, thereby reducing fear (Gehl, 2013).

Social ties can show themselves in a number of ways: (a) the number of friends and relatives involved in joint social activities, or the number of non-family members invited to family events; (b) the frequency of the activities, and (c) the intensity of the relationship with the neighbors, among others (Lewicka, 2005).

The sensation of comfort can be physical, social and psychological (Carr *et al.*, 1997 [1992]; Carmona *et al.*, 2003). It can create a positive image of the place (Lynch, 2002). "General cleanliness of the place and its maintenance encourage longer place engagement and the feeling of safety and security" (Ujang, 2010, p. 64). Thus, comfort is the basis for the feeling of attachment to a place (Bowlby, 2002).

The sense of attachment is constructed in an individual manner. However, if it is constructed synchronically, to converge on the same emotional perception, it becomes a collective sense (von Schieve and Ismer, 2013).

According to Roseman and Smith (2001), the products and services that cities offer provoke reactions of humor, and both individual and collective attitudes. For instance, bus shelters can be pleasant as they protect us against bad weather, reinforcing the sense of security. They can, however, also be a reason for concern if they are poorly maintained (damaged, vandalized or with dirty roof and/or benches). This concern is associated with the sense of wellbeing. Similarly, while these products and services can bring citizens together and create social proximity, they can also disperse them or keep them away. This can occur if they discriminate against one social group, or favor one group above another. Figure 5 shows the *Tuboteca* of Curitiba, which offers books to commuters without a loan control system, and therefore relies on their sense of identification (through their donations) for its expansion.

As seen above, the products and services provided by cities can cause different reactions of humor and attitudes (Roseman and Smith, 2001), creating a greater or lesser sense of belonging in individuals and social groups. These emotional reactions, if positive, tend to relieve stress, and thus, ultimately, minimize any damage caused by negative emotions (Fredrickson and Losada, 2005). Thus, the emotional reaction often seen is joy and love for a place, according to some studies on emotions.

Emotions from the design point of view

Studies in the field of design put emphasis on emotional aspects, so as to anticipate the emotions, which may be created by user's contact with the product or service. "This may broaden the view of designers in relation to users' emotional responses and therefore stimulate design creativity, and by being more precise in intended experiential effects it may increase the effectiveness of the design solution" (Yoon *et al.*, 2014, p. 707-708).

These emotions are subjective, and the emotional responses they cause in the consumers may differ, at the individual or collective level. Also, the same consumer, under different circumstances, may react differently to the same product or service. Furthermore, these emotions can cause multiple reactions simultaneously (von Schieve and Ismer, 2013; Desmet, 2010).

According to Desmet (2008), it is possible to identify emotional reactions to products because the process which triggers emotion is essentially universal. These emotions are characterized as happiness/joy, contentment/satisfaction, anger/irritation and disappointment/dissatisfaction. However, emotions are less tangible when they are analyzed at a deeper/underlying process level. In other words, emotions are closely linked to the individual's disposition and to the factor which originated it (e.g. object, environment).

These two elements can produce positive or negative responses, according to the emotional reaction caused in the individual (Desmet, 2008). For Desmet and Schifferstein (2010), for each adjacent dimension to emotional experience, there is at least one more additional dimension. They can be described as activation, excitement or trigger dimension. Activation is the result of an emotional state experienced by the user which generates a certain reaction. The expectation of a positive experience or the fulfillment of a wish causes excitement. The trigger is the action that allows an expected reaction, and which can be a reward (Daae and Boks, 2014).

According to Frijda (1986), the feeling of pleasure disappears when the situation is maintained continuously, being directly subject to change. The feeling of displeasure, on the other hand, remains even in adverse conditions. This seems to imply that the design of products and services for public spaces needs to be reviewed periodically. This will increase the effectiveness of the design solution. In general, this occurs especially when products and services are designed to attract consumers and cause pleasant sensations.

Other researches (Desmet, 2002; Desmet and Schifferstein, 2008) demonstrate that there is a predominance of positive emotions, when there is interest on the user's part to purchase or try out the product. Thus, one can assume that in seeking to attract citizens and provoke pleasant emotions by experience, designers can increase the sense of attachment to a place.

Discussion

Considering the authors studied, the sense of attachment to a place can be reinforced by participatory design. Considering that this bond of people to place is linked to the relational identity, the relation that can be established by design process is an important key.

This relational aspect can also be seen as a way to establish city's identity. By the design of new forms of products and services, as features of the place (both natural and constructed); historical origins and culture; and relationships, all of them present in artifacts for individual and/or collective use, the emotional aspect in relation to the city can be improved.

The appreciation that people has towards a place and assures the feeling of affection to it gives to design an important role considering the communication between administrators and citizens. Beside this, the nonlinear value given calls for a continuity in design process.

Considering that people, the place and the relationship between the two make up the meaning of a place, participatory design operate to reinforce the relationship between place and people, considering the tripartite model of place attachment.

The artifacts created by designers can reinforce culture, religion and genre, same history, values, symbols, mainly if these will be designed in a participatory way. Personal memories are turned into collective memories if built by landmarks and experiences lived by society, which create bonds. So, design can reinforce a participatory behavior, when it introduces artifacts that reinforce or construct stories and landmarks for places.

The use of technical and symbolic function of landmarks or urban equipment may reinforce the collective imaginary as an identity reference.

If design is participatory, a positive emotional relationship with a place can be established. Considering cognition of memories and knowledge about the place, especially how people interact generates a unique meaning, which reinforces the attachment to a place, facilitating social relationships and group identity.

A positive excitement level is an important issue, when considering social sustainability and design for social participation. This is due to common visions about the place. It also helps the ability to mention unpleasant and negative feelings, which is important to designers considering people participation.

It is important to keep people participation in the design process by the continuous investigation about their feelings towards design equipment. If emotion of pleasure disappears, dissatisfaction and pain persist under adverse conditions.

Design for communication, verbal and nonverbal, might help converge synchronism in emotional responses given by individuals with relation to a specific event, what shall be done considering cognitive, behavioral and symbolic assessment structures, or that these individual share the same interests. By doing it, offering social practices by new artifacts, collective memories can be built, group feelings reinforced and collective emotions shared.

According to the research, reinforcing the feelings of safety (protection), proximity (social ties) and comfort (well being) are important elements to be considered in design process. Specially frequent and intense social ties created by participatory design might contribute to the feeling of attachment to a place.

As comfort can be physical, social and psychological, creating a positive image of the place, it encourages longer place engagement and the feeling of safety and security.

Products and services provided by cities can cause different reactions of humor and attitudes, creating a greater or lesser sense of belonging in individuals and social groups and the openness to collaboration and participation.

As mentioned, the user's experience in design process may broaden the view of designers in relation to emotional responses. It can stimulate design creativity and include people in a participatory way. Together with this, the emotional aspect of users is people's disposition and interest.

According to the authors studied, in a condensed way, in order to develop a sense of belonging by design, the following aspects shall also be considered:

- People and places are affected by activations, excitements or triggers. In this sense, it can be said that, like external agents from various backgrounds (e.g. time, events and individual or collective actions), the design of artifacts, which can act as social mediators, designing people's actions, which can affect both people and places, activate, excite or trigger emotions. By this action, social emotion process is unleashed. Without them, a place continues to exist physically.
- Emotional attachment depends on human interaction. Thus, a social arena is formed by place and people over time. It inspires, shapes and determines demands at the same time one affect each other. So, the emotions that arise depend upon products designed for those places. In this work, place is meant by the environment where interactions occur. It forms the social arena, by a natural or built physical environment, where people interact with it and among themselves. Under this concept, products designed for these places also contribute to the building of physical environment that set the role to be played by people. Here, design plays a role, creating objects and services, as well as services to be offered.
- But design process comes also from the triggers which are produced by the relationship between people and places, from the action of individual and collective actors and events in time. Emotional experience of a collective space is not an experience apart from the previous ones or from the valence of the emotional state. Due to these factors, the emotional reaction in relation to a new place, sometimes creates an unstable situation. If this is not considered in design projects, it may result in indifference or rejection by the population, being an important point to be considered in a design related to emotion.
- Moreover, to identify what the prevailing emotions are, environmental psychology can be an important element. Environmental psychology concepts can help demonstrate what the prevailing emotions are. When it comes to urban public spaces, they might help the design process. Considering the constraints of emotional perception in relation to a nice place, they can be seen as a trigger to kind of awaken attachment.
- It is worth noting that in this research it was noticed that when one of the guidelines is met, res-

idents begin to prioritize this implementation, which will consequently benefit another guideline. Taking, for example, the guideline security, if the park already has sufficient lighting, improving security, the installation of equipment for physical exercise might be suggested. When these were placed, the installation of toilets and a guiding professional to practice these exercises might be necessary, and so on.

Such projects need constant popular consultations, adjustments and implementations, which increases the satisfaction of living in a place, aiming the primary objective of this study. On the other hand, it requires government to challenge the practice of listening to the people, which is frequently unusual.

In a way to minimize this gap, design methods like design thinking may help offering solutions that bring positive emotional reactions and so contribute to the sense of belonging to a place. All these elements are so important in defining guidelines towards a design concept which may create a desired emotional behavior.

Final considerations

This article has presented information based on the concept of belonging or attachment to a place, both from an environmental psychology perspective and a design perspective. It has also discussed emotions which identify important aspects for a participatory design for the cities.

One important aspect that the research presents is that in designing for the cities, participation of citizens in decisions which define both the planning and the construction of their products and services should be considered. When discussing the sense of attachment to a place, it was considered that the participation of citizens in the design creates a positive effect on urban products and services by activation, excitement and trigger mechanisms.

Thus, the participatory design process should take into account emotional aspects. It must consider not only the effect of time and common external agents, but also the social groups related to the service or product. Future users should also be considered activation mechanisms, excitements and triggers for the emotional experience of a place.

Once having sufficient information about the place and the people, the formulation of the characteristics of the products and services becomes possible, in a way which will reflect the concerns on quality of interaction and adaptation. The development of the product design or design service for citizen's use will generate the desired perception, attending the emotional evidence intended from the beginning of this scheme.

Thus, this paper considers that design can start the process described above by applying methods, techniques and tools which collectively may build emotional demands in the users and exercise mediation between these and public administration, designing solutions for products and services by participatory work. The emotional experience had in a collective space may not be limited to this place, but affects the whole collectivity and its products and services.

People carry their previous experiences with them, the various valences of emotional states, all of which can influence their emotional reactions. However, participatory design for cities may cause indifference or even be rejected by the population if the fluctuation aspects of previous experiences are not considered, which can be solved by the design for communication.

Furthermore, environmental psychology aspects, such as security constraints, proximity and comfort generate an emotional perception that creates attachment. It is also worth noting that when one of the guidelines is met, individuals and communities begin to prioritize the implementation of design proposals.

The issues discussed above demonstrate that such projects need constant popular consultations, adjustments and implementations. This will increase the level of satisfaction of those living in the place, and consequently their feeling of attachment. Furthermore, it is also necessary that the government listen to their citizens, which is not yet a common practice.

It shows that these emotions create a sense of attachment to places, and result from the design of products and services offered by cities.

Finally, when designing products or services for urban and collective use in a participatory way, one must take into account the emotions which are associated with a place, along with design tools, as this will increase the probability of creating solutions that meet the end user's needs.

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