



No. 246

Suburb Boundaries and Residential Burglars

Jerry H. Ratcliffe

In examining home addresses of burglars and the addresses of their targets, this study found that burglars did not, as expected, work in their own neighbourhood. Most burglars (77%) travelled away from their home suburb to do their work, travelling an average of five kilometres to their target. There was no evidence that physical boundaries separating suburbs, such as carriageways and parkland, acted as barriers inhibiting burglars' movement. This has important implications for both urban design and crime prevention.

Adam Graycar
Director

A growing trend both in Australia and overseas is the expansion of protected communities. Devised to reassure residents concerned with growing urbanisation, traffic and fear of crime, these types of neighbourhood attempt to return a sense of community through exclusion of outsiders and a reduction in through traffic (Blakely & Snyder 1997). They may seek to use formal and informal barriers to achieve these aims or, in more extreme cases, employ private security guards to protect private areas that used to be public space. Fear of crime is often a motivating factor in the creation of gated communities (Wilson-Doenges 2000) and in the design characteristics of local areas. There would certainly appear to be a growth in gated communities in Australia (Kerr 2001).

The idea of reintroducing a sense of community to a neighbourhood may resound with a public increasingly concerned with crime and disorder. There is appeal in the idea of a suburban neighbourhood where children play in the street and everyone leaves their doors unlocked. The desire to live in an environment with a solid sense of community is strong, and focusing on the neighbourhood or suburb as the appropriate scale of structural change is not uncommon. Broad-brush citywide tactics may not be suitably tailored for a particular community, while strategies that are too localised may be costly. Indeed, the appropriate geographical scale in crime prevention strategies is often determined by available funds or administrative boundaries rather than the most effective range for implementation and success.

In the case of burglary, certain strategies, such as Crime Prevention Through Environmental Design and Neighbourhood Watch, have a particular geographical range. They are often neither cost-effective at the individual property level (micro-level) nor at the citywide scale (macro-level), though few rigorous cost-benefit evaluations of situational crime prevention studies have been completed (Chisholm 2000; Walsh & Farrington 2001, p. 115). But are communities that are designed to exclude outsiders effective in reducing crime? In regard to gated communities studied in the United States, the answer would appear to be "no" (Blakely & Snyder 1997; Wilson-Doenges 2000). Few gated community residents report an increased sense of community (often the reverse in fact) and crime levels have remained unchanged. This paper examines the offender behaviour patterns of residential burglars to demonstrate why protected communities are less likely to provide the protection from outsiders that residents seek. Although there are far fewer protected communities in Australia, we examine

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Criminology
Research
Council

Australian Institute
of Criminology
GPO Box 2944
Canberra ACT 2601
Australia

Tel: 02 6260 9221

Fax: 02 6260 9201

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here the behaviour patterns of burglars in Canberra, a city that while not yet containing gated communities, incorporates a number of similar design elements. The paper concludes with a discussion of the policy implications for the scale of crime prevention strategies.

The Importance of Geography in Offender Behaviour

An understanding of the decision-making strategies of burglars reinforces the importance of geography, both real and perceived, in the risk of victimisation. "Real" (that is, physical) geography creates an obstacle of distance over which an offender must travel from a home address or other base to the crime site and back. Increased distance has the effect of increasing effort and escalating the risk of apprehension. It also amplifies the chance that an offender will move into unfamiliar territory, where he or she may feel out of place and where knowledge of escape routes is minimal. While not all offenders can be generalised, common patterns of criminal spatial behaviour have been observed by researchers (Brantingham & Brantingham 1984; Wiles & Costello 2000), with consensus that many offenders choose to commit property crimes not far from home. This behavioural tendency to commit more offences closer to home and fewer offences as the distance from home increases is called "distance decay" (Rengert, Piquero & Jones 1999).

Physical geography is not the only distance-related factor in offence site selection. Increasing "perceived" distance has much the same effect. Although the offender may not be physically far from home, moving to an unknown area might heighten the offender's sense of unfamiliarity by emphasising socioeconomic differences between the target suburb's residents and the offender. An example might be of a shabbily dressed offender walking through a wealthy neighbourhood, or driving through the area in a dilapidated vehicle when expensive cars populate the driveways. Therefore, the geography of the urban environment

is not just one of physical distance; class and ethnic differences are often also reflected. The offender might feel that he or she has wandered into unfamiliar "territory", where visual clues indicate a strong sense of ownership of the neighbourhood's properties. In residential areas, our need for some degree of privacy away from "social space" (communal, public areas) drives what has been termed "territorial functioning" (Taylor 1988).

Territorial functioning is the mechanism by which we exclude unwanted people, through the use of fences, hedges and other indicators that certain space, usually close to our home, is private and not for public use. Taylor has described human territoriality functioning as a system of attitudes, sentiments and behaviours that are specific to a clearly marked location, which signifies that a group has some expectation of exclusivity of use, as well as responsibility for, and control of, activities in the specific location (Taylor 1988). He suggests that if people have strong beliefs about areas and places, then their behaviour in relation to those areas is to some degree predictable. While Taylor's main concern is with the face-to-face interactions at the street level between individuals, the process is applicable on a number of scales. Because territorial functioning is highly place-specific, the effects emanating from a territory vary according to the type of place. Smaller areas under the control of a few individuals are more likely to be viewed as territory to be protected by that control group. As the area under consideration grows, the extent of altruistic control diminishes.

Brown and Altman (1981) contend that the formation of territories is based on the need for privacy. They view privacy as a fluid boundary that involves a porous connection to the social and physical environment, designed to regulate levels of personal privacy. These boundaries are often articulated physically through the use of hedges and fences, as well as indications of personal occupancy of properties, such as manicured gardens and the placing of personal items on lawns or near property boundaries.

These signals may exist in some collective form at a neighbourhood level, giving an indication to an outsider that this is a neighbourhood where people care about themselves and their neighbours. Alternatively it could be that these "signals" from individual property markers (demonstrating "territory") do not express themselves into a group image of a neighbourhood, and unwanted outsiders (in this study, offenders) are free to assess each property on a site-by-site basis, secure in the impression that there is little collective territory.

Burglars' choice of suburb to target is usually not random. They are generally drawn to certain areas through the day-to-day activities of their lives. Areas that are familiar to them are the same types of areas that we find familiar: around schools, shops, recreation areas and work. Many of these can be found near the home, re-emphasising the importance of local geography in determining criminal opportunity. This model of offender behaviour, termed "crime pattern theory", has been articulated for some 20 years (Brantingham & Brantingham 1981). In addition, other theories consider the risk of victimisation. Although originally formulated for violent crime at the macro level, Cohen and Felson's routine activities theory (1979) has been regularly applied to neighbourhood and local-level property crime. The theory states that for a crime to occur, the convergence is necessary of a motivated offender and a suitable target, in the absence of a capable guardian. Clear indications of ownership and occupancy may be sufficient to act as a capable guardian at times, and may, in the eyes of the offender, remove the suitability of the target.

Oscar Newman's theory of defensible space (1972) suggests that a sense of demonstrated ownership of immediate territory around the home is vital if local residents are to increase the image of privacy and defend their property against crime. While this may be the case, the treatment of territory around the property has some complexities. Trees and bushes

beside the building may increase privacy, but may also increase concealment opportunities for burglars. The situational crime prevention attributes of certain features impact on the decision of the offender to target the site, or to move on and find another one. Each decision to move on to another target can take the offender further from home base, increasing the physical space between target and home.

Application of some defensible space and situational crime prevention principles have grown into the field of Crime Prevention Through Environmental Design (CPTED), though there is uncertainty as to the scale limitations of these ideas. Beyond the immediate property level, it is unclear if CPTED can function at the neighbourhood level. White and Sutton have noted that some of the successes recorded with CPTED have been exaggerated, and that our understanding of the underlying social process is less than complete (1995, p. 88). Their concern with a number of the situational-type remedies to offending is that many of the strategies are specifically designed to exclude undesirable elements of society from a particular area, rather than addressing the reasons why people offend there.

If one aim of environmental criminology is to understand the relationship between offenders and target areas, the question arises as to how offenders find targets. Crime pattern theory suggests that offenders find targets along the pathways that make up their normal activities, and that these areas form an “awareness space” (Brantingham & Brantingham 1981, p. 36) that offenders use as the basis for a criminal search pattern. Studies of offenders in Pennsylvania found that properties close to major arterial routes are more prone to victimisation (Rengert & Wasilchick 1985). If offenders are using arterial routes to identify potential areas, it may be possible to reduce the impression of vulnerability of neighbourhoods by restricting the visibility of areas from the main routes, through the use of roadside vegetation and by designing houses that do not have any frontage facing the main road.

Studying Offenders and Neighbourhood Boundaries

The present study examines the effects of suburb boundaries on offender observed behaviour. Suburbs in the study city (Canberra) are more clearly marked than in other cities due to the unique geography and layout of the neighbourhoods. The original design of the Australian Capital Territory (ACT) emphasises the importance of suburbs as autonomous units, with each suburb containing its own group of shops and community structures, and many having schools and a quota of public housing. Dual carriageways and well vegetated areas border many suburbs (not necessarily a positive design feature considering the recent bushfires that swept across Canberra). Some of these urban barriers are so wide that houses in one suburb are over 100 metres from the nearest property in the next suburb, separated by large areas with grass, bushes and trees, and a dual carriageway arterial road. Is it possible that these suburb barriers act to influence the behaviour of offenders in their choice of suburbs to target?

An examination of the urban design and intensively planned nature of Canberra generates a picture of a city with a number of key characteristics useful for this study—characteristics which reduce the need for people to visit neighbouring suburbs:

- major dual carriageways with median strips and no building frontage separate many suburbs;
- other suburbs are separated by single carriageways and/or parkland but again, no house frontage;
- most suburbs have their own shops and are self-sufficient for many residents’ daily needs; and
- many suburbs have their own community infrastructure such as schools and churches.

Many of these characteristics are identical to design features that the creators of protected suburbs employ to design out crime and generate a sense of community (Blakely & Snyder 1997).

There are three possible hypotheses that are examined in this paper:

- The principles of least effort and distance decay suggest that offenders target properties close to home. Although there is also a buffered distance-decay model that states an offender will move some distance away from home before searching for criminal opportunities due to the risk of recognition (Rossmo 1993), this distance is usually quite short. The offender will more often than not be in their home suburb. Furthermore, younger offenders will be unwilling to penetrate unknown areas due to unfamiliarity with the neighbourhood (Brantingham & Brantingham 1981, p. 45). Therefore the first hypothesis is that offenders, given a choice, will favour their home suburb.
- The second hypothesis is that, given a choice, offenders will favour neighbouring suburbs, as there is less risk of detection from recognition by neighbours.
- The third (null) hypothesis is that the boundaries between suburbs do not influence offender behaviour and that the aggregate behaviour of the offenders studied is in line with the expected distribution of houses in suburbs around their home.

Burglars and Suburbs in Canberra

Data were provided by the Australian Federal Police (ACT Region) and contained details of every recorded burglary in the ACT for 1999 and 2000, along with addresses of every person arrested for burglary in the ACT during the same period. An earlier paper in this series summarises the burglary characteristics of Canberra and provides an introduction to the data set (Ratcliffe 2001). Seventy per cent of burglaries in the ACT occur at residential properties, predominantly during weekdays. Certain parts of the city are more crime-prone than others. Twenty-five of the more than 120 suburbs in the ACT account for half of the residential burglaries, with a quarter of detected residential burglaries in the city committed by offenders under 16 years old, and half committed by offenders under the age of 18. The mean journey from the offender’s home to the burglary target is five kilometres

(3.1 miles) for residential burglaries, calculated as a “crow’s flight” distance. This figure is, however, skewed by a small number of offenders who travel relatively long distances. The median distance is 2,900 metres. One-third of all burglaries are committed by offenders who have travelled less than one mile (about 1,500 metres) from their home address. It must be noted that these results are extrapolated from detected offences only, and burglary is known to have a low detection rate (at or around 10 per cent) in the ACT (AFP 2001, p. 24).

It was possible to identify 357 records where an offender residence could be matched to a residential property. It should be stressed that this is not the number of residential burglaries detected within the ACT during the research period. Data quality for address information varies within police records and a number of records had to be excluded due to an inability to match address information with actual properties. Furthermore, this information does not include non-residential burglary cases.

A caveat is necessary at this point. This research is based on the offence locations and the home addresses of individuals arrested and charged with the offence. The basis for using this data is that there should be a reasonable level of suspicion on the offender such that the police have an expectation of conviction at court, hence the charge. However, it should be recognised that this research does not use conviction data.

Originally applied to serial rapists, Canter and Larkin (1993) separated their study of repeat offenders into two groups: commuter offenders who moved away from their home base to commit offences, and marauder criminals who moved around the area close to home. This classification is useful for other types of crime and was applied, with a variation, to the residential burglary records in this research. For the purposes of this study, an offender home–offence location record was classified as “interior” or “exterior” depending on the number of suburb boundaries crossed to commit the offence. An “interior” record for

this study is where an offender either stayed in his or her home suburb or targeted a neighbouring suburb that shares a common boundary with the home suburb. This is an adaptation of the original Canter and Larkin distinction, which was specific to repeat offenders. By applying this filter, 210 offender–target paired records were classified as “exteriors” and 147 were classified as “interiors”.

Interior and Exterior Burglaries

Seventy-seven per cent of residential burglary offenders in the study committed offences in suburbs other than their home neighbourhood. In 58 per cent of residential burglaries, offenders travelled across more than one suburb boundary from their home address to commit the offence (“exterior” burglars). There are a number of possible explanations for this. Firstly, these travelling offenders may not be using their home address as a base for searching for criminal opportunity. The homes of friends or relatives might make a more suitable base for target selection. It might also be the case that the offenders are prepared to travel further and to search in more unfamiliar places. Some offenders may know the more distant suburbs because of present or past ties there. They might work or go to school in the area, or have previously lived in the suburb. Finally, it is possible that they were drawn to the remote suburb for other purposes, such as the availability of illicit drugs or other illegal activities. A number of cases involved individuals who committed residential burglary offences in and around the business area of Civic, possibly drawn by the proximity to the central business district.

Of the 147 offender–offence “interior” records, it was found that 50 were limited in their choice of suburb given the distance that they chose to offend. This means that while all of the offenders have travelled some distance to offend, in some cases the offender targeted the same suburb in which they lived. Given their distance to offend and the large size of the suburb, if the offender had travelled the same

distance in *any* direction the offender would have been in their home suburb. For example, if an offender lived in the middle of a large suburb and felt capable of only venturing 100 metres to offend, then the only available targets would be within the home suburb. It is possible that the offenders who chose a small distance had been influenced by the suburb boundary and decided to stay closer to home. This possibility is not verifiable with the data as the observed and expected outcomes for offenders with no demonstrated possible choice of suburb are both 100 per cent.

The remaining 97 cases involved records where an offender had travelled a specific distance to commit a burglary, and in the same distance from home there was a choice of properties in at least one other suburb to target. For example, if an offender travelled one kilometre to commit an offence, there were houses in other suburbs that were the same or less distance from the offender’s home. This subset of the data is the subject of the remainder of this paper.

To test the hypotheses mentioned earlier, it was possible to examine each “interior” home–target pair of the remaining 97 cases and calculate:

1. the percentage of addresses within the range of the offender that were in the home suburb; and
2. if the offender chose a home suburb target or a neighbouring suburb target.

The 97 cases were summarised into decile bands, based on the percentage of potential addresses in the home or different suburbs.

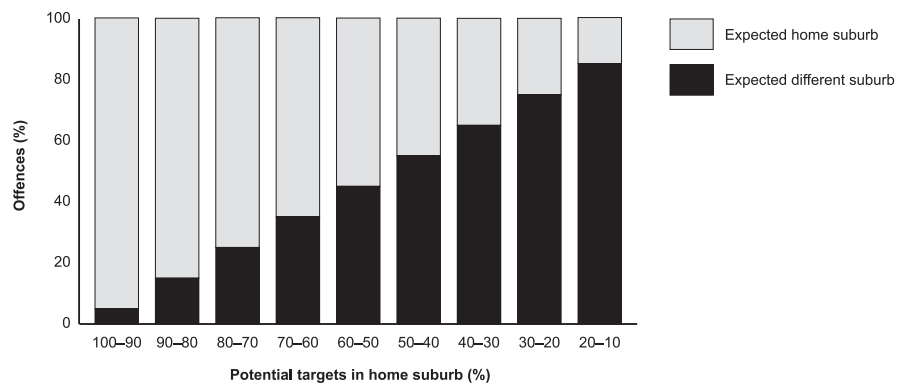
We can calculate an expected theoretical distribution. This is the distribution we would expect to find if offenders were not influenced by suburban boundaries. For example, if a burglar had a certain range for offences and within that distance 10 per cent of the homes (potential targets) were in a neighbouring suburb, we would expect our burglar to choose a target in the next suburb 10 per cent of the time. If their range was larger, or they lived close to a suburb boundary, and 50 per cent of the potential target homes within their range were in neighbouring suburbs, we would expect the offender to target

a home in a neighbouring suburb about half the time. All this assumes that the offender is not influenced by suburban boundaries. This expected theoretical distribution can be seen in Figure 1.

This distribution can be derived from a relatively simple calculation. For example, given that 15 offences (crimes in the home suburb C_h) happened within a home radius where the offender was in range of 90 to 100 per cent of home suburb targets, we can use the midpoint of this 90 to 100 per cent band (95% or 0.95), and estimate that the expected number of offences that would be within the home suburb is $C_h \times 0.95$ or, in this case, $15 \times 0.95 = 14.25$. This can be repeated for the complete range and the expected theoretical distribution looks like Figure 1. Note that the 10–0 per cent class has been removed due to lack of observed cases.

This theoretical distribution can be compared to the actual distribution measured in the Canberra cases. Figure 2 shows the actual distribution of target choice by offenders based on the percentage of potential addresses in the home suburb. As can be seen in the first band, where between 90 and 100 per cent of potential targets are in the home suburb, offenders chose to burgle a house outside the home suburb about 30 per cent of the time. This figure has been corrected for what are termed here “accomplice crimes”. In a small number of cases, although an offender chose a suburb that was not his or her home suburb, they did have an accomplice who was also arrested by police who lived in the target suburb. Given that the aim of this study was to enquire if boundaries between the territories of urban suburbs act to inhibit offender movements, there is a problem with the model if the offender committed the crime with an accomplice who was a resident of the targeted neighbouring suburb. If that were the case, then the inhibiting factor (if any) of the territorial boundary of the suburb may not work. The impact of real or perceived distance in these cases is negated if the offender commits the crime with a resident of that suburb or is a frequent visitor to the

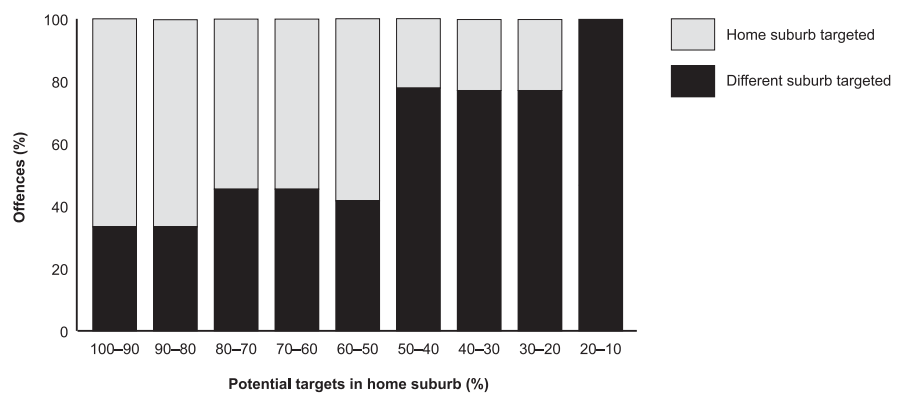
Figure 1: Theoretically expected suburban crime distribution



Note: As the percentage of targets in the home suburb decreases (going left to right) then the percentage of offences expected within the home suburb also decreases, assuming that the suburb boundary does not inhibit or influence the offender.

Source: Australian Institute of Criminology ACT Burglary study 2003 [computer file]

Figure 2: Observed inter- and intra-suburb burglary distribution as a percentage in each class, corrected for accomplice crimes



Note: While there is some variation from the expected (theoretical) distribution (as seen in Figure 1), the difference is not statistically significant. The burglars do not appear to be influenced or inhibited by the suburb boundaries in Canberra.

Source: Australian Institute of Criminology ACT Burglary study 2003 [computer file]

area for any purpose. The impact of this on the present study meant that the figures had to be corrected for occasions when the offender was arrested with a resident of the targeted suburb. These offences are shown as home suburb choices in Figure 2. (Again, the 10–0 class is missing as no offences fell into this category.)

Result and Conclusions

A chi square value can be used to compare the expected theoretical distribution with the observed distribution to address the three hypotheses mentioned earlier. Chi square compares expected distributions of the percentage of addresses in the offenders’ suburb against the observed percentage of times that an offender burgled in their home suburb in each 10 per cent range, though is influenced by small values in categories. A Cramér’s V test is therefore a more

reasonable estimate of the relationship between offender suburb choice and the expected outcome. With a value of 0.42, the Cramér’s V finds that a moderate association exists. This suggests that offender behaviour is generally predictable in regard to suburb boundaries, and that on the whole offenders did not adjust their behaviour significantly in regard to the changes between suburbs. Therefore there is little evidence in this study that offenders were influenced by the transition from one suburb to another, committing offences in areas that were not significantly different from the projected theoretical pattern.

The research presented here would certainly support the view of Taylor (1988) that territoriality is an inherently local affair, most effective at the local property level and becoming less effective as the resolution becomes larger. There is no evidence that the extra barriers

between many suburbs (created by additional vegetation, more carriageways and fewer suburban entry points) act to inhibit the travel behaviour of residential burglars from neighbouring suburbs.

In the understanding of travel patterns of offenders, this study suggests that physical boundaries are not a factor acting to inhibit the spatial blueprint of criminals. A substantial number of offenders are most likely to travel on foot, given that a third of arrested offenders are under the age of 16 years. If any inhibiting factor exists to offender travel behaviour, it may only exist in the socioeconomic variation between areas. It has not been possible in this study to test the impact of significant socioeconomic differences, as these differences between suburbs in Canberra are minimal compared to other urban centres. This might be the sort of work that could be completed in one of the larger North American metropolitan areas where income levels and housing conditions change rapidly and significantly between many neighbouring areas.

One important point to note here is that, while the outward design of protected communities and many of the suburbs in Canberra are similar in design, protected communities are *explicitly* designed as such. It is therefore possible that the design characteristics of more formalised community structures send a more blatant exclusionary signal to outsiders.

The findings presented here would suggest that expenditure to increase the boundary effect of the exterior of a suburb or neighbourhood against external offenders would largely be wasted money. There is no evidence from this study that offenders are inhibited in their travel patterns between suburbs in Canberra, and the territoriality of suburban residents would not appear to extend as far as the neighbourhood boundary. Future policy directed at protecting communities from burglary might find more success tapping into the positive effects of territorial functioning (signs of habitation and care) at scales smaller than the suburb level, working more towards

blocks of residents or individual streets. Spatially broader crime prevention measures that seek to include large residential areas, such as Neighbourhood Watch, may be unsuccessful in convincing outside offenders that the target suburb is serious about excluding the offender. Secondly, given the short journey to crime of many offenders (Ratcliffe 2001), it may be difficult to exclude the offender if he or she is already a legitimate resident of the suburb. Some meso-scale activities, such as police organisation of Neighbourhood Watch areas, have been shown to be unsuccessful. Sherman and colleagues (1998) note that, "the evidence against the effectiveness of police organising communities into neighborhood watches is consistent and relatively strong." Perhaps the time has come for a policy shift towards alternative, micro-scale methods of protecting communities from property crime, rather than the broad-brush strategies that are unsuccessful for larger community groups.

The fear-of-crime rationale for gated communities would appear to be at odds with the evidence, though more research is needed. However the homogeneity that protected communities appear to offer raises questions about the level of social division we are prepared to live with. A social community that is more inclusive than exclusive (White & Sutton 1995) is not necessarily at odds with a suburban lifestyle that has a community atmosphere and a low crime rate (Blakely & Snyder 1997).

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Dr Jerry H. Ratcliffe is a Research Analyst at the Australian Institute of Criminology



General Editor, Trends and Issues in Crime and Criminal Justice series:
Dr Adam Graycar, Director
Australian Institute of Criminology
GPO Box 2944
Canberra ACT 2601 Australia

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