International Journal of Psychology and Behavioral Sciences 2013, 3(4): 109-113
DOI: 10.5923/j.ijpbs.20130304.04

Psychological Demands of the Built Environment, Privacy, Personal Space and Territory in Architecture

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Abstract The concept of privacy, personal space, territoriality, and crowding are central to the study of environment and behavior relationships. Each has received increasing attention by social scientists and environmental designers in the past decades for somewhat different reasons. The study of crowding has been spurred on by a burgeoning world population, and some experts are predicting ecological doom as more and more people consume decreasing resources and as pollution of air, water and other natural resources increases. Some social and behavioral scientists believe because of the interpersonal stresses that occur from too much contact with too many people. It is likely that research on the areas of crowding, personal space, privacy and their relationship to the built environment will probably increase in the coming decades.

Keywords Architecture, Psychology, Built Environment, Personal Space, Privacy, Territory, Crowding

1. Introduction

In many regions of the world, people spend the majority of their time indoors. Americans, for example, spend approximately more than 90% of their time within buildings (Wallace, 1987). Hence, the feeling and interactions of the occupants are highly correlated with the design elements and architectural features of the built environment. In other words, "the built environment provides the setting by which we live our lives, and impacts on our senses, our emotions, participation in physical activity and community life, our sense of community, and general well-being. Meanings are generated by buildings and spaces, which we 'read' as we pass through them. Places are created and shaped by those in control of resources and with certain interests, which affects our degree of access to, and the way we use, those spaces (Butterworth, 2000)."

One of the important issues is the understanding, and translation of these psychological and behavioral concepts into the real physical world by environmental designers such as architects, planners and urban designers. In architecture we do not use the terms "psychological needs". The reason that psychological needs are not identified by clients is because they are feeling (Robert & Russell, 2002). The way a person can express his feelings about a space is by recognizing that it is an exciting space. It is the architect's responsibility to design required spaces that are exciting and lively. The following are a brief explanation of these concepts and their relation to the physical environment.

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Published online at http://journal.sapub.org/ijpbs

2. Privacy; Separateness and Isolation in Physical Environments

Privacy is an approached by environmental psychological as a changing self/other boundary regulation process in which a person or a group sometimes wants to be separated from others and sometime s wants to be in contact with others (Davis & Palladino 1997). In other words, privacy is a dialectic process, in which forces to be with others and forces to be away from others are both present, with one force dominating at one time and other being stronger at another time. As a corollary, being alone too often or for long period of time (isolation) and being with others too much for too long (crowding) are both undesirable states.

To translate this viewpoint into practical environmental designs is not an easy task. A general principle is that we should attempt to design responsive environments, which allows easy alternation between a state of separateness and a state of togetherness. If privacy has a changing dialectic quality, then ideally architects should offer people environments that can be responsive to their changing desires for contact or absence of contact with others. Environments that emphasize only either very little interaction or a great deal of interaction are too static and will not be responsive to changing privacy needs so environmental designers should try to create environments that permit different degrees of control over contact with others. This approach is already used to some extent. For example, the door is a simple example of an environmental design feature that is responsive and that allows regulation of

social interaction. Opening it signifies a desire for social stimulation and closing it represents a positive set/other boundary. On the other hand, in most cases it does not have the flexible capability to meet changing privacy needs. The "family room" in American homes seems to be primarily a place for social interaction. It is hard to imagine someone using a family room as a place to be alone. In the American home, the den, the bedroom and the bathroom are typically places to be alone and away from others. In fact, some people use the bathroom to read or think, since it is one of the few places in the home where people can be sure of maximum privacy (Gifford, 1997). To achieve different privacy states requires, therefore, that one literally "go" to a different place. Why not think about having the same place serve different functions and have it change with our needs, rather than our changing needs requiring us to change our location? This approach is used in certain other cultures. For instance, by the Japanese, the interiors of their homes are flexible environments in which the same space is changed to reflect different social functions. In many Japanese homes, walls can be moved in or out place; the same area may be used for eating, sleeping, and socializing at different times.

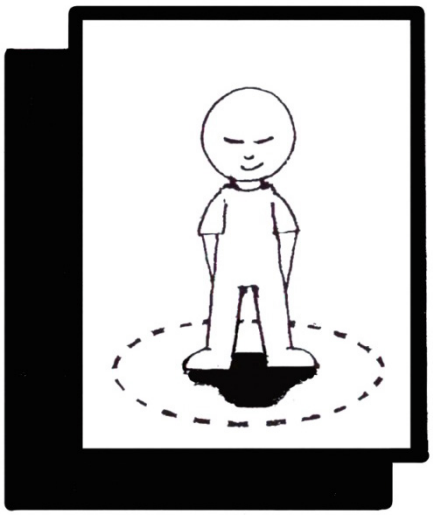

Figure 1. Isolation and Separateness

3. Personal Space in Architectural Context

The second concept is personal space which is a mechanism used to assist in the regulation of privacy. Personal space involves a combination of distance and angle of orientation from others. Research has indicated that personal space behavior includes withdrawal and protective reactions to intrusion or very close contact by strangers, and a desire to be close to others. Research has indicated that personal space is a dynamic, active process of moving toward and away from others, to make the self more or less accessible. Environmental designers have been intuitively sensitive to personal space mechanisms in furniture design, layout of office and living-room areas, and so on. For example, office desks and chairs usually place people about four feet from one another. Edward Hall refers to social distance zone, which he describes as an appropriate distance for strangers in public settings (Gordon, 1997).

Research data also indicates that there are different social groups. To what extent are designed environments responsive to such different users? The information in this area could be examined to see how different groups utilize personal space and how different settings evoke different personal space relationships.

There are probably ways in which we can design environments so that personal space can shift with changing circumstances. One can ask the questions "to what extent do environments permit changes in personal spacing" and "are environments arranged so that when people are in them they are locked rigidly into personal space relations?" for example, many offices have chairs in a fixed relationship, such as on either side of a desk, so that the occupant and visitor can assume only one type of seating position. A possible alternative would be to have an office arrangement with several optional configurations—chairs across the desk, at the corner of the desk and behind the desk or chairs on the same side of the desk. With such options, personal space relationships between the occupant and different visitors could be adjusted in accord with desired levels of interactions. So the concept of privacy and its associated mechanisms can be translated into design principles that reflect changing social interaction.

4. Territory and its Impact on Privacy

Another factor of the privacy regulators is territory, which is classified as primary, secondary, and public territories in terms of degree of permanency of ownership and degree of control that occupants have over use of a place (Hall, 1969). One issue concerns the design of territories to insure that primary, secondary, and public territories are recognized as such and that users have appropriate degrees of control over spaces. Basically territories serve the purpose of smoothing out social interaction and stabilizing social system. Primary territories, such as homes, usually serve this function well, since people tend to respect them and since they are easily visible. But secondary and public territories are sometimes more difficult to recognize. Environmental design needs to focus on ways to create and define secondary and public territories in clear terms Because people need to be sure that different levels of territory are viewed correctly by users and visitors and that they are clearly designed as to their degree and permanence of ownership. If this is not done, conflict is likely to occur, intrusions are more probable, and occupants must go to special, often expensive, length to define, manage, and even defend territories. Jon Lang, from the University of Pennsylvania, views the urban housing developments, in which problems of design of secondary and public territories, such as entranceways, play areas, and hallways. When these places were not designed in a way that rendered them

distinctive and under the control and surveillance of occupants of a building, crime was high and residents felt unsafe. It was a situation in which a secondary territory, presumably under the partial control of occupants, was actually a public territory and therefore inappropriately accessible to many people. So the design principle is that people must carefully attend the nature of territories and people must ensure that primary, public and secondary territories, if they are to be included, actually allows appropriate levels of control over intended functions. A primary territory, such as a bedroom, that does not permit strong control by occupants because of a design feature will also increase the probability of stress, conflict and discomfort (Hall, 1973). Environmental designers must consider the territorial functions of places and build into the appropriate mechanisms for making them usable as different types of territories.

If privacy and its associated mechanisms are ignored or rigidly incorporated into design, or if the meaning of different levels of personal space and territory is not recognized, then people will have to struggle against the environment to achieve what they consider to be appropriate levels of interaction. Conflict, stress and other costs are likely to occur to the extent that people have to struggle with inappropriately designed environments. Thus, the main factor is that the designers should take into account the dynamics of privacy as a changing process in which people open and close themselves to others, to different levels as different times, using personal space, territorial behavior and other mechanisms to achieve a desired degree of privacy.

Maslow refers to human hierarchical needs and their importance in our daily life. One need which is directly related to most of Maslow's hierarchical needs is the need for a place to live or to work. This need throughout centuries has been evolved along with other things, from primitive caves to today's sophisticated skyscrapers. So before any process of design or programming of a building, there must be the need for that building and the need for more buildings. The accumulation of these buildings comprise what is called communities, town and cities, which in psychology are mostly referred to as physical or built environments. The physical environment is created by man, used by man, evaluated by man, and finally destroyed or preserved by man. Now, what factors influence a man in viewing his environment and influence his interaction with others within that environment? An individual's personality and behavior are what make him psychologically unique and color the way he looks at the world, the way he thinks about it and the way he behaves in it. Carl Jung introduced a two-fold classification that has become part of our everyday language, "extrovert" and "introvert" (Skinner, 1972). The extrovert lives according to external necessities and the introvert stresses his own subjective values. In defining whether a person is primarily an extrovert or an introvert, one has to consider two dimensions:

a) The manner in which a person reacts to the environment
b) The manner in which he acts on it.

According to Jung, small proportion of the population is either introvert or extrovert in both dimensions (Lang & Burnette & Moleski & Vachon, 1974). Most people embrace both depending on the situation. Thus, in defining architectural goals, one faces a dilemma because people select environments in terms of the image of themselves that they wish to portray rather than for what they are. It is this phenomenon that binds individuals into groups and creates those interactions which take place among the members of groups. An individual is a member of many groups, the nature of which depends on his interests and stage in the life cycle. The groups influence not only his actions but also the way he perceives the world and what he thinks about it. His status and perception of his own role and that of others are particularly important factors.

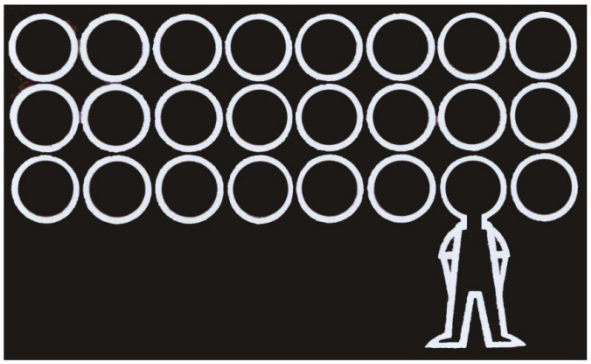

Figure 2. Schematic Drawing of Crowding

The cultural component of behavior deals with those aspects of behavior that are controlled by relational perceptions (symbols, beliefs, definitions, rules, values, and emotions) of a group of individuals (Tracy, 2005). Culture has been defined by Louis Mumford in The City in History as "the configuration of learned behavior, and results of behavior whose elements are shared and transmitted by members of a particular society." Culture influences behavior through the process of socialization, by which language, traditions, norms, values, expectations, and sanctions are taught. Cross cultural studies indicate that there are effects of culture on perception, cognitive representations and behavioral patterns of people. Human behavior and human reaction to the physical environment is a very complicated matter and the impact of the environment on human behavior is also complicated.

The need for a space means a space which would serve a particular function and that function would satisfy all aspects of the need. But, the word function has become a catchword among designers since the turn of the century. The term "function" has several meanings. The Bauhaus and the modern movement in architecture used the term "function" to desirable the use to which an object was put: furniture to sit on, cars to get to places in, kitchens to cook in, and streets to drive on. But, furniture is as much an expression of its owner's lifestyle as it is a thing to sit on. Cars, for certain people are as mush a mean by which men establish themselves in society as they are a form of transportation. In

some cultures, kitchens have the same social impact. They are places for women to prove that they do their job in society well. The street has many more social functions than just being a place to drive on.

Research and investigation in these areas are increasing but in reality the implementation of these concepts are somewhat decreasing. Some time ago when the builder was himself the user of an environment, behavioral concepts were based on tradition. Traditional house forms evolved in response to social and cultural needs and changed as the culture developed. People in such societies who took the building of houses upon themselves embodied these traditions in their skills. When building design and planning became established fields, these professionals basically reflected their client's needs in that they designed and built for people much like themselves. Since the industrial revolution, most housing and many environments have been designed and built for a client other than a user: worker's housing by the factory owner and not the worker, office buildings by a corporate board and not the secretaries, schools by school boards and not the students. The architect paid by on client, designs for another, the user. The understanding of the distinction between a paying and a user client, have committed the designers to maximize the users freedom within the designed environment

Today designers are primarily using adaptability and participation concepts to increase user control over their planned environments. Architects and planners are trained to design for many alternative space and arrangement of space. Today there is a trend to plan for adaptability whenever possible. Movable walls in housing, in schools and in office buildings are commonplace, with the idea that supposedly users can regulate their privacy and territory. But, movable walls are sometimes never moved by the users once they are initially set up by the designers. In open-plan schools, teachers usually need special training to be able to teach children in the new setting of adaptable schools.

Despite the problems created by new forms of adaptability, architects who believe that the user should be able to control what he does within a given physical setting continue to develop new forms of adaptability and to make old forms more efficient.

Carl Jung on the behavioral system states that "people are products of a physical environment as well as social environment" and Winston Churchill once said "we shape our buildings and later they shape us." In the process of designing a building or in the programming of a design problem, there is no one specific point or order that the designer should think about concerning the psychological aspects of spaces. If a designer has enough knowledge about concepts like privacy, personal space and crowding, he would utilize his knowledge at any time that he is designing a space.

5. Conclusions

Social psychologists talk about personal space, an invisible bubble, the area immediately around the body and its effect on an individual's behavior. Also, they refer to privacy, crowding and their importance in different places and cultures, how people can regulate their privacy by using regulators such as personal space, territory, verbal and paraverbal mechanisms. Further they refer to functions of privacy, what people can or cannot do with having or not having privacy and finally to the psychological and physiological effects to these concepts on an individual's behavior (Jordan & Rowntree, 1982). I think the awareness and understanding of these subjects are vitally important to environmental designers. The research and investigation in areas like human behavior and the development of environment psychology in the recent years has enabled the architects to design more functional buildings. Unfortunately, some designers have misinterpreted and misused these concepts in the past. For some designers the environment is considered a container for human activity and that is what they call its function. But, it is recognized by some architects and social scientists that one of the objectives of architectural design is to create special layouts which would provide for the activity patterns required by a set of building users to achieve their goals. This involves an understanding of human movement patterns, physical dimensions and above all usability of spaces for territory and settings for interaction among people (Altman, 1975). One should not ignore the fact that the concepts such as personal space, territory and crowding are useful in the understanding of interior spaces, but, they are not the basic units for architectural design. An architect should be able to identify his client's needs and the needs are not fulfilled just by providing the spaces that the client has required. The designer has to be able to satisfy the psychological requirements of those spaces also. These psychological requirements are not usually recognized by most clients and are not always furnished by architects either. The reason that psychological needs are not identified by clients is because they are abstract, they are feeling. The way a person can express his feelings about a space is by recognizing that it is an exciting space. It is the architect's responsibility to design required spaces that are exciting and lively.

In architecture we do not use the terms "psychological needs." Louis Kahn referred to the character of a space in conversation with architects as two kinds of spaces, "a space" and "an architectural space." He viewed that anyone can design a space or the combination of spaces but only an architect is capable of designing an architectural space. What he meant is that anyone can design a building if he is concerned only with the need of that space, but an architectural space, besides satisfying its physical needs also satisfies the psychological needs. A building designed only using psychological needs as criteria. As Robert Sommer states, the personal space bubble is a logical unit in architectural design (Lynch, 1997). It may be an interesting and useful concept for architects to have around for conceptualizing interaction of space, but it is not a tool to go by. In other words, providing privacy by four blank walls is

not going to solve the psychological deficiencies of a space. A space should be flexible enough to be personalized by different occupants, and the best way to achieve this in today's complex environments is more participation, cooperation and understanding among designers and environmental psychologists.

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