HOUSING DEVELOPMENT AN MANAGEMENT:

A BOOK OF READINGS

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CHAPTER SEVEN

Behavioural Aspects of Housing

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1. Territoriality: Definition and Meaning

Territoriality is the intense feeling of personal possession, which one tends to want to protect, preserve and prevent unwanted and uninvited individuals from encroaching upon. This phenomenon is not peculiar to humans alone; rather all animals, regardless of size and other considerations, exhibit territorial behaviour. Altman and Sundstrom (1974) state that territoriality involves the mutually exclusive use of areas and objects by persons or groups. In a similar vein, Sommer (1969) describe territory as visible, relatively stationary, visibly bounded, and tend to be home centred, regulating who will interact. Mostly, territoriality is intra-specific (though there could be some exemptions), this means that only members of the same species can make use of the territory; the presence of another species will be seen as acts of invasion and aggression.

One basic feature of territoriality is the readiness of the "owners" to defend the territory aggressively and if need be to use violence, this may be as a result of the view that territories are owned and controlled by one or more individuals. However, there are instances whereby a group may allow another group or species the use of the territory without any problem. Territoriality in animals is instinctive not learned (Roos, 1968). They defend their territory but do not necessarily have the concept of ownership, which means that stay cannot bequeath it on others, not even their offspring can lay claim to it as their heritage. On the other hand, territoriality in humans actively involves the concept of ownership (Ittelson,

Proshansky, Rivlin, and Winkil, 1974), they can dispose it if they so wish, and can bequeath it on their offsprings or any significant others. Also, there is a feature of permanence in the human territory in that if a particular property (territory) is not sold, it can remain in the family from generation to generation. Taking into consideration the distinction between human and animal territorial behaviour, Bell *et al* (1996) put forward a definition that sees territoriality in human as a set of behaviours and cognitions a person or group exhibits, based on perceived ownership of physical space. With this particular definition, perception thus becomes a critical issue in territorial behaviour of human.

Another issue in the human/animal territoriality is the fact that animals operate a mono-territory possession, that is they lay claim to a particular territory (piece of ground [area]) at a time; whereas humans can lay claim to multiple territories all at the same time, even when the territories are non adjacent. For instance, a man can have houses and landed properties in different locations, towns, states or countries, and at the same time, he could possess cars, farms, and offices. These he considers as his personal territories which he would be ready to defend and keep.

2. Types of Territories

According to Altman (1975), there are basically three types of territories in humans, they are in order of importance: primary territory, secondary territory, and public territory. These three types have implications for duration of occupancy, the cognitions they foster in the occupant and what and how an individual will feel if faced with invasion and/or dispossession; he/she has an emotional attachment to the territories.

2.1 Primary Territories

These are territories, properties, possessions that are personal, exclusive and central to the lives and existence of the owners; ownership, generally, is on a permanent basis. Examples of these are personal houses, cars, parcels of land, etc. Expectedly, people have a very strong emotional attachment to primary territories. They are very jealous, possessive and protective of the territories, and they tend to defend them with aggression. The possession of primary territories constitutes part of people's identity.

2.2 Secondary Territories

In the case of secondary territories, there are no clear-cut ownership; nobody can actually lay claim to the possession of the object involved, rather, a number of people have access to them. Secondary territories are less central to the people's lives and existence when there is invasion or dispossession, these territories evokes less emotional reaction and feeling of possessiveness. An example of a secondary territory is a seat in the church where an individual is located regularly. If on a particular day another person occupies the seat, the former may not like it but there is nothing he can do about this since it is not his personal property.

2.3 Public Territories

As the name implies, these are public places where no individuals or groups can claim as exclusive to them. It is open to everybody and you can not claim them beyond the time you are using them. Example of these are studios, cinema houses, parks, beach etc.

3. Functions of Territoriality

Territoriality in humans serves higher and more sophisticated functions than in animals. The functions territoriality serve in

animals include propagation of species by regulating species density, ensuring adequate supply of food by allowing one group to hunt in a particular territory, and for communication purposes:

For humans, functions of territoriality include:

1. Provision of a stable social organisation, the division of a country into states, states into local governments, local governments into towns, towns into areas, areas into streets/compounds, streets into houses, houses into apartments and rooms. All these help to reduce the possibility of conflicts and when conflict arises, management is easy.
2. Territoriality helps in the regulation of privacy; an individual who wants to be alone can withdraw into his/her primary territory, personal room or offices or may as well leave a town for a country home.
3. Enhances feelings of security and home advantage as in games and sports.
4. Psychological advantage over invaders and enemies.

4. Protecting Territory

Having established a territory, humans will go a long way to protect it. This is especially evident in primary territories. People generally are possessive of their primary territories. They have very strong emotional attachments to them, and, as such, they will go to any length to secure and protect their primary territories. The basic reason why people protect their territories is to ward-off invaders, and ensure safety and privacy. Also they want to be asked to transfer them whenever they feel like doing so and as well guarantee that their offspring or relations can have them after their death.

In securing primary territories, people employ the use of markers and other methods. In the case of houses and landed properties, visible, conspicuous and easily recognizable

markers are used. These could be in form of high wall fences, locks, barbed wires/meshes (electrified or not), security guards, dogs, close circuit monitors and sign posts stating the names of the owner and warning trespassers. A new trend in securing primary territories is by writing in bold prints that the house is not up for sale. For territories, like automobiles, various security gadgets are used as demobilisers. Also, stickers and insurance policies are used as forms of security. Basically, markers are effective in establishing and protecting territories, however, there are instances whereby territories are invaded despite the markers, and usually the owner will put up a fight to defend and protect the territories.

Secondary and public territories on the other hand do not necessarily require protection or defense by individuals, since nobody can exclusively lay claim to their ownership. In situations where markers are used, they are not as conspicuous and definitely not permanent, for example reserving a seat in a public library, park or church can only be on a temporary basis.

5. Personality

5.1 Meaning and Types of Personal Space

The concept of territoriality discussed earlier is in terms of territorial behaviour in relation to a fixed object or ground. *Personal space* on the other hand is another kind of territorial behaviour involving what can be described as "Mobile Territory". This involves a particular bubble of space surrounding an individual, a distance he/she does not allow others to penetrate. Penetration into such a space will be considered an invasion or intrusion into a "sacred" arena people consciously and, at times, unconsciously create. It is, however, important to note that the phenomenon of personal space, though universal, differs from culture to culture as well as from one situation to the other. Personal space as a behaviour is not peculiar to humans alone, animals too have

been observed to elicit this territorial behaviour in various degrees and situations. We shall examine this briefly for the sake of comparison.

5.2 Types of Personal Space in Animals

Hediger (1950) was the first to notice and discuss personal space in animals. In his observation, he discovers that animals of the same species space themselves when they graze, interact or are in contact with one another, and they tend to maintain the space across situations. If one moves closer, the other will shift to maintain the space as if there is an "invisible bubble" that should not be broken by the other animal of the same species. Hediger refers to this as personal distance.

With further observation, two other distances were identified, this time involving animals of different species; the first of this interspecies distance is called *flight distance*. This is the distance up to which one animal will allow another animal to approach, if this is exceeded, the animal will flee the zone. The second of the interspecies distance identified by Hediger is *critical distance*. This is a small zone between flight and attack that is when an animal goes beyond this flight distance, thereby moving closer to the other animal, the situation becomes threatening and the animal is likely to respond by attacking the intruding animal.

5.3 Types of Personal Space in Humans

Sequel to Hediger's study of animals in 1950, an anthropologist named Hall in 1959 and 1966 studies humans' use of space in interactions. This he termed proxemics. His main hypothesis was that people feel a certain "ownership" of the space around them. He found that there are cultural differences in the use of space and, the nature of interaction as well affects the size of space.

For this particular study, Hall used the western societies, and he identified four definite interaction distances, each having two phases, a close phase and a far phase.

1. Intimate distance: in this kind of interaction, people get very close to one another. The close distance phase is less than 6 inches. This is the distance at which we make love, touch, comfort, protect and wrestle. In the far phase, the two parties are apart by a distance of 6-12 inches. This is when touching is not allowed but conversation is carried out in very low tones, a kind of whispering.
2. Personal distance: the close phase of personal distance is used by close friends or by a man and his wife when conversing. This involve a distance of 18-30 inches. On the other hand, the little distance is used by casual friends and acquaintances when discussing personal matters but do not want to engage in physical contact. It involves 30-48 inches of distance.
3. Social distance: The close phase of personal distance is utilized for personal business and conversations at casual social gatherings. This is a distance of 4-7 feet, while the far phase involves a distance of 7-12 feet and is used for more formal business and social discourses.
4. Public distance: This involves a close phase of 12-25 feet and in far space of 25 feet or more. The close phase is used for quite formal interactions while the far phase is the distance that is "automatically set around important public figures".

6. Development of Personal Space

It is now an established and accepted fact that personal space zones exist for humans, and also that there are cultural and differences in the use of space, determining the nature of the

interaction. However, it is important to know whether this mobile territorial behaviour is learned or innate.

Ample research findings have shown that spatial behaviour is not innate rather it is learned. Children of ages four and five have been found to exhibit consistent spatial behaviour (Eberts and Lepper, 1975). In another study, Aiello and Aiello (1974) find that personal space requirements increase in size as the child gets older, and the child's spatial norms approach those of the adult by age 12 or 13.

Meanwhile, it is quite interesting to note that adults do not consider children as having rights to personal space, and at the same time they (adults) neither feel threatened or offended when children violate or invade their territories. For instance, it is a common sight to see a total stranger walk up to a little girl/boy, put her/him on the head, pay a compliment and walk off. A stranger can play with a little child in the park without having any guilt feeling as to invading the child's territory. By the same token, adults do not mind when little children they don't know tug at their cloth and generally disturb them.

6.1 Factors Affecting Personal Space

6.1.1 Sex

This is one very important factor affecting personal space in humans, and it does in a variety of ways. Research findings have shown that females have smaller personal spaces than males. Also, smaller personal space zones are found between male-female pairs than between same-sex pairs (Heckel and Hiers, 1977). The reason for the latter finding might not be unconnected with the fact that society frowns at homosexuality while heterosexual behaviour is encouraged. Another difference was found in the responses of male and females to invasion/intrusion by Fisher and Byrne (1975). These researchers find that males respond most negatively to frontal

invasions of their space, while females react most negatively to invasions from the side. As a result, males are likely to protect their frontal space than their lateral space, whereas females will be more concerned about protecting their lateral space.

6.1.2 Race and Culture

These have also been found to affect personal space distances. People interact at closer distances with members of their own culture than with members of other cultures. According to Hall (1966), and Watson and Graves (1966), Latin Americans, the French, and Arabs interact at closer distances than individuals from the United States, England, or Sweden. As a result of the presence of people from different races and cultures in the suburbs, people and houses are spread out and neighbours interact only when they wish to. In the ghetto however, where people are forced to live and interact at very close distances, a high degree of stress is experienced partly deriving from not only language and customs differences but also from cultural differences in the norms regarding personal space.

6.1.3 Personal Characteristics

The personal characteristics of individuals will determine the size of their personal space zones. People that are classified as having violent tendencies or hostile disposition will have very large personal space zones because other people will not want to move near them. Research by Sommer (1959) reveals that schizo-phrenics sit very close to or very far from a target, whereas normal individuals choose seats at intermediate distances. Invariably, people tend to maintain greater distances from stigmatized individuals (e.g. epileptic, leper).

6.1.4 Type of Relationship

The nature of relationship obviously will affect personal space zones of individuals. In this regard, an individual is more likely

to move closer to another individual that he/she likes, and move away from one he/she doesn't like. Thus, liking or disliking is communicated by varying the distance that is used in interactions, thereby having an implication in the use of space. Ryen and Kahn (1975) report that competing groups sit farther apart than do cooperating group. Similar to this assertion is the study reported by Latta (1979) that status affected personal space. He measured the distance that college students placed between themselves and three target persons: a high school student, a college student, or a psychology professor. Latta found out that the higher the status of the target person, the greater the distance that the students placed between themselves and the target person.

6.2 Reactions to Invasions of Personal Space

As much as individuals try not to intrude or invade the personal space of others, there are times that such intrusions and invasions cannot be avoided. We do willingly or unwillingly intrude into other people's spaces. In this section, we will examine the reactions of people, physical or otherwise, when their space (personal) is invaded.

Individuals react to invasion of personal space in various ways, depending on the situations and the people involved. However, research has shown that one of the most common reactions to violations of personal space is stress. People report that they feel uncomfortable, ill at ease when their personal space is violated; this, always is coupled with physiological arousal. In a particular study, McBride, King and James (1965) discover that when there is violation of personal space, individuals experience elevated galvanic skin responses (GSR). Also, it is found that the GSR is higher when space violations occur from the frontal position than when they occur from the side.

Apart from stress reactions and physiological arousal, individuals also react to personal space violations by moving to re-establish the proper spacing. For instance, when you feel an individual has moved too close to you, you either move backward to create more space or step aside to achieve the same aim. However, it is found that in a situation whereby the invader keeps moving in on someone without consideration for the personal space, the reaction, usually, is to flee. What is obvious here is that people will always attempt to protect their personal space in a number of ways and as best as they can, but if the space is finally invaded, they will become stressed up and leave the area.

7. Effects of Population Density

7.1 Density

Simply defined, density is a simple spatial measure of the number of square feet available for each person (Worchel and Cooper, 1976). And because the world population has been growing at geometric progression, researchers have become interested in the effect of population density on human behaviour. In order to know the response of humans to density, researchers have adopted two approaches: Animal studies and human demo-graphic research.

(i) *Animal Studies*

It was reported that high density causes stress which result in metabolic disturbances in animals. In a study by Dubos (1965), it was found that lemmings in the Scandinavian mountains rush en masse into the sea when they become disturbed by high density. In another study, Christian, Flyger and Davis (1960) observed a herd of sika deer on an Island of about 280 acre. At the beginning of the study a small group of sika was put on the Island with abundant food supply. Some years later the deer numbered about 300 out of which five were killed and

examined, their internal organs were found to be in good shape and physically in good health.

However, at this point, a strange thing began to happen: the sika deer started to die off at an alarming rate until the population stabilized at around 80. The death was not due to starvation and there were no new predators on the Island nor were there any epidemic diseases on autopsy. The dead deer were found to be in good physical conditions, not under-weight, mal-nourished or injured. However, it was discovered that the adrenal glands of these deer weighed more than those earlier examined. They were also observed to have cell abnormalities in the adrenal glands. These complications were found to be due to constant stress which might have been as a result of the increasing density of deer at that period, which forced the adrenal glands to function at an abnormally high rate over a prolonged period of time. Thus, it is assumed that high density will almost always lead to detrimental stress, and that the death of the deer was nature's way of reducing stress and keeping the population at a livable level.

In a more controlled but explicit study on negative effects of density on behaviour, Calhoun (1962) confined five pregnant wild rats in a quarter acre enclosure with plenty of food and water and without any predator. In 28 months, Calhoun expected a population of about 50,000, but instead he found that the population stabilized at about 150 throughout the experiment. Whenever the population became higher, violence would erupt, fighting amongst the rats and the older would fail to care for the younger one, which led to high mortality rate. The result of this experiment made Calhoun to go a step further by constructing four rooms with connecting doors that could contain 40 to 50 adult rats. In 16 months, he stabilized the population on each pen at 80 with enough food, water and nestling materials. Calhon observed that inspite of the material sufficiency high density led to gross behavioural distortions in almost all facets of living. Nest building and sexual behaviours

were disrupted. Males would attempt to mount males, even recently weaned ones were mounted. Transportation and care of the young was negatively affected. There was a marked increase in aggression, alarming tail biting behaviour, reduction in conceptions, miscarriages and mortality rate skyrocketed. This behavioural sink (distortions) became extremely alarming when population was double, thus Calhoun asserted that sink will develop from "any behavioural process that collects animals together in unusually great numbers", a situation that acts to aggravate all forms of pathology that can be found within a group.

7.2 Demographic Research on Density

Lyehausen in his prison note stated that nearly five years in prisoner-of-war camps taught him that overcrowded human societies reflect the symptoms of overcrowded wolf, cat, goat, mouse, rat or rabbit communities to the last detail, and that all differences are merely species — specific. In a bid to know the effects of high density and certain social indices, predictably, many of the researchers expected their result to be in line with the statement of Lyehausen, but so far results did not all agree while some support, some differ.

Schmitt (1957, 1966), in his study, using five measures of crowding (density per acre, the number of dwellings with more 1.51 persons per room, average household size, the number of married couples without their own household, the number of apartments with five or more units), he found out that there is positive relationship between density and measures of pathology. Interestingly, Schmitt carried out another study in 1963 in which he studied Hong Kong with a density of over 2000 people per acre in comparison with New York and Boston with a density of about 45 people per acre in the densest areas. He found that mortality rate; hospitalization for mental illness, murder and manslaughter cases reported were by far higher in

the U.S. than in Hong Kong, an exact opposite to the first study.

Consequent upon the contradiction in the Schmitt studies, Galle, Gove, and McPherson (1972), carried out a study in which they made a distinction between outside density (the number of persons per acre) and inside density (the number of persons per dwelling). The setting of the study was Chicago. They drew their data from the Chicago census data, and found that inside density had a significant correlation with juvenile delinquency, mortality, and fertility, while outside density had no significant correlation with these variables. In another study, Booth and Welch (1973) found that increase in inside density led to increase in homicide whereas outside density measures did not correlate with homicide or civil disobedience.

The studies above are purely correlational, showing there are relationships between density and behaviour but they fail to distinguish cause and effect. These means that observed result might not completely be caused by density alone. As a result of this some laboratory studies were carried out.

To study the effect of density on behaviour using the laboratory, the approaches we been to place groups of subjects in rooms of varying densities and then examine their performance and self reports of stress. Quite a number of this study supported the hypothesis that high density negatively affects behaviour and emotion of individuals. In a study carried out by Evans (1975), subjects were found to report being stressed and uncomfortable under the condition of high density as against that of low density, they as well performed poorly on matrix tasks and were more hostile.

In a similar experiment, Stokols, Rall, Pinner, and Schopler (1973) placed two groups in high and low density situations, subjects in the high density group reported feeling more stressed than subjects in the low density group. In 1966, Hutt and Vaizy observed the behaviour of children in play-groups

of 5, 7-9 or 12 in a play room, finding that aggression increased as density increased.

However, it should be noted that some studies did not support the negative effects of high density on behaviour. Sundstrom (1978), Freedman (1975), and Loo (1973) attempted to explain this incongruence away by pointing out that the definition of density as the amount of space per person is misleading. Instead, he identified two types of density research: spatial and social. In spatial density research, the behaviour of groups with the same number of people in rooms of different sizes are compared, whereas in social density the room size is held constant while group sizes are varied.

7.3 Effects of Noise

Most, if not all-urban centres, suffer from different kinds of environmental pollution, which affect the well being of people and consequently behaviour and emotions. Noise, which can be aptly described as unwanted sound, is one of the major pollutants. New and modern technology has turned the society into a very noisy place, blaring automobile horns, screeching tires, high decibel electronic appliances, industrial machines, wailing sirens, murmured and shouted conversations, which are some of the sources of noise in the cities.

The negative effect of noise is gradually gaining prominence. People seem to have no control over it, but can only try to adjust and adapt to it, a situation that could be detrimental. Blum (1967) and Azrin (1958), found that noise is stressful to human; people become physiologically aroused. When subjected to high intensity noise which they have no control over, they become irritable and have the tendency to become aggressive. Glass, Singer and Penebaker (1977), investigated the effects of noise on physiological arousal and task performance, and found that people become physiologically aroused

when exposed to unpredictable noise, and that performance on complex task is negatively affected.

Noise in the city is generally unpredictable and uncontrollable. It adversely affects attention, gives rooms for errors on task performance; individuals feel helpless; they also feel they have no control over their environment and their job performance suffers. Noise makes people to be less responsive to the environment. Research has indicated that people are less likely to offer help in a noisy as opposed to a quiet environment. Another major effect of noise is its after effects. Individuals perform less well after being exposed to unpredictable and uncontrollable noise (Glass, Singer, and Friedman, 1969).

However, human beings adapt easily to noise; hence, they are able to survive in noisy environments. They sleep through noise and discharge their duties with little awareness of the noise going on around them. This process of adaptation is referred to as ***habituation*** (Harris, 1943). An inherent problem in the adaptation process is that individuals expend "psychic energy" and that leaves them less able to cope with subsequent environmental demands and frustrations.

7.4 Effects of Weather

The study of effects of weather on human behaviour is a new and nearly unexplored area of environmental psychology. Since humans have not yet learned how to control the weather, they should learn its effects on their behaviour. The issue of weather having effects on behaviour is almost as old as mankind. There are numerous folktales about how we are affected by the weather. We often label the way we feel according to the current weather condition; hence, it is not uncommon to hear people say they are dull because the weather is cold.

Temperature is one weather condition that has received some degree of attention in research. Aristotle stated that

climate has a direct bearing on temperament. To support this assertion, he classified Europe, warm Asia and Greece according to climatic condition thus: populace of cold northern Europe were brave fighters but dull in wit and skill, peoples from warm Asia were intelligent but lazy and inactive, while Greece, whose climate was never too hot nor too cold, had produced a race of individuals who possessed the best of both qualities.

Goranson and King (1970) carried out a study on the effect of heart on aggression. They found that a large proportion of civil disorders occurred during the long, hot summer months. In a follow up study, Griffitt and Veitch (1971) varied room temperature and found that subjects were more aggressive in a hot room than in a cool room. Baron and Lawton (1972) also found that subjects were more likely to imitate an aggressive model if they were in a hot room than in a cool one.

However, a pocket of studies attempted to disprove these findings, and this has made research in this area inconclusive, yet available evidences suggest that weather/climate has effect on human behaviour, no matter how little.

8. Theories of Crowding

Research on the effect of high density on human behaviour can as well be described as inconclusive; hence some researchers have attempted to distinguish density from crowding. Earlier on, the two terms were utilized almost interchangeably, by Stokols (1972) who stated that density is purely a spatial concept while crowding is a motivational state aroused through interaction of spatial, social, and personal factors.

Crowding is stressful, which makes it a psychological state that may or may not be directly associated with density. For example, the situation in a library and that of a disco party — at the party, a lot of people are jammed into a hall, yet these people may not report feeling crowded. Meanwhile, an

individual in the library may report feeling crowded if two or three other people sit at the table where he is studying. This is an indication that crowding is a psychological state of individuals, which may not necessarily be as a result of vacillation in density. This can as well explain the inconsistencies in the density research.

Based on the ambiguities in explaining when individuals will feel crowded and how they will respond to crowding, researchers have developed theories to answer these questions. In the next sections, we will examine three theories: overload theories, control theories, and attribution theories.

8.1 Overload Theories

According to overload theories, crowding results when the achieved privacy is less than the desired privacy. It has been found that stimulation arouses on individual, and when people engage in too much activity, attend to too many people, look at too many things, the system may become "overloaded" which may result in stress and consequently this may result in the experience of crowding (Esser, 1973; Stokols, 1978; Milgram, 1970).

Altman (1975), in his model of crowding, was concerned about the importance of privacy regulation. According to him, people feel crowded when "privacy mechanism" is not functioning effectively. This exposes the individual to the level of social contact higher than what he desires. It is important to note that this theory does not tie crowding to a particular spatial measure, as is the use in density. Another dimension was added to the study of crowding by Tuan (1977) who talked about crowding as being a result of the awareness that one is being observed.

How do we determine the amount of privacy unit individual desires at a given moment? And how does an individual measure the achieved privacy against the desired privacy?

Going by research findings, there are numerous personal, social, and situational factors that independently and jointly interact to determine the amount of privacy an individual desires and the amount he can get. Needless to say that a short fall in the privacy desired will lead to stress inevitably followed by experience of crowding.

In his model, Altman used two principal concepts, territoriality and personal space. According to him, behaviours relating to these two concepts regulate privacy. An individual can mark, protect and secure his territory in such a way that intruders are kept at bay. The person enjoys his/her privacy and as such stress experience is minimal if not absent because there is no overload and experience of crowding is not likely to arise. In order to avoid overload and the attendant consequences, personal space behaviours can be employed, spacing behaviour can be used to regulate or totally eliminate communication. This can be through verbal communications or non-verbal cues like eye contact, body movement and posture.

Greenberg and Firestone (1977) carried out an experiment based on Altman's model, where two groups of subjects were used. One group was put under surveillance and has its personal space intruded upon, while the second group was free of surveillance and intrusion. The result of this experiment was that the subjects in the surveillance-intrusion group reported high feeling of crowding and stress which were absent in the control group.

8.2 Control Theories

Man is constantly starving to master and control his environment, and to achieve this end he seems to have no stone unturned. However, failure to achieve this, momentary set back and loss of control usually lead to uneasiness, frustration and stress. For some time now, researchers have turned their attention on the effects of loss or perceived loss of control on

human behaviour. Interestingly, Seligman (1975) posited that an individual who perceives that he or she has no control over the environment will experience a state of learned helplessness, and as a result he or she stops trying to affect his or her surroundings.

In applying the loss of control concept to crowding, Rodin and Baum (1978); Earon and Rodin (1978), Cohen and Sherrod (1978) hypothesised that certain situations of high density cause people to lose control over social interaction, because they are forced against their own wish to interact with other people such that they have no control over regulation of such interaction. Consequently, this will lead to the experience of crowding as well as learned helplessness. The key concept here is loss of control, invariably if there is high density without loss of control, then experience of crowding will not arise. Then, these equations can be appropriate.

High density + loss of control = crowding
High density – loss of control ≠ crowding

Sherrod (1974) had an experiment in which he put two groups of eight subjects to work on tasks; the first group worked in a high density situation and the other group in a low density situation. Some of the subjects were told they could control their density by leaving the room and work in a less dense room though the experimenter wanted them to remain. This manipulation led to a reduced experience of crowding by subjects in the high density setting. This was due to the perceived control of the situation. Using a similar concept, Rodin, Solomon, and Metcalf (1977) studied crowding in elevators. A team of four confederates entered the alleviator with another man (not privy to the study), inside the elevator the confederates positioned themselves in such a way that the subject did not have access to the control panel of the elevator. In another condition the confederates positioned themselves in a way that the subject stood directly in front of the control

panel (had control). At the end the subjects were asked to fill questionnaires dealing with elevator, it was discovered that the subject in the control condition felt less crowded than the subject in the no control condition.

These experiments on control lend credence to the hypothesis that the loss of personal control may result in the experience of crowding which can have devastating effect on human behaviour. And just like the overload theories, it states that if high density is not associated with decrease in privacy or a loss of personal control, experience of crowding may not arise.

8.3 Attribution Theories

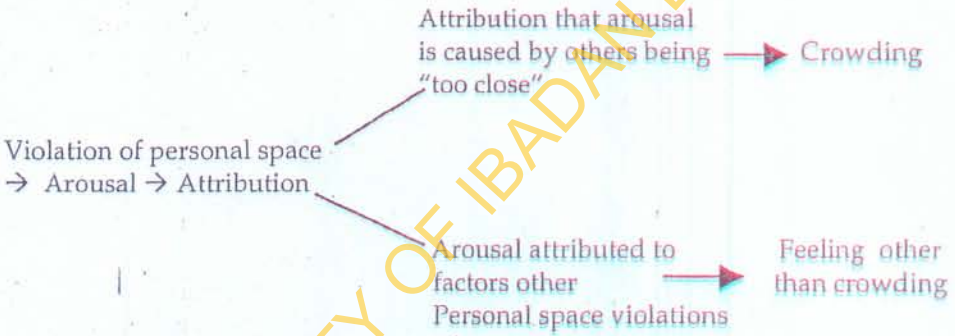
Factors leading to the experience of crowding were adequately taken care of by the overload and control theories, but there is a grey area, which is the process through which individuals experience crowding. Why do the deprivations of personal control and invasion of privacy lead to a state of crowding and not something else? To solve their problem and compliment the overload and control theories, Worchel (1978a, 1978b); Worchel and Teddlie (1976), Worchel and Yohai (1978) developed an attributional model of crowding.

According to Worchel and Teddlie (1976), the first stage in experiencing crowding is violations of personal space which leads to arousal and stress. The issue here is that violations of personal space may occur in high density situations as well as in low density situation. However, attribution theorists realize that violations of personal space do not always lead to experience of crowding. For instance, people go to markets, parties, theatres, football games, concerts, beach etc. yet they do not complain of being crowded. In fact, most people enjoy such outing and even found such gathering exhilarating. In order to explain this obvious contradiction, Schachter and Singer (1965), used the attribution theory. They demonstrated that arousal leads people to look into the environment for possible cause(s)

of the arousal. The cause(s) they settle for will determine what they feel: crowding or otherwise.

If it is believed that the arousal felt is brought about by the presence or closeness (invasion of personal space) of other people, then the individual will experience crowding; but if the arousal is not attributed to closeness of others, then no crowding will be experienced. In other words, the experience of crowding is dependent upon what individuals attribute the causes of arousal to, as explained with the diagram below.

Attributional model of crowding



Source: Worchel & Cooper (1979, p.601)

9. Architecture and Design

Human behaviour is complex and diverse. It can be affected by so many variables in the environment, no matter how small. The design of buildings, rooms and offices has been found to have marked effect on behaviour; unfortunately people do not attach much importance to this. Architects and engineers build on design structure to impress rather than build to suit the psychological, social and physical needs of the people. Needless to say, any design that does not take these three needs into consideration is definitely deficient because the built environment affects human behaviour. To fully understand the

effect of the built environment on behaviour, we will review some of the studies carried out over the years.

Some of the variables that have been found to affect behaviour in housing include, colour, the number of windows, number of doors, space and furniture arrangement. In the 60's and 70's, a number of studies were carried out on colour; Benrett (1977), found that people have colour preferences with blue and green being most preferred while yellow is least preferred. Wexner (1954), asked subjects to ascribe moods to colour, he got the following responses with a high degree of agreement.

Blue: Secure, comfortable, tender, soothing, calm, serene.
Red: Exciting, protective, defending, and defiant.
Orange: Distressed, upset
Black: Despondent, powerful

9.1 Psychological Factors in Site Location

Considerations for site location, especially in terms of residential housing go beyond the tangible, structural and government considerations alone. Of great importance are the psychological factors that could be personal to individuals but at the same time evoking strong emotional sentiments. In this section we will briefly discuss 5 of the psychological factors influencing site location.

9.1.1 Prejudice and Racism

Prejudice and racism are two concepts that arouse strong emotional reaction in humans. Prejudice is defined by Myers (1993) as an unjustifiable negative attitude toward a group and its individual members. It is a prejudgment, which biases us against a person based solely on the person's identification with a particular group. In other words it is a negative evaluation and attitude predisposing us to act in a negative manner. Prejudice could be a consequence of emotional

associations, the need to justify behaviour, or from negative beliefs. As a consequence, when choosing a site, individuals will take their personal feelings concerning other people in that environment into consideration. For instance, a Yoruba man that is prejudiced against the Hausas based on the notions that they are dirty and violent will definitely not site his house in an environment that is mainly populated by Hausas based on his attitude towards them. This particular trend can be noticed in the Hausa-Yoruba settlements across Nigeria: in the western part of the country, the Hausas usually settle away from the other tribes present in that area while up north the same trend is maintained. In fact, in situations where these people are forced to co-exist, violence is often the end result. This shows the effect of prejudice on where one chooses to dwell.

Racism on the other hand is defined as individual's prejudicial attitudes and discriminatory behaviour toward people of a given race, or institutional practices that subordinate the people of a given race. The first part of this definition indicated that people are not likely to take up residence in an environment dominated by people from a race they do not like. For example, a German residing in the United State will not want to take up residence in an environment highly populated by Jews, or in the former apartheid South Africa a white man will definitely not site his house in a black neighborhood because of the mutual hatred and mistrust. The second part of the definition is a situation whereby there are specific official legislation discriminating against members of a particular race. In such a situation, members of the "persecuted" will not be inclined to site their houses in the same areas with members of the dominating race and vice versa. In other words, individuals do consider the policy and mood of the government of the day in deciding the location of their sites. The United States of America in the segregation era is an example of this phenomenon.

9.1.2 Safety of Neighbourhood

Human beings generally are creatures that believe in self-preservation; this becomes evident in their pre-occupation with security and protection of lives and properties. It is a common thing these days to see houses with fences taller than the building itself, heavy wrought iron gates, with electrified mesh and barbed wire. All these show the extent to which man goes to make his habitation safe. In site location, one of the first things to be considered is how safe the environment is. This could be in terms of man perpetrated evil or naturally occurring disaster. In the former, frequency and attraction to armed robbery, burglary and kidnapping are major things to be worried about, and to this end, individuals considered the proximity of law enforcement agencies when picking their sites. In fact, some people look for sites very close to police stations or some military formations and where this is not feasible, they again look for sites in an area predominantly populated by serving military officers, all in a bid to ensure adequate safety and protection. In a place like Lagos presently, most streets now have iron gates manned by security men, so when people want to take up residence they obviously will prefer a street with strong iron gate.

In the latter, however, men naturally run away from sites that are prone to natural disaster like flood, earthquake, excessive rain and the likes. Where they are forced to live in any of these areas whether due to lack of choice or non availability of better sites, they will spend so much money to make the place as safe as possible. Staying in an unsafe environment could affect the psychological well being of individuals and probably lead to some form of psycho-pathology.

9.1.3 Socio-Economic Consideration

In deciding the location of site, the socio-economic status of an individual has a role to play. People tend to act in consistency

with their perceived standard and people's perception of their worth. Naturally, the income will most probably inform where an individual will take up residence: a low-income earner planning to build a house will definitely look for a parcel of land in an area populated by people in his category, and same goes for people in the middle and high income categories. This in most cases is so because the poor are likely to feel inferior if they move into an affluent environment without other accompanying wherewithal to operate at that level, while the rich may see movement to an "inferior" environment as a dent on their status and personality. Government policies and legislation at times encourage this segregation in ha. specifications of building types are sometimes given for particular areas such that not everybody will be able to afford moving there, and in some instances they refer to places as low cost or medium cost, an act that has serious implication for who moves there. Obviously, the decision to move or locate one's site in an area could be a function of the self-concept of those involved and their perception of acceptability. However, it should be noted that upward mobility does occur in the strata; someone that was in the low income cadre may found him or herself in the high-income category, and this will, most probably, bring about a change in taste, housing inclusive. Often, people move from places like Mushin to Ikeja, Ajegunle to Ikoyi and Sango to Bodija etc. This is because they feel that the position they currently occupy or what they earn require that they stay in places that befit the newly acquired status.

10. Need Theory

To further understand some of the psychological dynamics underlying site location, we will briefly examine the need theory propounded by Maslow (1970), which he called Hierarchy of Needs theory. According to Maslow, human needs have different priorities and the motivation to satisfy

them at any point in time will depend upon which of the needs is more overriding at that time, since, according to the theory, needs are in hierarchy, from the lower level to the higher level and one can not move to satisfy the higher level needs if the lower level ones are not satisfied. Maslow recognized human needs to be at five levels, arranged from bottom to the top, in the order that they are expected to be satisfied. These are: physiological needs, safety needs, belongingness/love needs, esteem needs and self actualization needs.

Relating this to site location, it means that the decision as to where an individual sites his house would depend on the need that is motivating him or her at that point in time. Someone that is till at the point of satisfying the physiological needs of hunger, thirst (basic survival) etc. will not think much of where he or she lives, whether in a slum or low cost environment, even if he/she thinks of building a house it will be just for the purpose of having a roof over his/her head with less emphasis on the environment where it is situated. Meanwhile, for an individual that has successfully satisfied the physiological needs, the consideration when erecting a house will be more on safety; feeling secured and out of danger, because the safety needs is overriding at this level.

A person on the third level of the hierarchy of needs (Belongingness), when considering site location, will most likely choose a site where he can affiliate with people of his own standard, with acceptability and feeling of belongingness as major concerns. At the level of esteem needs, the individual will be concerned with achievement, site will be located in an environment that speaks of competence and recognition, an individual will want her house to be located where people will approve to be in line with her status and achievement. At the peak of the hierarchy is the self actualization need. Here, site is selected to reflect self fulfillment and the realization of one's potentials in life, e.g. VGC, Lekki etc. This is when we see individuals building edifices on mountain tops (e.g.

Ogundoyin at Eruwa and Babangida at Minna), sea sides, near the seats of power etc. a close look at site location will reveal that all these factors, to some particular degrees, have influences on the issue of site location, not only in Nigeria but the world over.

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