



THE APPLICATION OF THE CONCEPT OF DEFENSIBLE SPACE FOR SECURED HOUSING ENVIRONMENT

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Abstract

Housing areas in Malaysia has always relied on the local authorities to take care of the neighbourhood, resulting in apathy in respect to the community's well being, safety and a rise in crime. Most housing developments have been designed to provide a secure home rather than a secured living environment. The provision of a large and undefined communal space, leads to a situation of "anonymity" and become "lost spaces" which allow criminals to "disguise" among the crowd.

A viable solution in ensuring a secured housing environment is through the provision of "defensible" communal spaces that encourage community interaction and social cohesion. This paper will discuss the current problems concerning crime and safety in high-density housing settlement in Malaysia. The paper will also review the prevailing ideas and concepts that have been articulated by prominent theorists for the designer to use in designing secured housing development, This is where the defensible space theory raises the issue of 'creating' a community within a neighbourhood, and how it could be applied successfully to local housing.

Keywords: Housing, Community, Communal Spaces, Territoriality, Safety

INTRODUCTION

Whenever the issue of crime in housing is brought up, it is usually concluded that it is hardly preventable due to the larger issues of socioeconomic condition of the country. Many residents try to resolve the problem by seeking the help of overstretched law enforcement agencies. Some residents even try to secure their units with locks and grills, to the extent that they imprison themselves in their own home.

However, the viable solution in securing the housing units is through the provision of a *defensible* communal space that encourages community

surveillance and lead to the unity of the neighbourhood. The design of the communal spaces which are too large and not well-defined, with high volume of traffic, large number of people using the same entrance and sharing the public space can all lead to a situation of rendering the community member as anonymous beings. This anonymity will encourage crime as criminals are easily 'disguised' and become 'unknown' among the crowd. Hence, in a direct physical response to this situation, the concept of defensible public spaces gives the upper hand back to the community by providing the means of surveillance, better recognition of community members and deterrence to would be criminals.

Before we delve further into the concept of a defensible space, we must look at what exactly is being 'defended' in the first place. The answer would have to be the neighbourhood, since physically it would be easier to render a physical element more secure. However, in this case we have to state that any neighbourhood is very much made up of the community inside it; hence the very basic unit that is actually being protected is the *community*. However, the concept of community is much wider and more open to contemporary interpretation. Ramon (1991, pg. xi) states that 'conceptually, a community can be a neighbourhood, a community of interest with and without geographical boundaries, or the configuration of a person's connections and ties'. It is the social nature of humans that must exist in the first place in order to make the defensible space theory work, as well as the desire, commonality and recognition of similar belief system (Conrad, 1996).

Only by stressing the underlying importance of the social factors that runs through every successful community can we proceed to the more 'deterministic' contributions of physical design. The physical surrounding affects not only the way the individuals within it interact with one another, but it affects the way they are perceived by themselves and by outsiders. Rather than thinking of the physical design as merely the stage and setting in which social activities are carried out, this paper suggests that the physical elements play a much more active and bigger role in defining a community and a neighbourhood. A sense of pride can result from a healthy, clean and safe living environment, and a sense of place can be inculcated through sensitive and ingenious layouts. The physical aspect of a community is a logical example of creating a secured housing environment, whereas the social aspect contributes towards reinforcing and maintaining a secured housing as well as liveable environment.

The concept of secured housing environment should begin at the initial planning stage of the housing development. Well-designed housing layout with appropriate and well thought out external public spaces can encourage social interaction among the residents and also function as a defensible space whereby residents can cast a watchful eye on the external public spaces. As more residents know each other, a strong 'sense of belonging' emerges among the residents and thus makes it more difficult for criminals to act. By knowing and taking care of each other's well being, a community spirit of co-operation prevails and prevents crime naturally.

Therefore, what is a defensible space, and how is this possible to reduce crime especially that concerns people in mass housing? The term defensible space was widely used by Oscar Newman when he first put forth the idea of a secured housing environment. It was in response to the failure of the Pruitt-Igoe public housing development in St. Louis, United States¹ (Newman 1996, pg. 10).

Quoting Newman (1996, pg. 9) the concept is as follows:

All Defensible Space programs have a common purpose: They restructure the physical layout of communities to allow residents to control the areas around their homes. This includes the streets and grounds outside their buildings and the lobbies and corridors within them. The programs help people preserve those areas in which they can realize their commonly held values and lifestyles.

Defensible Space relies on self-help rather than on government intervention, and so it is not vulnerable to government's withdrawal of support. It depends on resident involvement to reduce crime and remove the presence of criminals. It has the ability to bring people of different incomes and race together in a mutually beneficial union. For low-income people, Defensible Space can provide an introduction to the benefits of mainstream life and an opportunity to see how their own actions can better the world around them and lead to upward mobility.

¹ This 2,740-unit high-rise development had to be eventually demolished because of the high rate of crime, vandalism and disuse, as well as the relatively low rate of occupancy of not more than 60%. The development was in fact hailed as one of the prime examples of the Modernist movement, proclaimed to be following the grand planning principles of Le Corbusier and the International Congress of Modern Architects. Therefore, its much publicised failure became a turning point in rethinking the Modernist as well as so-called contemporary urban housing environment.

Krupat (1985, pg. 178) explains the concept of defensible space as ‘...works on a set of proposed linkages: Design features encourage a feeling of territoriality in the form of a feeling of shared ownership and responsibility for physically defined areas. This feeling encourages territorial behaviours, such as surveillance and defence that reduce unwanted intrusion and criminal behaviour’ (Figure 1). Hence, the keyword here is *territoriality*, which in urban neighbourhoods seems to be sorely lacking. Once again, the element of territoriality can be traced back either to physical or social reasons. Either way, the defensible space theory encompasses both of these aspects and underlines the importance of each in contributing towards a successful implementation of the defensible space theory.

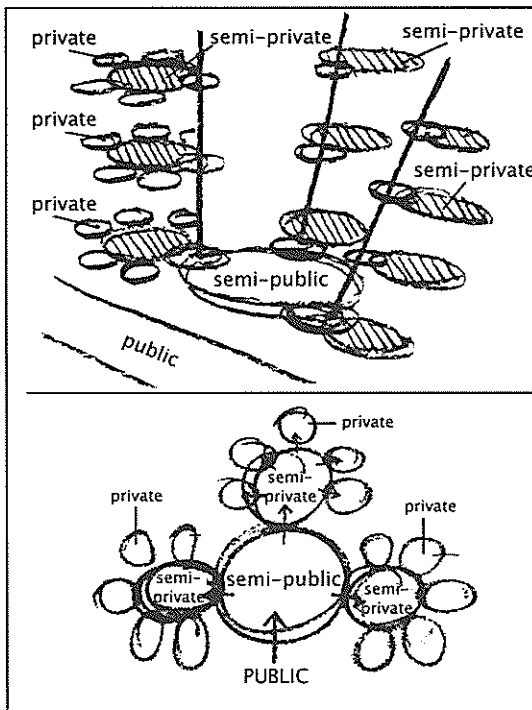


Figure 1:
Defensible space hierarchy
in a multi-level building
(top) and in external areas
surrounding a building
(bottom).
(Source, Krupat. 1985, pg. 179)

The concept of territoriality brings us back to the example of the Pruitt-Igoe development that was described by Newman as ‘...not [of] very high [density] (50 units to the acre), [nevertheless] residents were raised into the air in 11-story buildings. The idea was to keep the grounds and the first floor free for community activity. “A river of trees” was to flow under the buildings. Each building was given communal corridors on every third floor to house a laundry, a communal room, and a garbage room that contained a garbage chute’

(Newman 1996, pg.10). In effect, it provided so much ambiguous spaces that nobody was willing to take care and be responsible for, that crime and vandalism became the norm here.

The Pruitt-Igoe development was disastrous because it was primarily ‘occupied by single parent, welfare families...the grounds were common and disassociated from the units, residents could not identify with them [and were proved unsafe] ...the river of trees soon became a sewer of glass and garbage. The mailboxes on the ground floor were vandalized. The corridors, lobbies, elevators, and stairs were dangerous places to walk. They became covered with graffiti and littered with garbage and human waste. The elevators, laundry, and community rooms were vandalized, and garbage was stacked high around the choked garbage chutes. Women had to get together in groups to take their children to school and go shopping.’ (ibid, pg. 10).

Newman thus investigated the reasons behind the eventual failure of the development and the subsequent demolition of the whole estate (see Figure 2). He came up with identifiable patterns and data that eventually became the crux of his theory that basically centres on the neighbourhood. There has to be a line where the factors that form such neighbourhoods and subsequently the community that lives must not be crossed. Newman attempted to do just that by first looking at some factors that does influence the cohesiveness of such neighbourhoods.



Figure 2: The Pruitt-Igoe housing development had to be torn down, at a loss of US\$300 million, after it was declared unfit to be lived in.
(Source: Newman, 1996, pg. 12)

BUILDING MORPHOLOGY

Newman made the connection between the increase in crime and increased building height, and how it was more or less consistent across the spectrum. (Refer to Figure 3).

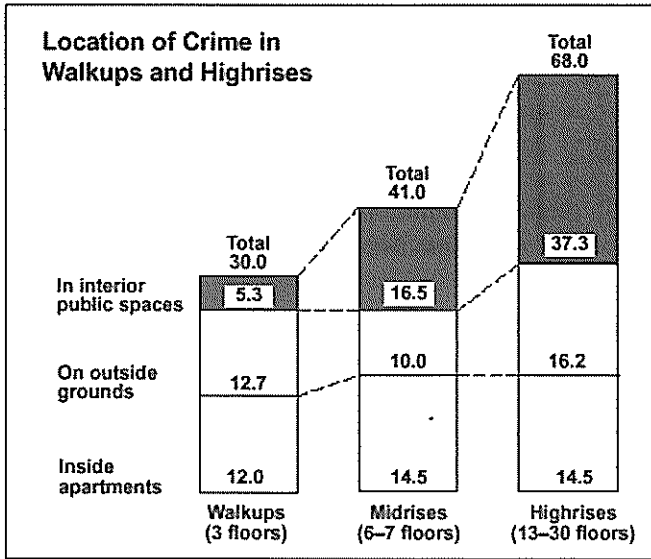


Figure 3: Crime seemed to be more concentrated in shared public areas, which increases with the more percentage of public areas allocated as the building height increases. (Source Newman, 1996, pg. 13)

Newman likes to illustrate his point by stating that just opposite from the Pruitt-Igoe development was ‘...an older, smaller, row house complex, Carr Square Village, occupied by an identical population. It had remained fully occupied and trouble-free throughout the construction, occupancy, and decline of Pruitt-Igoe.’ (ibid, pg.11). What intrigued Newman the most was which aspect that separated these two developments, resulting in two very different outcomes? The clearest difference, he states, taking into consideration the similar ‘social variables’ in both, would be the building morphology involved.

This of course would be stating the obvious, as Newman obviously pushes forth determinedly. Newman thus lists the problems that are associated with tall multiple dwelling units with shared entries, namely:

1. *Disassociation with surrounding streets and developments,*
2. *Public grounds do not encourage territorial feelings of dwellers,*
3. *Shared corridors for multiple dwelling units do not discourage use by outsiders, and*
4. *Diminished claim to individual dwelling unit's territory.*

This is of course in direct contrast to walk-ups and landed properties i.e. row houses and individual units. The most important difference that has to be highlighted in this aspect is the fact that landed properties and walk-ups have more control over their communal spaces, and that the grounds are seen as an extension of their property and hence, of their surveillance. It can then be used either individually or shared between small number of family units and can be safely used because psychologically, these immediate spaces are 'theirs' and any member of the public trespassing can be easily recognised and more importantly, their presence can be questioned.

Of course, this is a fairly straightforward look at how design can be wholly responsible for changing how people perceive their neighbourhood. Poorly conceived design can be as much a problem as anything else, which is why Newman stresses that it can be rectified from the very beginning by keeping in mind some basic design guidelines. The following are his most relevant guidelines for the purpose of discussion on building morphology:

a. Landed property versus multiple storey dwelling units

Preference is placed on landed property with a maximum of 2 storey walk-ups. This, Newman argues, ensures that as little as possible surrounding space is designated as public circulation. This means that yards and gardens and driveways would be taken care of. It also means that more of the shared grounds, if secured and under the control of the residents would be a safe place for children and people to use and play in (Figure 4 illustrates the above idea graphically).

b. Ensure smaller number of families sharing a main entry

Newman argues that '... the smaller number of families sharing an entry and landing allows the families to control the public spaces better. They can more readily recognize residents from strangers and feel they have a say in determining accepted behaviour' (Newman, 1996, pg.23)

c. Ensure that the design 'extends' the private nature of the adjoining streets

By having entrances that face the streets, more people will be aware of what is happening in the streets immediately in front of their dwelling units. This includes windows that overlook the streets, as well as constant coming in and out that would deter any outsiders from simply going in without

business. The other point is that by allowing parking on the street in front of each dwelling, it allows the sidewalk and the streets to be associated as an extension of the units themselves.

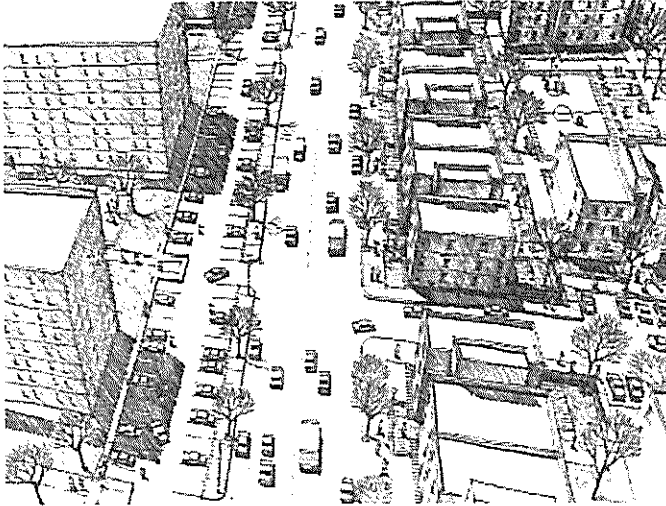


Figure 4: A comparative example of a high-rise and a walkup built at the same density with differing results and control of the streets. The walkup on the right is more intimate, has better control over the streets as well as its grounds.
(Source Newman, 1996, pg. 21)

d. Keep the circulation simple

The layout is kept simple, as was advocated by Alexander et al. (1977) so that there would be no confusion and no blind spots that could hide any strangers. It also ensures that most people can easily observe anybody who walks onto the grounds in the surrounding units.

e. Form clusters of units

The main cluster is of course the blocks themselves so that it forms an enclosure to the ground level. This feeling of enclosure is important as it defines a space instead of just leftover space. The next cluster is the dwelling units, in which Newman theorised, as previously mentioned, that small families sharing the same entry (in this case the same landing) be kept small so that interaction and recognition can occur.

f. All-around surveillance

Units should be designed so that not only would they have their own private views outside, but also each unit should be able, in turn, to observe the surrounding perimeter. With the use of landings, which can double as community space as well, observation of the inner grounds is possible as well.

PHYSICAL PLANNING AND EFFECT OF SURROUNDING ENVIRONMENT

The next element to be discussed is more general but has more far-reaching influence on the whole defensible space theory. The planning of the neighbourhood involves taking the physical aspect of the neighbourhood and weaving it into the city fabric. It takes an in-depth knowledge of past, present and future conditions of the urban fabric, plus an almost intuitive response to the expected socioeconomic and other hard-to-define factors that will affect the neighbourhood. The previous discussion was on building morphology and how the actual 'design-able' environment that could be claimed as private territory and thus can be personalised. This takes the concept further by taking into consideration the whole immediate urban blocks and its effect on the urban community.

Newman thus mentions further on that the defensible space theory could be further defined from the following factors (Newman, 1996, pg.28):

The two physical factors were the size of the development and the number of families sharing common entries into a building ... As public housing has become housing for the poorest of the poor, the only variables that lend themselves to modifications are the physical, *project size* and the number of apartments sharing common entries.

Project size is a measure of the overall concentration of low-income families in a project or cluster of projects ... the larger the concentration, the more residents felt isolated from the rest of society and felt their perceived differences to be greater ... a large project provides a continuous area in which gangs can operate, allowing even one gang or group of drug dealers to contaminate all of its public space.

Project size can be related back to the human scale itself,

[Human scale] means an arrangement of space that enables human beings to master their immediate environment, and not be enslaved by it ... it means autonomy for each household, with a garden large enough to be defensible and to accommodate changes that make the resident's mark independently of the designer ... of giving satisfaction to the users of [the designer's] buildings...'
(Coleman, 1986, pg.118).

Hence it does not necessarily mean giving people small gardens, narrow alleyways and exclusive enclaves. It just means giving people the satisfaction to '... adapt their property to suit their infinite variety of lifestyles and self-images' (ibid, pg.118). It is all a matter of balancing their actual perceived needs of the residents and the infrastructures allocations to be fulfilled by the developers.

Density is another issue that has to be carefully looked into. Again, there are no hard and fast rules for obtaining the ideal density of an urban neighbourhood. The question is – do more multi-storey dwelling units actually mean more dwellings to the acre? On the surface, this question answers itself: of course. But Newman and Coleman both contradict this statement. Except for the occasional high-rise units that tower over the city, the rest are just medium rise that would greatly benefit if it were built as walk-ups or at least low-rises.

Coleman argues this scenario in Britain,

'Flats certainly pack in more litter to the acre, more crime and more vandalism to the acre, and more social malaise in general. But they do not, in Britain, pack in more dwellings to the acre. Densities are strictly controlled by the planning process, and are usually lower in modern flats than in the demolished houses that have been superseded.' (ibid, pg.119).

So then, why do we keep building high-rises? There are a lot of reasons mostly personal and not related to the actual needs of the expected community. But most importantly, by insisting on building high-rises and cramming people onto the same small square feet, we are saving costs in the physical structure, but lose out in the long term maintenance and problems that might occur. Of course, an excellently built high-rise is possible using the defensible space theory, but then the basic human impulse and need to be *grounded*, so to speak, to be connected to the earth and each other will still be there. And this is in no way

totally condemning dense pattern of uses. What is needed is an intelligent and dense mix of uses in the urban neighbourhood.

SOCIO-ECONOMIC STRATIFICATION

Implicit in the term socio-economic stratification is the fact that certain urban neighbourhoods are more attractive to certain groups than others. Public housing, or more commonly known in Malaysia as low cost housing, caters primarily for certain brackets of the population. It could be recognised by certain similarities such as:

- a. Income (lower income group rather than middle income group),*
- b. Place of employment (leaning towards jobs located within the immediate vicinity or at least within the city for ease of travel),*
- c. Size of family (large and/or extended family),*
- d. Types of employment (which raises issue of permanently staying or moving to another place once more income is generated, plus the ability to take care of the place of dwelling and the subsequent upkeep),*
- e. Home ownership (self own versus renting which varies from one neighbourhood to another),*
- f. Race (homogenous rather than heterogeneous, although this is not supported by any evidence).*

It differs from the points made in the previous chapter regarding the physical planning and effect of surrounding development since the points are now more individualistic and personal rather than taking into consideration outside influences. Therefore, the points made above all contribute towards the creation of a defensible neighbourhood from a behavioural outlook. It greatly affects how those living in the neighbourhood perceive themselves as well as how others from outside the neighbourhood perceive them. Depending on which point has a greater/lesser role; it could lead to a number of issues:

a. Identity awareness

The theory is that people of similar backgrounds and living in the same neighbourhood with similar living conditions would have a stronger reason to bond with each other. This would create an identity that could be used to their advantage and result in a stronger community. Nevertheless, it is a double-edged knife. If the identity is not a positive identity i.e. slum or ghetto, then it could result in more harm than good. A negative identity unfairly 'brands' those living there, attracts unwanted

attention and unsavoury characters, and tends to isolate the development from its surrounding.

b. Cultural assimilation

Moving beyond the reference to culture based on race or religion, but more towards the culture of the community. In this case, it would be the urban culture existing in the urban neighbourhood. Does such culture exist? To a certain extent, though far from being typical, the answer is yes. The worrying trend is that the larger and more 'anonymous' the environment is, the less inclination by each member to bond and thus form some sort of cultural assimilation among themselves. Newman points out that if this is the case of the built environment in large urban housing, '... the more difficult it is for a code of behaviour following societal norms to be come established among residents.' (Newman, 1996, pg.26)

c. Crime and safety

This factor would have to be one of the most contested one: 'The relationship between the socio-economic characteristics of residents and a project's crime rate had long been suspected ... [however] regardless of the social characteristics of inhabitants, the physical form of housing was shown to play an important role in reducing crime and in assisting residents in controlling behaviour in their housing environments.' (ibid, pg.25) Again, there are too many variables and conflicting evidence to form a conclusive finding, but it has to be said that the social and physical aspects both contribute towards the crime rate and hence the safety of the housing environment.

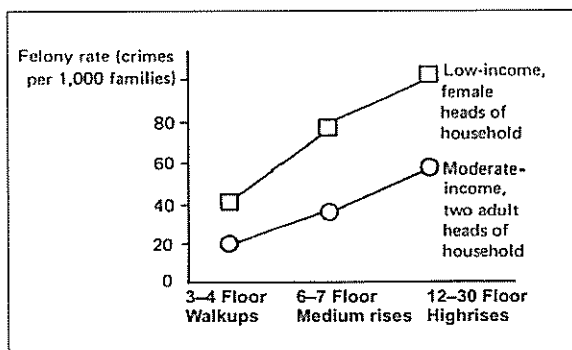


Figure 5: Variations in crime rate as produced by different socio-economic groups occupying different building types. (Source Newman, 1996, pg. 26)

Therefore, the right 'mix' of people, plus the trust between each other goes a long way in ensuring the failure or success of any urban neighbourhood. It is difficult the gauge the outcome of the melding of different ethnic groups, different social background etc. However, it is vital that a right balance must be achieved so that at the very least a singular identity for the community could be achieved. Only then can the true concept of defensible space be brought out and maintained for the long run.

APPLICATION

Newman, being an active participant in the built industry, has often tested his ideas in the real world with varying success. Most of the projects are located in problematic urban neighbourhood, and with some simple adjustments to the physical surroundings and active participation of those living in the neighbourhood, the marked improvement in neighbourhood morale and safety was achieved. These projects were all based on some basic understanding of the concept of defensible space, some of which are outlined below.

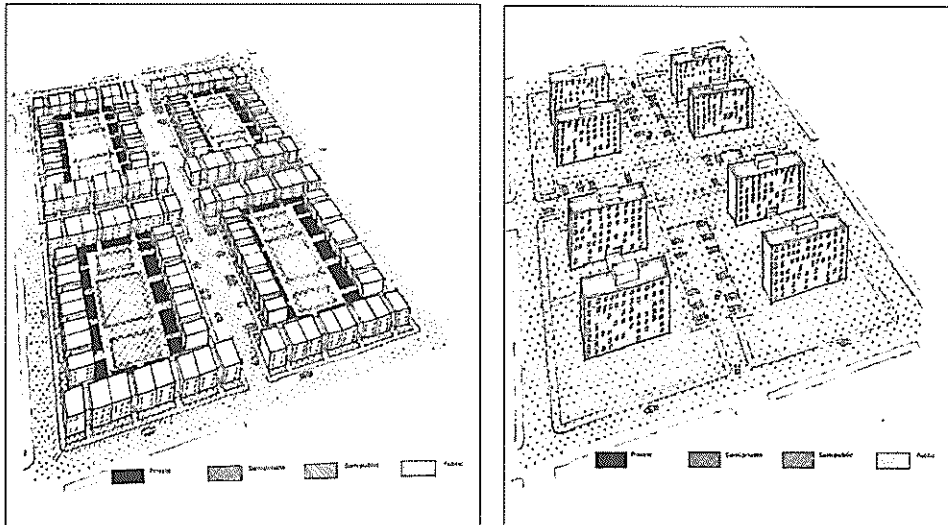


Figure 6: Comparing the nature of walkup apartment housing vs. high-rise dwellings.

(Source: Newman, 1996, pg. 19 & 20)

Figure 6 compares the two types of multi-storey housing common to be found in the urban areas. The walk-up housing has more defined common space which is more secure, and the streets are relatively safer since surveillance is possible to be done by every single inhabitant. Comparing this with the example on the left, which has too much open space that is considered as public space, and hence difficult to monitor?

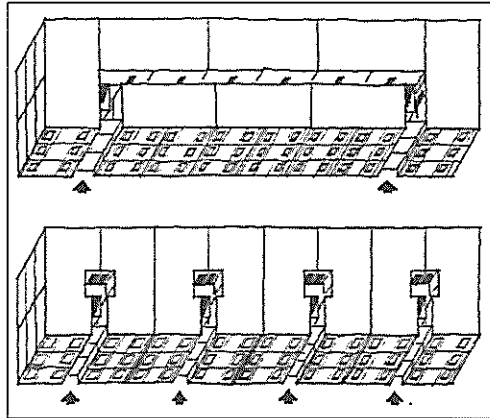


Figure 7: Comparison of two ways to subdivide the same building envelope to serve the same number of families, but in differing ways in terms of security and neighbourly contact.

(Source: Newman, 1996, pg. 22)

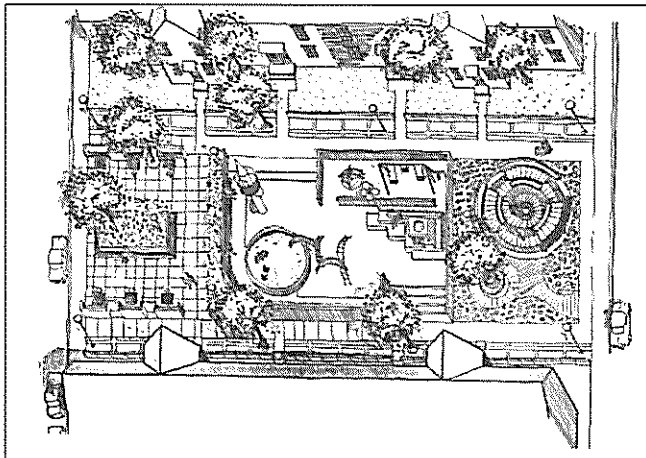


Figure 8: Proposal for the central area of a community in Clason Point in New York to serve the community and increase safety.

(Source: Newman, 1996, pg. 73)

Figure 7 looks deeper into how even in a typical walk-up housing there are varying ways in which the contact between neighbours could be improved and the security raised. By including less public space i.e. common corridors in the project and replacing it with staircases, which are easier to monitor and would be a deterrent to outsiders, surveillance is vastly improved.

Figure 8 is a proposal for an existing housing in New York that suffered from increase vandalism and crime, especially in the central area where residents are afraid to use or even walk through since outsiders congregate here and surveillance is difficult. Newman proposed the above so that it will be an active portion of the neighbourhood, with users at various times of the day. The proposal also extended the perceived front yard of the units facing the central area by defining it with seating and light fixtures. This further reinforces the idea of whole area belonging to the community, and ensures that the adjacent residents would take care of not only their front yard but the whole central area as well.

Alexander et al (1977) have expanded the view of defensible space in his set of living 'patterns'. The patterns that specifically touch on issues of safety, surveillance and community participation are as follows, though by no means a comprehensive list:

Pattern 14: Identifiable Neighbourhood

'People need an identifiable spatial unit to belong to' (ibid, pg. 81). Alexander continues to emphasise the importance of neighbourhood size of approximately 300 yards across, with about 400-500 inhabitants, with local groups in cities encouraged to form such neighbourhoods, as well as physically keeping major roads outside these neighbourhoods (ibid. pg. 84).

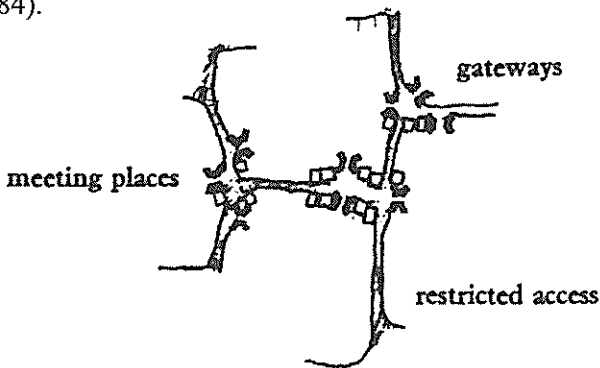


Figure 9: Identifiable neighbourhood

Pattern 15: Neighbourhood Boundary

‘The strength of the boundary is essential to a neighbourhood. If the boundary is too weak the neighbourhood will not be able to maintain its own identifiable character’ (ibid, pg. 87). Once again, the neighbourhood concept is given physical form through a number of means; strengthening boundaries, cutting down on number of streets so as to restrict unnecessary through traffic, and placing gateways and meeting places (ibid, pg. 90).

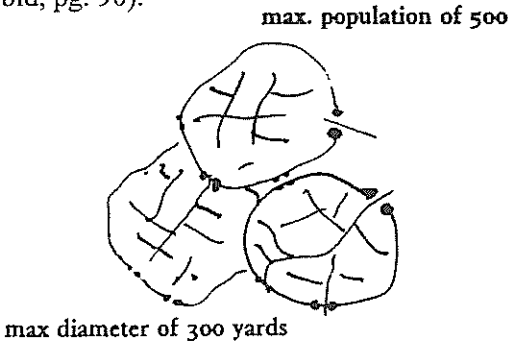


Figure 10: Neighbourhood boundary

Pattern 37: House Cluster

‘People will not be comfortable in their own houses unless a group of houses forms a cluster, with the public land between them jointly owned by all the householders’ (ibid, pg. 198). These identifiable clusters help residents to form groups and network of neighbours and ultimately friends. Alexander proposes a cluster of 8 to 12 households centred on a common land.

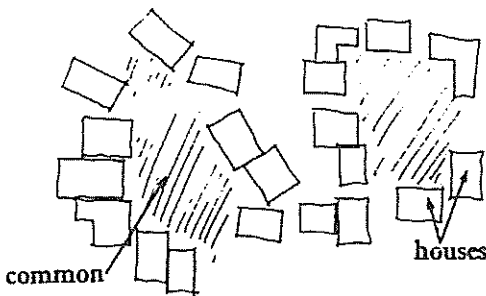


Figure 11: House cluster

Pattern 164: Street Windows

'A street without windows is blind and frightening. And it is frequently uncomfortable to be in a house which bounds a public street with no window at all on the street' (ibid, pg. 770). Not only does it make the person living inside the house more connected to the outside world and offers respite from the solitary and inward nature of urban living, the windows act as security measures in which they can take active part in the surveillance of the surrounding neighbourhood.

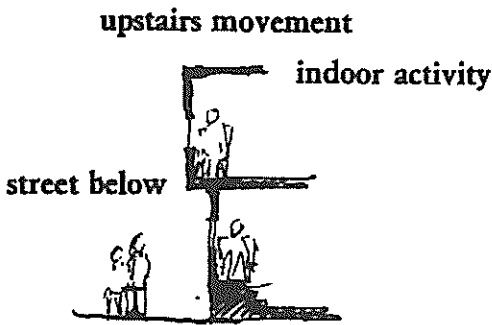


Figure 12: Street windows

CONCLUSION

It cannot be denied that the defensible space theory, which has been around for a good portion of 30 years since Newman first brought it up to light in his writings as well as his work, does put forth good and logical proposals. It summarises the workable aspects of what could be considered as a successful neighbourhood concept to urban neighbourhoods as well as blighted and problem urban dwelling areas. The ideas are of course familiar, especially to planners and those interested in the critical reviews of American urban and suburban literature. Countless architects and academicians have put forth the exact same arguments and came to the same conclusion as Newman, but nobody has so successfully *packaged* the concept and *marketed* it to the mass quite like Newman.

It has brought to light the importance of giving the power and the *responsibility* back to the dwellers. In Malaysia especially, secured housing environment is the preferred choice for high-rise multiple dwelling units, even those that are targeted for the 'low-end market' users. The examples shown in the previous

chapter shows how even dwelling units in gated compounds are still being secured with additional grilles and extra locks. This can even be seen for balconies on the upper floors. It would seem somewhat hilarious if not for the fact that it heralds a disturbing trend: *people do not trust others and feel most secure only in their own dwelling.*

Some might argue that this is just a natural reaction to the constant crime and is just part of the cost of living in cities, but it is just one more option in a few. Newman has made a commendable effort in highlighting the other option, which is to rely on yourself and on your neighbours, to have faith in their good intentions and to take back the power of making responsible choices to ensure the safety of your neighbourhood and more importantly your community. The way to bring this trait out is by supplementing it first with the right infrastructure that is both sensitive in its response to its surroundings and robust and yet flexible enough to cater to changes. Only then can the appropriate social response come from the community, resulting in pride in where they live, a strong local identity and self-reliance in taking care of their neighbourhood.

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