

USING THE KNOWLEDGE OF HUMAN BEHAVIOR IN ARCHITECTURAL DESIGN

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ABSTRACT: The main aim of this paper is to emphasize utilizing the knowledge of human behaviour while designing the built environments and to approach this issue from the perspective of an interdisciplinary discourse, environmental psychology. The needs of humans are vast and changing from one person to another so that it is important to be informed from their diverse physical and psychological needs and to design built environments which can best afford these needs.

First, the mutual relationship between people and environment is described. Then, using the knowledge of human behaviours is assessed within the field of architectural theory. The effects of ‘the global-local power relations’ on human behaviours are also brought into the discussion, because “much of human behaviour is governed by culture” (Lang, 1992). Finally, the paper concludes with the significance of incorporation of behavioural knowledge into both design theory and practice.

Keywords: design, behavioural knowledge, user needs, human behaviour

1. INTRODUCTION

The needs of humans are vast and changing from one person to another so that it is important to be informed from the relationship between people and the physical environment while designing the built environments which can best afford their needs (Lang, 1987). The understanding of this mutual relationship between people and their surroundings is the major concern of the behavioural sciences (Dent, 1998). Human behaviours, attitudes and values become significant in order to create enabling environments for diverse needs of people in the contemporary society (Churchman, 2002; Lang 1987; Dent 1998). In this respect, the main aim of this paper is to emphasize utilizing the knowledge of human behaviour while designing the built environments and to approach this issue from the perspective of an interdisciplinary discourse, environmental psychology.

This paper is organized into five parts. First, the paper begins with the definition of environmental psychology. Then, the mutual relationship between people and the environment is described by highlighting the factors affecting this relationship. In the next part, using the knowledge of human behaviours is assessed within the field of architectural theory. Then, the effects of “the global-local power relations” (Ger, 1997, p. 115) are brought into the discussion, because “much of human behaviour is governed by culture” (Lang, 1992). Finally, the paper concludes that any design project of the built environment should cover and incorporate the information of all the aspects of human behaviour.

2. WHAT IS ENVIRONMENTAL PSYCHOLOGY?

The early definitions of environmental psychology described it as the relationship between people and the physical environment (Heimstra and McFarlings cited in Bell, Greene, Fisher and Baum, 1984). It is possible to paraphrase this definition and state that environmental psychology is the study of the relationships between behaviours and experiences of a person and his/her built environment. Looking in the historical background “the topic under that label includes perception theory, cognition, social and anthropological psychology, the study of social relationships and the study of culture” (Lang, 1987, p. 21) Therefore, in next parts this paper expands the issue of environment-behaviour relationship by analyzing the factors changing this framework, like globalization process.

“More recent definitions, though somewhat more inclusive, are essentially same” (Bell, Greene, Fisher and Baum, 1984, p. 6). In this respect, Lang (1987) described environmental psychology as the psychological study of behaviour which is also related to physical environment of everyday life. An important aspect concerning the definitions of environmental psychology is made by Cassidy (1997) emphasizing the reciprocal action between individual and its surrounding. Gifford (2002) defines environmental psychology as “the study of transactions between individuals and their physical settings” (p. 1). While inquiring the definitions of the field of environmental psychology it is important to highlight that environmental psychology is included within the person-environment theory and goes under the topic of behavioural sciences (Lang, 1987; Bonnes and Secchiaroli, 1995; Bell, Greene, Fisher and Baum, 1984; Bechtel and Churchman, 2002; Gifford, 2002).

The all above mentioned definitions of environmental psychology highlight the significance of understanding this reciprocal relationship and of using this knowledge in order to be able to respond to variety of problems (Dent, 1998; Gifford, 2002). Within the framework it is also important to describe this mutual relationship more in detail and expanding the meaning of place attachment and sense of place. Thus, the study brings clarity to the issue of how people perceive, feel, sense and interact with their surrounding environments.

3. DESCRIBING THE MUTUAL RELATIONSHIP BETWEEN PEOPLE and THE BUILT ENVIRONMENT

It should be noted that the architects and planners have the responsibility of creating buildings and urban fabrics that can communicate with its users and can be communicated by users. In this sense, they are also responsible for taking into account the mutual relationship between people and the built environment, because as human beings we regularly get contact with the physical environment which affects us and has influences on our behaviours. We are performing our activities, making space and modifying our built environment according to how we perceive it. For Rybczynski (1989) “making space is social art; and although architecture consists of individual works, these are always parts of a larger context of a landscape, of other buildings, of a street, and finally of our everyday lives” (p. 67).

In this context, knowing and understanding of everyday lives play an important role while designing the physical environments. Gifford (2002) explained this importance with the key words of perception and cognition. Environmental perception is related with the reinterpretation of the gathered data by users in the way that they store, transform, organize, forget, and recall knowledge (Gifford, 2002). The individual concerns about the built environments, which Gifford (2002) called environmental attitude; become also significant in terms of environmental psychology.

Our attitudes toward the physical environment have also close relationship to making decisions by using our preferences in everyday life. “The study of environmental preferences has constituted one of the major research foci within environmental psychology over the last 30 years” (Hubbard, 1996, p. 75)

From the perspective of environmental psychology, cognition is another important factor affecting the preferences of individuals. Cognition is the accumulation of our experiences and as Kaplan stated that our preference judgments can sometimes be made so rapidly that “there is surely more to cognition than conscious thought” (Kaplan, 1992, p. 57). Deasy (1974) in the book of *Design for human affairs* discussed affecting factors of people decisions and stated that human choice ranging from shopping for food to selection a home, people consistently base their decisions on form as well as content” (p. 126).

Considering the form and content as Lang (1992) described there are architectural symbols which are used and given meaning by people to the built environments in order to communicate messages. “Through interacting with the environment and developing knowledge structures, individuals from different places, cultures and subcultures would develop different meanings and preferences across content (or symbolic) categories (Nasar, 1994, p. 389). In this respects symbolic meanings of building and spatial configurations, materials, illumination and pigmentation are significant features concerning the symbolic aesthetics of architecture and affecting the communication between people and their everyday environment (Lang, 1992, pp. 17-19). Expanding the limits of symbolic meanings, Ger (1997) defines consumption as a symbol of a better life.

As Gifford (2002) stated, “environmental psychology accepts the idea that behaviour is subject to many influences” (p. 12). In this respect, while designing built environments designers should also be aware of the concept of place attachment summarized by Dent (1998) as four issues: “patterns of attachment; places which vary in scale, specificity and tangibility; different actors and social relationships and finally temporal aspects (p. 19). Understanding the concepts of preference, cognition and place attachment are important factors changing the framework of environmental psychology as well as of architecture and planning while designing built environments and relating everyday environment to the human behaviours.

It should be also noted that besides preference, cognition and place attachment there is also impact of information and communication technology (ICT) on human behaviours and their relationship to their everyday life because “ICT is transforming all aspects of society” (Selwyn, 2004, p. 369). By referring the term ICT and its relationship to our surrounding environment, it is possible to state that the physical environment is changing more rapidly and using and distribution of all technologically based products and environments can affect all of the human behaviours and attitudes (Fozard, et al, 2000)

4. ASSESSING THE HUMAN BEHAVIORS WITHIN THE FIELD of ARCHITECTURAL THEORY

Environmental psychology includes also theory; research and practice in order enhance the mutual relationship between people and physical environment (Gifford, 2002). At this point, it is also important to look the types of theories and examine how they are related with the field of architectural theory. “By ‘architectural theory’ Lang largely means behavioral concerns related to the process of designing environments” (Wang, 2002, p. 78). It is important by the architect to know how the built environment is used, experienced and valued by different people. Therefore, every design should begin a systematic evaluation of the built form.

There are two types of theory, positive theory and normative theory both of which have impact on design decisions (Lang, 1987). “In the design professions one of the functions of positive theory is to raise consciousness behaviours in the built environment that are important to people and that therefore should have impact on design decisions (p. 14). Normative theories, which are in the form of manifestos, principles and standards, are concerned with the descriptions and explanations and have also impact on what a good architecture and urban design should be (Lang, 1988). Normative theories explain also the architects’ taken attitudes on the built environment. In this sense, it is important to highlight the potential contribution of behavioural sciences on normative theories. “One of the major contributions of behavioural sciences is in providing methods and concepts for documenting and enhancing our understanding of how normative positions are developed” (Lang, 1988, p. 628).

In order to be able to use the knowledge of human behaviours and the potential contribution of environmental psychology, it becomes significant to look how it can be incorporated into the design education and studio courses. To transform environmental design research into the field of design education and studio courses can guide students. Incorporation of social-environmental research findings obtained by qualitative and quantitative mode of data gathering can increase the potential of behavioural sciences for future designers and architects. Environmental design research play an important role in order to “acknowledge the needs, characteristics and limitations of the intended user and consider the interaction user with the environment” (Erkip, Demirkan and Pultar, 1997, p. 126).

5. THE EFFECTS OF GLOBAL-LOCAL POWER RELATIONS ON HUMAN BEHAVIOR and BUILT ENVIRONMENTS

With the effects of new trends and conceptions, there begins to exist new directions in value judgments, attitudes and behaviours of people. The built environments are also being re-fashioned in new ways and with new definitions in the contemporary society. The globalization process and its effects on local cultures are one of these new definitions influencing the mutual relationship between people and the built environment.

“In the last decade globalization theory has brought issues of time, space and territorial organization into the centre [...]” (Albrow, 1997, p. 43). Considering the globalization process, it becomes significant to look the concepts locality and culture regarding the fact that our everyday life and physical environment has changed under the global conditions. As Albrow (1997) explained one can occupy in a built environment and has social relation both outside this environment. This is one of the key effects of globalization on locality. In reference to Harvey’s definition “information and communication technology now makes it possible to maintain social relationships on the basis of direct interaction over any distance across the globe” (cited in Albrow, 1997, p. 44).

Massey discussed the effects of globalization and modified also the definition of the physical environment by describing place as follows: “instead of thinking of places as areas with boundaries, they can be imagined as architectural moments in networks of social relations and understandings. Moments as the place itself, whether it is a street, a region or a continent” (Massey, 1997, 154). Katznelson (1993) mentioned also the changing framework of the everyday environment. “Space is re-shaped. New configurations of work and home are literally plonked in the middle nowhere, located at key points of communication and transport [...]” (p.286).

As it can be observed in the above discussions, there are effects of global-local power relations on human behaviour and built environments which is also an important research focus of environmental psychologist as well as architects and planners. Since human

behaviours are closely tied to their surrounding environments. “Around the world, the face of environmental psychology varies with national and regional concerns, but it retains a fundamental commitment to understanding and improving relations between human and their environments (Gifford, 2002, p.16)

6. CONCLUSION

This paper has illustrated how a conceptual framework can be drawn around environmental psychology and can be applied to the examination of the importance of using human behaviours while designing the built environments. In broader sense, this study suggests to use behavioural science and its integration into the field of theory and design practice. Since lack of knowledge related to human behaviours, attitudes and values are important problems that architects and planners are facing today while designing the built environments. In this respect, utilizing the knowledge of human behaviour and the potential of behavioural sciences provide designers the possibility of incorporating social and individual aspects of people’s live into the design processes (Churchman, 2002, p. 195). “The behavioural sciences can help us to understand the present and what the trends in society are, they can help us to predict the outcomes of our design proposals for the future better than we do now” (Lang, 1987, p.29). With the help of the study of environmental psychology it is possible to reduce the uncertainty of architects, interior designers and urban planners while making decisions on users’ needs during the design process. Moreover, it is also possible to improve their designs by taking account the environmental research results and incorporating the findings to the design proposals. Finally, “useful information must be located, and it must be translated from the terminology of human sciences to the language of design” (Deasy, 1990, p. 11).

7. FURTHER STUDIES

Further studies of this research can include an empirical study providing the basis that supports the arguments developed in the above sections. The empirical study can focus on the four issues of the concept of place attachment as Dent (1998) summarized in a selected urban site. This selected site is evaluated in terms of two points of view, both the users, who use this environment, and the designers, who have designed this environment. First, it is analyzed how people with different abilities, sizes and ages perceive, see, sense and feel this built environment. Second, the designers’ awareness toward the human behaviours in this selected site is analyzed. The main research problem is the exploration of how the awareness of the behavioural sciences can be integrated into both the design practice and the everyday life. Understanding the concepts of environmental psychology is also another significant concern for the research questions. The discussion part includes the interpretation of the data collected from the findings of both users and designers. In relation to the findings, this study can also expand the issue of environment-behaviour relationship by incorporating these findings into the design processes.

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