

**ASHAC-94 Conference: Security by Design**

**AN ENVIRONMENTAL DESIGN AND MANAGEMENT APPROACH TO  
SECURITY**

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**INTRODUCTION: A PEOPLE-PLACE MODEL**

**Architectural and Urban Form** *do not cause behaviour* (in a deterministic sense), but can increase or decrease the likelihood of behaviours occurring. It is not enough to examine design features alone. We must understand how people perceive or interpret the meanings embodied in such features.

*Social ecological* analyses of crime have consistently indicated higher rates of crime in inner city/low socio-economic status/high social disorganisation urban areas, which are taken to be indicators of ecological pressures on behaviour. However, such pressures do not produce the same effect on all individuals, *and* ecological analyses do not provide predictors of which individuals are most likely to become criminals, or where criminals live, or where precisely they commit their offences.

High crime rates in CBD areas, for instance, are not reflections of the social characteristics of the residents in those areas but of the differentials in opportunities for certain types of crimes in such areas. Furthermore, not all 'badly designed blocks of flats' suffer from environmental crime - although such a situation 'increases the odds against which people have to struggle to preserve civilised standards' (Coleman, 1985).

Ascertaining the viewpoint of individual criminals is vital to understanding the spatial patterning of urban crime. It is their motivations, decision-making trade-offs, evaluations of risks and rewards, familiarity with areas *ie* their individual socio-spatial perceptions which are meaningful, not socio-ecological statistics, or general epidemiological crime rates (frequencies of recorded crime occurrence by spatial distribution).

- The fundamental relationships in an *interactional model* of situational contingencies, offender perceptions, and spatially-distinct criminal behaviours are outlined below:

i) *situational opportunities or environmental cues are interpreted*. This includes defensible design features [surveillability and accessibility], territorial markers [signs of personal and community appropriation/responsibility], and target and victim identification.

These situational contingencies or evaluations of opportune circumstances are reflections of both '*routine activity*' responses (where lifestyle patterns generate or multiply potentials for crime) and '*rational choice*' assessments (calculations of relative rewards, risks, and paths of least effort, and perceptions of the presence/power of guardians & gatekeepers).

The idea is not new. Burgess (1925) identified environments which *afforded* expression of a person's wishes; and Gibson (1966) is associated with the general development of the idea that opportunities are afforded by a setting.

ii) *individual susceptibilities and proclivities intervene*. Past psycho-social experiences, role-models, somatic and genetic tendencies, extroversion personality-typing, psychological stressor thresholds, 'get even' desires, thrill seeking, peer pressures, and gang membership...encourage or discourage the individual from taking action.

It is, thus, the joint *interaction* of the the situational and the motivational, the physical and the social, the individual and the communal...that underlies environmental design and management as a crime prevention strategy.

## INTERACTION

Crime Prevention through Environmental Design *and* Management, or Situational Crime Prevention, or Environmental Criminology can help prevent criminal and delinquent behaviour by reducing situational opportunities and perceived rewards, and increasing risks - from the offenders point of view - and strengthening a community's sense of responsibility for place. In other words, situational crime prevention looks at the criminal event itself - examines the intersection of potential offenders (and their 'conceptual sets') with the opportunity to commit offences (Brantingham & Brantingham, 1990; Clarke, 1992).

Early work on juvenile gangs in Chicago, (Thrasher, 1963) identified links between activities, social patterns of the milieu, and layout of buildings, streets etc as 'conditioning factors' or the 'situations complex' within which humans interact. The interaction of 'built-in

opportunity potentials and user characteristics' (Samuels 1993) generate the circumstances that hinder or encourage criminal, delinquent or deviant (nuisance/offensive) behaviour. Surveillability, accessibility, area appearance, and community involvement and/or willingness to intervene, *in combination*, can help create a safe-place and generate an image of an area as a safe-place in both the mind of the resident and the criminal.

Physical defensible space features (barriers, surveillance opportunities...) can help boost neighbourhood identification, but 'can't do it all' (Merry, 1981a&b) when it comes to ensuring safety and security. Merry showed how a 'series of subtle design features can undermine' an otherwise defensible design; and how ethnic heterogeneity, for instance, can result in a general anonymity that defuses a sense of community spirit that a design might otherwise enhance. In other words, spaces may be potentially defensible and secure in an architectural sense, but are not defended because the socio-cultural and community fabric is weak.

Though the evidence suggests that poor design facilitates crime, it does not prove that good design necessarily prevents crime (Yancey, 1971) - non-physical factors will intervene. Notwithstanding, environmental settings which offer the greatest possibilities for concealment do tend to have higher crime rates - Molumby (1976) found that locations at which crimes occurred often had poor lighting, large bushes and no buildings across a street; and Dietrick (1977) associated higher burglary rates with hiding places near doors or windows. These are clearly design issues.

In general, the role that architectural and urban design elements play is frequently a supportive role for other more influential situational conditions, such as social networks, home ownership and territorial responsibility (Taylor et al, 1984). Social characteristics of areas are stronger predictors of crime than physical characteristics - percentage of families receiving welfare, female heads of households receiving child support, low disposable incomes (Newman, 1976), and teenage/adult ratios (Wilson, 1978), in particular. A further conclusion of Wilson's Home Office study, however, acknowledged that if child density were constant, *design* factors were seen to exert a differentiating influence on the incidence of vandalism. Coleman (1985) claims that child density should be reduced to 17% of the adult population or one child under 15 per 6 adults over 20, but 'social formulas' (not unlike physical determinism) are to be accepted with extreme prudence, since situational contingencies and cultural expectations can readily override such equations.

Despite the obvious importance of community interaction, the complexity inherent in all interpersonal relationships foregoes any simple solution to crime prevention. Fried (1982),

for instance, found that neighbourly relationships were a strong predictor of neighbourhood attachment, but this emerged as a preference for maintenance of interpersonal distance and respect for privacy, not for close interaction. From Campbell et al's (1976) large-scale study we know that neighbourhood satisfaction is affected by a sense that relationships with neighbours conform to one's preferences, but not what these preferences are, or how much interaction occurs.

It is axiomatic, however, that community cohesion can be augmented by physical design, by the provision of *in-built potentials* for community interaction. Examples are: multipurpose meeting facilities (where new residents to a neighbourhood or housing estate can be welcomed and meet other residents, *inter alia*), small, high quality and *integrated* outdoor spaces (people are more likely to use outdoor space that is both thermally comfortable and secure), community vegetable gardens, sport and leisure facilities, and child- and teenage-dedicated spaces (day-care centres, eg). It is equally axiomatic that potentials for both privacy and community must co-exist, and that residents should have access to both when they so desire.

Attention to details of areas at a micro-level, without recognition of the *whole* picture of areas which forms in people's minds (in a Gestalt sense, the whole being more than the sum of the parts) will severely limit the effectiveness of any design changes on crime and fear of crime (Carter & Hill, 1977). At the same time, however, crime is not uniform, and preventative approaches have to address the diversity of criminal behaviour, and understand the *specific* places where they occur, the specific times at which they occur, who might be committing the offences, and what socio-spatial elements are contributing (Brantingham & Brantingham, 1990). Understanding offender decision-making processes and motivations is thus crucial to the implementation of appropriate situational remedies - although it is probably community dynamics and informal social control which, in the end, will determine whether or not crime prevention strategies are effective or not.

Crimes against property (burglary, vandalism, arson...) and crimes against persons (robbery, assault, rape...), are similar in the sense that offenders (disproportionately of the male gender) do not want to be caught, and will therefore seek to perpetrate such crimes where the chance of them being seen is minimal, and where the odds are generally in their favour - hence where their offensive strategy is deemed superior to whatever defensive mechanisms exist.

In the case of crimes against persons, offenders will also have to make judgements about a victim's character, strengths and weaknesses, and the likelihood that others will come to their defense. Here it is the person's vulnerability (accessibility to self) rather than a building's or a

neighbourhood's that is interpreted; and the strengthening of potential victims by dealing with 'victimisation personality types' is crucial to crime prevention - but cannot be addressed here. In any event, it is clear that the reality of a situation lies in the mutual relationships between its elements - physical, spatial, temporal, social, cultural and personal.

## FEAR AND CRIME

Fear (perceived risk) influences behaviour (limits options). People develop strategies to avoid places/times/modes of transport etc which are perceived as threatening. Where people fear to go out/use an area this results in less people using it, which further enhances the fearfulness of those who do go out (feelings of isolation) and crime opportunities (due to low surveillance potentials).

Fear of crime is more widespread than crime itself; and does not correlate well with the geographic incidence of crime. There is also a multiplier effect at work, for instance, people who have been victimised tell their neighbours and friends, whose fear levels rise. Similarly, where residents perceive their home territory to be disorderly (abandoned cars, sites, houses...) they are likely to feel that the community itself is not viable, and thus feel vulnerable themselves.

Although asking residents to draw *fear maps* (as part of a community safety audit, for example) might increase fearfulness, it can also be argued that such fears must have been latent in the subconscious to emerge so readily, and that suppression of fear is not the equivalent of having no fear. Ultimately, expressing fear could be beneficial if it raises the awareness of neighbours to the existence of other people's fears in similar places, and, most importantly, if something is seen to be done to alleviate those place-related fears via environmental design and community management.

Merry (1981b) asked residents from four ethnic groups living in a housing project to indicate, on a map, areas of the project which were safe and which were dangerous. Respondents differed in their perceptions, and had different neighbourhood ranges, and, again, there was a clear incongruity between a sense of danger and the objective occurrence of crime. Areas in front of residents homes were described as the most safe (and 70% of interventions for any crime occurred in these areas) yet these were also the frequent locations of robberies. This sense of safety here is clearly unrealistic. Furthermore, the presence of individuals perceived as dangerous in otherwise defensible spaces (a playground frequented by black youths, for instance) influenced perceptions of safety although no robberies actually occurred there - people avoided the area.

It was also clear, at the same time, that residents found narrow dark walkways, low underpasses, and convoluted entrances to buildings to be dangerous, *and* robbers also considered these places to be ideal for crimes. Residents avoid these areas, and hence the actual rates there were not as elevated as might be expected, given their situational vulnerability.

## ENVIRONMENTAL QUALITY

Environmental Design and Management may even help encourage *virtuous* behaviour by creating a sense of satisfaction and well-being as a result of the benign and aesthetic quality of the architectural and urban environment. Appearance engenders pride in residents, is associated with feelings of satisfaction and attachment, and suggests to the potential offender that an area is under control. Fried (1982) found that *residential quality*, which is the most important element of residential satisfaction and attachment, was largely composed of housing quality and neighbourhood quality (particularly ease of access to nature and outdoor spaces).

There do seem to be some places to which individuals can become more easily attached *ie* form 'territorial cognitions' (Taylor et al, 1985) and enact proprietary behaviours, because of the quality of the locale *ie* their sense of satisfaction with a place or situation engenders a corresponding desire to maintain that state of affairs, which manifests as a heightened sense of control.

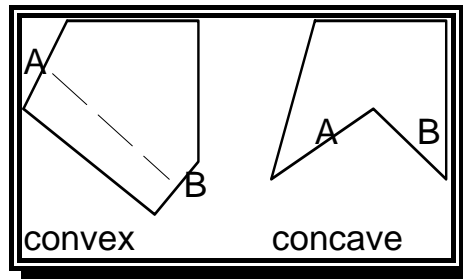
Moreover, as quality of the environment increases, fear of crime tends to decrease (people tend to associate such places with a caring community, or municipality), whereas a disruption of 'territorial control' processes engenders high fear levels (Taylor et al, 1981).

## SPACE SYNTAX

Hillier (1984) derived a technique to evaluate how the spatial configuration of buildings defines public space, and its use. In order to encourage people to move freely and interact often, dead-end spaces and secluded streets with 'short sightlines' should be identified (and eliminated) via space syntax techniques such as convexity maps and 'axial' maps.

The convexity map shows an area broken up into convex and concave segments. A convex segment is one in which a person standing at any point on the perimeter of a segment can see

another person at any other point on its perimeter. A concave map has blind spots in it (see over).



An axial map shows the lines of sight between convex spaces. The *more* a line is crossed by other lines, the higher its **segregation** value; the *less* it is crossed the higher its **integration** value *ie* the greater the number of segments that have to be crossed the less direct is the route between the spaces connected to it. Such a space is said to be less intelligible, and segregated layouts tend to be sparsely populated. The 15% of axial lines with the lowest values indicate the 'integrating core' *ie* those areas used most intensely.

The safest public spaces are said to be those with good flows of people, and intelligible (integrated) routes with long sightlines. Coleman (1985) agreed that if the route system is unintelligible, a few places are likely to drain off all the street life, leaving other places deserted.

A researcher at the Bartlett School of Architecture and Planning, University College, London, used the technique by overlaying geographical crime rate maps with integration value maps, and showed that the likelihood of a more segregated dwelling being burgled was highly significant (quoted in Mills & Armstrong, 1993).

## DISPLACEMENT OF CRIME

Displacement of crime can take place in time, or space, or to a different crime, but not all criminals will continue to hunt for targets. Contemporary environmental criminologists believe that different levels of opportunities are likely to trigger persons with different levels of criminal motivation, with weaker opportunities only triggering action by those with the most powerful compulsion to crime (Brantingham & Brantingham, 1991/b; Gottfredson & Hirschi, 1990).

In general, CPTED has been found to have an impact on burglary/theft, street offences, nuisance behaviour and vandalism; *and* there might well be some beneficial *diffusion* too

(Clarke, 1992) - a halo effect. It seems self-evident that if preventative/defensible and benign/proactive environmental design and management were implemented *on a wide enough scale*, the issue of displacement could become neutralised.

This is a powerful argument for involvement at Local Authority level. Decisions as to where roads and pedestrian paths should be placed, housing, shopping centres, convenience stores and public facilities located, and the nature of public open space, coupled with resolutions concerning the vigour of maintenance programs, and policies influencing the degree to which communities are brought into the design/planning procedures...could have a multiplier effect by reducing opportunities for crime at municipal level. If the State government departments of housing and planning were also committed to a situational opportunity approach, even regional consequences could, therefore, be anticipated.

## URBAN PLANNING POLICY

Urban Planning policy decisions can be geared towards situational deterrence and environmental amelioration via the recognition of the salience of 6 general principles:-

### i) *Mixed Zoning*

the anticipated consequence of the the inclusion of local facilities, residential, commercial, recreational, educational and urban domains in a *metropolitan fabric* is the 'populating' of these areas, resulting in a heightened 'animation' during the daytime hours and, particularly, at night. In principle, 'eyes on the street' (Jacobs, 1961) enhance natural surveillance opportunities and reduce fear - due to the presence of potential witnesses and, hopefully, people who feel strongly enough to actually intervene (or at least make the effort to alert the police). Jacobs observed that successful city neighbourhoods were close-textured, high-density assemblages of mixed land uses, where many people lived within walking distance of many destinations and there was a constant coming and going on foot along a dense network of streets. The overall result was a complex system of interlocking circles of acquaintanceship, with accepted mores and practical guide-lines for behaviour (Coleman, 1985).

Where land-uses do not have continuous occupancy there is a gap in the socio-spatial fabric, and because surveillance is lower, these places - *ie* at the 'territorial interstices' - are likely to be assessed by 'marginal' individuals as good places for crime (Taylor, 1988).

The presence of potential witnesses on neighbourhood streets appears to deter crimes such as robbery (robbers choose commercial stores set back from the street, shielded from public

view), and sparsely used streets adjacent to commercial districts have been found to be particularly crime ridden (Conklin, 1972; Fenney and Weir, 1974)

If the presence of bystanders decreases the probability of criminal victimisation, the more pedestrians on the streets, at more times, the safer the area is likely to be. It has been said that 'crime causes crime' (Conklin, 1971, Clotfelter, 1978, Shotland & Goodstein, 1984) *ie* where pedestrians are afraid, and stay off the streets, there are fewer citizens available for surveillance, which increases the risk of being victimised for those who do use the streets.

There are also arguments against mixed zoning. Where there are more people there are also potentially more strangers, and more potential offenders. Studies have shown that residents near small commercial centres expressed feelings of less control and thus more fear (McPherson et al, 1983); and access from non-residential land-uses to housing increased the burglarisation rate (Winchester and Jackson, 1982). And Rapoport (1982) suggests that mixed land-uses communicates a notion of poor environmental quality where purely residential (and socially homogeneous) areas are seen as the ideal (the suburban dream).

This suggests that for the advantages of mixed zoning to become manifest, careful design is required. Most importantly, the different uses need to be *integrated*, not merely juxtapositioned, and their functions and time-space profiles considered as a whole.

Similarly, accessibility and surveillability considerations need to be built-in and co-ordinated, and community involvement and participation from *pre-design* stage onwards is an absolute requirement.

Ultimately, it is an issue of weaving an urban and suburban fabric that is *continuous*, both temporally and spatially, and provides opportunities for both privacy and surveillability.

ii) minimum (rather than maximum) residential density controls

Classic urban planning policies restrict residential densities, according to pre-conceived notions that high densities are bad. Early developments in the field of environmental psychology (Hall, 1959; Sommer, 1969, Altman, 1975) however, have increased our understanding of the way people react to density according to personal space evaluations and cultural factors, and how prescriptive density rules can be inappropriate; and Newman (1972) showed that density, *per se*, seemed to be irrelevant to crime rates. Decker et al (1979) even recorded that higher population density was associated with lower juvenile delinquency theft/burglary rates.

Rather than the traditional concern with maximum densities it is *minimum* densities that are required to make the social fabric continuous; and to make public transportation viable economically, and to ensure sufficient passenger presence - on trains and at stations - at all times, and particularly at night - which is a natural security measure. Clotfelter (1978) found a higher probability of victimisation on the New York subway system when ridership was low (midnight to 6am).

iii) Discouragement of suburban sprawl

Because of contemporary changes in habitual behaviour patterns *viz.* the increased frequency of both adults in a household going to work, houses in suburban areas are often left empty during the day, and cars are also parked at suburban railway stations for long periods of time when suburbanites commute to the urban areas to work. This 'routine activity' thus generates easy targets for potential offenders due to low surveillance and low animation.

iv) Urban villages and village-forum concepts

Neighbourhood vigilance and sense of community, caring, and readiness to intervene is likely to be heightened where urban villages are formed. These residential tracts are centered and contained. An essential element of such designs is, thus, the forum [from Roman times] or the village green [from medieval England], a place where local inhabitants can meet to talk, interact, jointly survey children at play, hold village and school fairs, weekend markets, etc.

v) Vs. the Aladdin paradigm

*ie urban renewal replaces old neighbourhoods for new*, but simultaneously destroys individual familiarity, local community networks and contacts, eyes on the street, etc. Merry (1981b) found that people who did intervene to help people being victimised had all lived on the project (surveyed) for the full ten years of its existence, and many of their important social relationships were with other project residents. In other words, they were committed to the project, had formed social networks, and interacted on a daily basis within the project. They also intervened in spaces they used regularly. All of these aspects are destroyed when neighbourhoods are razed and new urban renewal projects erected, with neither history nor heritage.

Hackler et al (1973) mention that in neighbourhoods where there is a great deal of social mobility, where slums have been destroyed to bring in high rise apartments, and where

unfamiliar environments replace familiar ones, fewer social situations develop where mutual friends are present or where neighbours know and care for each other.

vi) Allocation policies for public sector housing:

A mix of unit *size* in blocks of flats, or of house *size* per area, creates a mix of *family size* - some with few children some with more children. This mix can still allow for perceived socio-economic homogeneity but allow for a more balanced teen/adult ratio.

## INVOLVEMENT OF COMMUNITY STAKEHOLDERS IN DESIGN/PLANNING

Stakeholders are those people who have a special interest in an issue or area. Understanding their needs and preferences, and including them in neighbourhood decision-making at all levels enhances their involvement in day-to-day caring for, and investment in, their local areas. This is also called Community Empowerment, or Territorial Appropriation, or Manageable Space (Perlgut, 1982). Community involvement sends a message to potential offenders that a place is 'owned' (involving rational choice/risk-reward trade-offs).

An important issue concerning community involvement is *the stage* at which they become involved. If their role is reduced to 'comment', during the conventional 14-day public scrutiny period, *ie* after the decisions have been made, this is notional involvement. The community must be involved at the pre-design and pre-planning stages, when priorities and alternatives are being considered, and at every other stage of development and use, including post-occupancy management periods, and when projects are being evaluated.

For territorial functioning to be effective it should be based on *small group* dynamics *ie* at the level of the *streetblock*, not at neighbourhood level (Taylor, 1988). Taylor et al, 1984 also found an association between being younger, a woman, and of higher income, and stronger territorial functioning. Perhaps it is such individuals who should be approached to lead and organise community meetings.

It is also vital to appreciate that *interpersonal perception* plays an important role in people understanding each other (reaching consensus), whether the relationships are within the community, or between them and managers, planners, or police. Social theories of communication recognise that a person's behaviour is not based simply upon their private cognitive construction of their world, but is also a function of what *they believe other people believe*. What one person thinks about how another person evaluates an issue is crucial, and this includes what 'I think about what you think of my evaluation of an issue' *ie* perceived

congruency - compared to what I actually think of the issue - which is also an indication of whether I will be understood or misunderstood (McLeod & Chaffee, 1972).

Similarly, perceptions by criminals of a community's resolve and commitment to a place will influence their behaviour, and the image that comes over can be vital in this regard (see Offender Perceptions below).

## BYSTANDER INTERVENTION

Latane and Darley (1969) showed how *ambiguity* in a community can generate bystander apathy via an interruption in the sequence of decisions which are essential for bystander intervention. Any situational variable which creates confusion, either about the correct interpretation of the events (how serious is it ? is it a family or lover's quarrel, or are the people strangers ? etc), or who is responsible for helping, affects the rate of intervention. Huston et al (1981) showed how people who had intervened directly in a criminal episode had witnessed considerably more crime and were more likely to have been personally victimised themselves.

Before a bystander will intervene, an event must first be seen or noticed, it must then be interpreted, responsibility to act must be assumed, what form of assistance to offer decided upon, and finally how to implement this decision must be deliberated upon. Both physical and social characteristics can derail this sequence.

Micheline et al (1975) studied self-esteem and safety needs (from Maslow's hierarchy of needs), and found that people high on self-esteem needs and low on safety needs helped significantly more frequently. Wilson (1976) also found that 'esteem-oriented' individuals helped more.

Hackler et al (1973) showed how increased interaction within a 'stable' community or neighbourhood was related to a willingness to intervene. They also question the assumption that the presence of many persons increases the likelihood of aid being offered, and illustrate how the presence of others often seems to inhibit rather than encourage intervention *ie* there is a tendency for responsibility to be defused. However, this scenario holds for cases where strangers are involved, not friends or known individuals. The conclusion to be drawn is that community and friendliness are keys prompting bystander intervention. Darley (1967) has suggested, similarly, that the cohesiveness of a group of acquaintances short-circuits the diffusion of responsibility found when strangers are implicated. Individuals who engage in

collective anti-crime measures do so as a result of their general sense of commitment to and participation in community affairs (Skogan and Maxfield, 1981).

Phelan (1977) reported that ex-burglars perceived the vulnerability of an area in terms of its familiarity to them, and the fear of being seen and reported. The mere presence of people, albeit a deterrent in the eyes of potential offenders, does not mean that bystanders *will* intervene; however, Shotland & Goodstein (1984) present evidence that the mere presence of bystanders capable of surveillance may inhibit the commission of crime. There is a complex personal-social calculation that occurs in bystander intervention in crime control situations - considerations of familiarity with the victim, estimations of personal danger involved, fear of retribution or of harassment as a witness.

Ultimately, there will be a trade-off between the offender's fear of surveillance and bystander's fear of crime, perception of personal competence to handle the situation, and sense of responsibility to control crime.

## OFFENDER PERCEPTIONS

Resident perceptions can indicate where disorder and threat are high in a residential context, and in such areas a redundancy (Rapoport, 1982) of territorial cues is required for territorial functioning to be effective - for example, both fencing and planting to keep intruders out (Brower et al, 1983). Understanding territorial judgments in a criminal's mind is of great importance to environmental criminologists and designers, and to police. How, for instance, do potential offenders 'weight' various defensible space features? What is the combination of factors that denotes a 'susceptible or immune' site? Do they read but override territorial demarcations? Do they assign importance to decoration - as a sign of occupancy and proprietary attitudes? From the resident's point of view, for instance, *decoration* was found to be the most important territorial safety marker (Taylor et al, 1976).

Carter & Hill (1977) were able to explain 75% of the variation in crime rates after interviews with convicted property criminals, with regard to their evaluations of areas where they committed the crime. The important issues were: familiarity with an area, the 'hardness' of the 'mark' (target) and the perceived socio-economic status of an area. In general, houses that looked unattended, and stores that had no alarms were considered as good targets/easy marks.

There were, nonetheless, differences amongst the criminals themselves, due to their different races (and, of course, different crimes will reflect different socio-environmental factors). The 'hardness' of the mark was particularly important for the 'Whites' - including the ease of

getaway. Gabor et al (1987) found, similarly, that robbers considered whether there was a 'small street close by to park a car and to remove disguises afterwards'. Familiarity with an area was particularly important for the 'Blacks', who felt very visible in affluent White areas, and thus tended to commit crimes close to their own residential areas.

Merry (1981b) interviewed young men who lived on a multiracial housing project in Boston and committed robberies there, about their attitudes towards crime, the design of the project, and their choice of victims and crime opportunities. They also drew a cognitive map of the area, in which they indicated the places they considered to be good for robberies, and these maps agreed closely with the distribution of actual crime incidents. 'They try to commit crimes where they will not be observed. Favourite places are narrow and enclosed pathways where visibility is poor and witnesses nonexistent' while 'open courtyards are considered poor robbery locations since there are so many eyes there'. The street is not considered a good place except where there is little traffic or windows are obstructed by fences. The availability of good escape routes is an important aspect of environmental design considered by the robbers, and once a victim has been selected he/she is trailed until a good location is reached *ie* one with multiple routes, twists and turns, tunnels etc, where pursuers can be eluded. In general, dark places and nighttime are preferred since victims have trouble identifying the perpetrators later.

It was clear that the robbers interviewed by Merry knew where those residents lived who would call the police, and they avoided those areas. They took into account not only the possibility that people could look out of strategically positioned windows, but also the likelihood of this happening. A plaza outside a building housing elderly people was considered a poor location because the old people were always looking out of their windows; other people were known to shout out when they saw something happening, and such places were avoided.

Taylor (1988) reported that 'it appears that offenders against persons, as well as property offenders, view the mere presence of people outdoors as a risk factor'. Rengert & Wasilchick (1986), in their interviews with suburban burglars, provided direct confirmation of offender's desires to avoid well-peopled blocks. Similarly, since muggings occur in more deserted areas with fewer natural guardians, it can be inferred that offenders are choosing sites that lack 'eyes' (Rhodes & Conly, 1981).

Although Phelan (1977) claimed that both symbolic and real barriers between public and private territory were hardly perceived at all by ex-burglars, it is not helpful to look at

defensible features in isolation. We have already seen that area image (in a Gestalt sense) is different from the meaning of individual site characteristics.

In general, it seems that potential criminals consider which areas are architecturally suitable to commit particular crimes (particularly surveillability, obtrusiveness, and access/egress possibilities), and also consider social factors which influence the likelihood that local users and/or residents will intervene (territorial personalisations, ethnic and socio-cultural characteristics).

Their attitudes and behaviours are clearly socio-spatial.

## CONCLUSION:

A Defensible Territory is an environment in which in-built environmental and situational cues (access control, natural observation, animated spaces, territorial markers etc) and the latent sense of community (via participation and involvement) are translated into a sense of responsibility and security on the part of the users/residents/occupants.

The potential criminal or delinquent perceives such a space as controlled by its residents, leaving him an intruder easily recognised and increasing the likelihood that he could be apprehended.

Environmental design and community management *can* result in deterrence and prevention.

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