Some Social-Psychological Correlates of New Town Residential Location

Abstract
A total of 160 residents from four different areas of Cwmbran New Town, South Wales, were interviewed to obtain information about:

(a) their 'social behaviour'— here taken to be frequency of contact with neighbours and total number of different people contacted in the interviewees' dwellings and in those of their neighbours; and
(b) their 'territorial' perceptions—the extent, the areas, of their surroundings that the respondents perceived as their 'home grounds'.

The residential areas ('neighbourhoods') selected for the inquiry represented dichotomized levels of two independent variables. These are: first, the degree of traffic (pedestrian/vehicle) segregation in the immediate surrounds of the residents' dwellings, and, second, the 'environmental status' of the areas—their apparent designation as favoured ('respectable') or not favoured ('rough') residential environs. The four samples of interviewees were matched individually over 15 categories of length of residence in the areas and location of previous residence.

The hypothesis tested was: that the degrees of traffic segregation and/or of environmental status of the areas are correlated with (1) the residents' 'social behaviour' and (2) their 'territorial' perceptions. This proposition was only supported for the data on environmental status.

Introduction
The generalised assumption underlying this study is, quite simply, that variations in the physical features comprising people's living environments—their residential localities in this case—are associated with variations of their social behaviour in and perceptions of these environs. This premise suggests a perspective for examining specific situations. It points a model in which three sets of factors are taken to interact: the physical settings, the social environments of the resident, and their individual behaviours and perceptions.

Since each of these factors and the possible relationships between them are likely to be complex, a baldly stated postulate of this order requires qualification. At minimum, it calls for an attempt to clarify the particular physical features under consideration, the types of behaviour and the nature of the perceptions. For the purpose of the study reported here, physical environment was regarded as the geographic, built, inanimate and material surrounds of the interviewees' dwellings. It includes features such as the types and density of buildings, their geographic location, the internal and external spaces available per person, and the physical arrangements for the flow of vehicular traffic. Social environment was taken to be the complex of social prescriptions constraining, and tending to produce conformity in people's inter- and intra-group relations. Probably most fruitfully examined on the level of sociological analysis, this set of factors subsumes considerations such as the explicit and implicit standards of behaviour associated with societal roles and statuses and includes normatively recognised differences in styles of, for example, speech and accent, dress, and dwelling usage. Last, individual behaviours and perceptions were understood as being...
functions of the complex of subject variables—probably best studied on a psychological level—that constitute an individual's unique personality: his or her age, beliefs, social attitudes, habits, temperament and background experience.

From the gamut of physical and social environments that might be expected to be present in new town residential situations, two were selected for study. The former centred on the issues of traffic segregation; on the differing arrangements planned for segregating pedestrian and vehicular traffic in the various residential zones of the town. The latter focused on what was termed 'environmental status'—the differing statuses which people living in the zones appeared to consider had been ascribed to their immediate surroundings, their 'neighbourhoods'.

A number of commentators have argued that these environmental factors influence the expressed satisfaction (or otherwise) with their residential settings of those affected by them, and, in consequence, that information about their operation may well be relevant to architectural and town planning design. Neither of the factors appears, however, to have been subjected to direct investigation. In the main, the claims have been speculative or been rooted in interpretations of serendipitous research findings. This paper reports an attempt to examine their operation directly; it records an initial effort to identify some of the salient issues involved. The expectation that such an investigation might be fruitful and—to a limited extent—the investigatory techniques used, were based on Lee's (1968) and on Fried & Gleich's (1964) studies of apparently analogous circumstances.

Briefly, Lee reported that, for given residential localities, the higher the density of social amenity buildings and the lower the dwelling-to-shop ratio in an area, the greater were the numbers of local friendships claimed by his respondents. In addition, he was able to confirm 'Brennan's law' (1948) that housewives manifest a preference for using local shops situated en route to large (town or city central) shopping areas rather than those located closer to their homes but not in the same direction. In short, it would seem that both the density and the spatial positioning of local amenities are related to patterns of individual behaviour. By tapping what he referred to as his respondents' 'socio-spatial schemata' (gained by asking them to record responses on maps), Lee indicated that the extents of the environments they perceived—their 'territorial' perceptions—were related to dwellings-to-amenity ratios. The density of the housing was not related to either of the two behavioural measures.

Sociologists who have considered the links between residential settings and behavioural variables have tended to stress the part which socio-cultural, particularly socio-economic class, factors play in shaping people's perceptions of their physical environments. Dean (1955), for instance, found that significantly more 'white-collar' than semi-skilled workers complained about over-crowding in their homes despite the fact that the families of the first category lived in less crowded conditions than the second. And Stacey (1960) argued that varying expectations of a like nature were expressed by members of the 'rough', 'ordinary' and the 'respectable' strata he identified among householders classified as 'working class'. Fried & Gleich have carried this argument further. They claimed that respondents from occupational groups designated as working class have markedly different perceptions of their immediate living environs from those expressed by people described as being middle class. The verbal indicators of environmental perception these investigators employed suggested that the latter tend to be more selective than the former in their use of space. Given their access to privately-owned means of transport and communication, members of the middle classes are, in the main, less bound to their local residential areas. For them, distances are traversed readily and the proximity of one's home to other significant venues (e.g., of work and recreation) is not salient. The former, on the other hand, are usually more spatially constrained. Channels of communication such as telephones and private transport are less available and their social involvements are more locality-bound.

These studies provided a framework of ideas for examining some of the behavioural assumptions embodied in the architectural and town planning measures for traffic segregation reviewed by, among others, Tettlow & Goss (1968). Together with the suggestive information of a similar type obtained during an earlier survey of residents' responses in Cwmbran, they gave rise to
two sets of questions for which answers might be sought. These were:

(i) Do residents in different status areas of the town manifest different perceptual schemata of the areas, and (b) if so, do the schemata correlate with the differing arrangements for traffic segregation found in various zones of the town?

(ii) Do the frequencies of social contact reported by the residents of different status areas differ, and (b) if so, do these differences in social behaviour correlate with the different arrangements for traffic segregation?

**Method**

**Environmental Status**

The independent variable 'environmental status' refers to a perceived difference between the two residential areas—housing estates—selected for the study, Northville and Llanlavoron. Here too the research workers’ impressions were confirmed by the residents’ perceptions—see the Appendix. Llanlavoron is set on a hillside and is separated by a wooded valley from the remainder of the town. Its spacious front gardens, woodlands, riverside walks and views contrast sharply with the high density housing, blocks of flats, tarmacadam surrounds, untidy communal areas, and absence of front gardens or scenery that characterise Northville. Further, Llanlavoron appeared to be favoured in respect of the occupational grades of the breadwinners among its residents, the proportions of owner-occupiers and of large families. Responses from both estates tended to share the viewpoint that the one is 'snobby' ('respectable') and the other 'rough'.

**Traffic Segregation**

The second independent variable, traffic segregation, refers to planned arrangements for separating pedestrian and vehicular traffic; to the difference between the traditional practice of fronting houses on to roadways and Radburn-type layouts in which they are grouped and set apart from vehicular accesses. Three types of segregated layout were sampled—see Figure 1:

**Figure 1: Diagrammatic Representation of Housing Layouts.**

A. Houses arranged about a parking 'square'—an approximation to the traditional pattern.
B. Rows of houses facing each other across paved footpaths and a grassed strip which, in some cases served as children's play areas.
C. Rows of houses facing the back gardens of similar rows across front gardens, a paved footpath, a grassed strip and a planted hedge sufficiently tall to obscure views at ground-floor level.

For the purposes of the analysis presented here, the data relating to these three types were combined.
Social Behaviour
The respondents' social behaviour scores were calculated by combining data on the following four counts:
1. The total number of different people with whom an interviewee claimed to have been in contact during a given week when in a house other than his or her own.
2. The frequency of occasions of such contacts during that week.
3. The total number of different people with whom an interviewee claimed to have been in contact during the same week when in his or her own house.
4. The frequency of occasions of such contacts during the week.

Territorial Perception
This, the second factor regarded as a dependent variable for the purpose of the study, refers to the area or extent of their physical surroundings that the respondents described as their 'home ground'. The procedure adopted for obtaining this information is described below; as is the interpretation placed on it. At this juncture it should be noted that, although sharing two of the properties be attributed to the socio-spatial schemata his respondents manifested (i.e., it is non-verbal and phenomenological), this index of environmental perception is not commensurate with the neighbourhood schemata Lee identified (1968). In particular, it lacks the external validation which his index possessed. As reported in a latter section, the areas of the surroundings encompassed by the interviewee's schemata (their acreages) and the degrees, or amounts, of social behaviour occurring within them were not found to be related significantly. In the absence of such a correlation, it is doubtful whether this measure of a resident's 'territorial' perception can, as in Lee's case, be taken to represent feelings of identification with, of 'belonging' to his or her 'socio-spatial' environment.

Procedure
Two groups of houses from traffic segregated and non-segregated layouts were selected at random from each of the status areas. That is, all the house addresses (flats were excluded) in the segregated and non-segregated arrangements in Northville and Llanyrafon were recorded; 250 were chosen randomly to give four groups of approximately 60 dwellings—each estate being represented by a segregated and a non-segregated group. Information about the locations of the householders' previous homes and their lengths of stay at their present addresses was obtained from records in the Housing Department. It was possible, on this basis, to identify 15 categories of householder; each defined in terms of location of previous and length of present residence. The addresses in the original sample were labelled accordingly and visited to invite the occupants to participate in the inquiry. Refusals (24 per cent.) and non-availability (34.4 per cent.) resulted in a final sample of 166 houses. This comprised four groups of 40 householders who had been matched individually over all the groups for location of prior residence and length of stay at their present addresses.

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<th>Length of Residence in Months:</th>
<th>1-3m</th>
<th>3-6m</th>
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<tr>
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<td>10</td>
<td>6</td>
<td>8</td>
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<tr>
<th>Location of Previous Residence</th>
<th>a different area in Cwmbran</th>
<th>the same area in Cwmbran</th>
<th>outside Cwmbran</th>
</tr>
</thead>
</table>

The interview schedule was piloted with 10 subjects to test its structure and gauge respondents' understanding of the questions before launching the field study. In the event, the procedure followed was:
1. An introduction in which the research worker sought permission for the interview, explained his identity and outlined the objectives of the study.
2. An attempt to establish interview rapport by engaging in an open-ended conversation focused on topics such as the respondents' views about the town,
the estate and their houses. These responses were recorded.
3. Presentation of a 1:2,500 scale Ordnance Survey map of northern Cowbridge on which interviewees were asked to indicate "an area of land around your house which you think is your home ground". Prior to being invited to do this, the map was explained; the positions of respondents' houses were pin-pointed and features such as schools and bus routes indicated. That is, efforts were made to ensure that they understood the map and were able to locate their dwellings and surrounding areas on it. The notion of a 'home ground' was described as the part of these surroundings representing an area of land with which an informant might feel he or she identified; one to which he or she 'belonged'.
These were drawn by each individual on separate maps.
4. After this, the interviewees were asked a series of questions to elicit information about the four issues listed under the rubric 'Social Behaviour' above. The queries were introduced as "an attempt to discover the opportunities your area provides for contacting neighbours and friends".
5. Respondents living on the Llanyrafon estate were asked if they considered that they 'belonged' to their house area.
The interviews, which usually lasted some 30 minutes, were, in the main, conducted in the sitting-rooms of the respondents' houses. They cannot be described as having been private. Discussion was subject to distraction by the presence of children and other adults; it would be unwise, particularly in the latter case, to discount the degrees to which interviewees' views were influenced by the opinions of others. For the most part, the people interviewed were women — housewives, but some males — apparently not at work due to illness or because they were on shift-work — were included among the interviewees. There were no differences in this respect between the four groups in the sample.

Results
The raw scores for the social and perceptual behaviour of the entire sample are summarised in Figures 2 and 3 respectively. Each of the four social behaviour distributions was transformed to normally distributed T scales, and each of the individual scores for the four indicators were summed to produce a respondent's A score. The A scores for each group, as well as the combined distribution for the four groups are shown in Figure 4. Figure 5 indicates the distribution of each group's scores for the perceptual behaviour measure (i.e. areas of schemata), and Figure 6 is a scatter diagram showing SB (social behaviour) and PB (perceptual behaviour) scores for each of the estates sampled.
All the graphs show a considerable fluctuation over the ranges involved — none is sufficiently smooth for simple, or direct, patterns to be identified readily. The following observations do, however, appear to be clear and can be made with some confidence:

1. The distribution of the non-transformed data are skewed positively.
2. The distribution for the size (area) of schemata are bi-modal; suggesting, perhaps, the existence of two different overlapping distributions.
3. With regard to the variance in the social behaviour data (see the distributions of the four SB scores shown in Figure 2), it seems that location of contact — whether considering respondents' own homes or those of neighbours — accounted for more variance than did the units of measurement used — whether numbers of different people contacted or frequencies of contact were taken as indices.
4. For both the SB and PB measures, the difference in central tendency between the traffic segregated and non-segregated groups is not significant. Had there been a statistically significant difference in PB, it would have occurred in the Northville sample: the null hypothesis of no difference between distributions was not rejected — the Kolmogorov-Smirnov two sample test (two-tailed, N=49) being K=0.9. Similarly, the null hypothesis of no difference in central tendency of A scores between traffic segregated and non-segregated groups (Northville and Llanyrafon combined) was not rejected — the two-way Analysis of Variance test produced a F ratio of 0.000013.
5. There is a difference between the Northville and Llanyrafon groups on both dependent variables. That is, Northville respondents reported, on average, less social contacts than did those from Llanyrafon: the null hypothesis of no difference in frequencies of subjects (of three different classes of A scores) between Northville and Llanyrafon was rejected — P being less than 0.02, the data producing a chi-squared of 8.11 for N=160. However, application of the

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Fig. 2: Raw scores of social behaviour for entire sample.

Fig. 3: Raw score of perceptual behaviour for entire sample.

Fig. 4: A scores—frequency distribution = social behaviour index for each of 4 samples (also combined distribution).
Fig. 5: Schemata areas for each group.

Fig. 6: Scatter diagram: Northville and Llanyravon social behaviour/ perception.

parametric two-way Analysis of Variance test resulted in a F ratio of 3.02 which was associated with a P greater than 0.05. In addition, the areas of land marked as 'home ground' by the Northville respondents were, on average, larger than those indicated by the Llanyravon residents: the null hypothesis of no difference in frequencies of the scores for the sizes of residents' schemata (for three different classes of score) as between Northville and Llanyravon was rejected—P being less than 0.01, the data producing a chi-squared of 11.75 for N = 160. And application of the Wilcoxon Matched Pairs Signed Ranks test (one-tailed, N = 74) produced a result of Z = 1.65 to reject the null hypothesis with P being less than 0.05.

6. There is no correlation between SB and PB over the combined samples.
7. Of the Llanyravon respondents, 57% claimed to feel that they 'belonged' to their house area. Here the Point Biserial Correlation Coefficient between the verbal response 'belonging' and the sizes of the schemata marked on the maps was r = 0.469: the null hypothesis of nonsignificant correlation was rejected—P being less than 0.05 (one-tailed).

Interpretation During the early stages of the inquiry, it was assumed that the distribution of
householders across the residential areas selected could be considered as being random. The statements of officials in the Housing Department were taken at face-value and the study designed on the basis of the premise that the allocation of residents to the areas had been non-selective. That is, it was assumed that non-random differences in the behaviour reported by respondents from different areas could be attributed to the particular social or the specific physical environments in which they lived. This assumption was fallacious. As noted earlier, an examination of the occupations of the breadwinners in the Northville and Llantrisant samples indicated that those living on the latter estate tended to be employed at higher occupational levels than those on the former.

And subsequent discussions with Housing Department staff suggested that this was probably not a chance occurrence. An informal policy for assigning prospective tenants to the estates appears to have been in operation; one founded on the departmental employees' conceptions of socio-economic class differences.

If this was the case—and it remains unsubstantiated—the relationships outlined above can, at best, be regarded as associative. Casual inferences are, on this count alone, not justifiable.

With this proviso in mind, what light can the findings be said to throw on the questions posed in the final paragraph of the Introduction to this report?

It would seem that the aspect of the respondents' social environment that was selected for study (i.e., the 'environmental status' of their residential settings) is related to the frequencies with which they experience social contacts (i.e., their social behaviour) as well as to their 'territorial' perceptions (i.e., the sizes of their perceived 'home grounds'). This was not found to apply to the aspect of their physical environments that was examined. The different arrangements for traffic segregation were not associated with either of these behavioural factors. In short, it appears that an individual living in a 'favoured' status area is likely to engage in more frequent social interaction with others in the locality and to perceive a less extensive 'territory' as his or her 'home ground' than is the case for a resident of an 'unfavoured' area.

Thus, if establishing and maintaining 'favoured' environmental status are considered desirable planning goals for situations analogous to those found at Combrin, it seems appropriate to suggest—however tentatively—that the means for doing so are likely to fall outside the scope of physical planning. The efficacy of architectural and town planning decisions will probably be confined to reinforcing the statuses people ascribe to different residential areas. They are likely to be restricted to offering grounds, via features such as scenery and front gardens, for what this study suggests are largely socially and individually experiential perceptions. In this context, traffic-segregated layouts are only likely to impinge on these perceptions in so far as the physical features commonly associated with them—for instance, landscaped communal areas—are regarded as indicators of 'environmental status' by the parties concerned.

On a less pragmatic level, this interpretation lends weight to the scepticism which a number of social theorists—for instance Brodly (1966), Dennis (1968), and Gans (1968)—have expressed about the concept of physical (or architectural) determinism. In particular, it endorses Gans’s emendation of what he termed the 'physical fallacy'; it supports his contention that:

"The physical environment is relevant to behaviour in so far as this environment affects the social system and the culture of the people involved or as it is taken up into their social system. Between the physical environment and empirically observable human behaviour, there exists a social system and a set of cultural norms which define and evaluate portions of the physical environment relevant to the lives of people involved and structures the way people will use (and react to) this environment in their daily lives"—p. 5.

Given these culturally and socially evaluative connotations, the notion of environmental status may well have explanatory power. When viewed as a cluster of normative factors that mediate between behaviour and material environment, it appears to provide a potentially fruitful reference for attempts—in studies of the type reported here—to identify the relevant aspects of that environment and how people's reactions to and usages of them are structured.

1. This paper reports part of a study of 'territorial' behaviour in certain of the residential areas of Combrin New Town, Monmouthshire. The inquiry was supported by a Royal Institute of British Architects research grant awarded to the first author at the Welsh School
2. For detailed discussions of the theoretical premises from which this model was derived see, for instance, Schorr (1964), Sonnier (1966), Lee (1971) and Proshansky (1971).

3. On the presumed effects of arrangements for traffic segregation see, for example, Whyte (1956) and Tellow & Gau (1968); on 'environmental status' see, for instance, Form (1955), Frankenbergh (1966) and Keilty (1966).

4. See for example, Merton (1948), Dean (1951), Kuper (1955), Stacey (1960), Morris & Mogyi (1965) and Suttles (1972).

5. See for example, Ogilvy & Cook (1964) and Perraton (1967).

6. This is reported in an as yet unpublished paper prepared in the Welsh School of Architecture by Lippman & Watkins.

7. These comprised employees of the Cambrian Development Corporation (primarily, staff in the Architect's and Housing Department) and residents encountered in public houses and at the Bus Station.

8. The information on which this statement is based was provided by an official in the Housing Department and checked by referring to a sample of 50 addresses for each estate in the files of that department.

9. The statistical tests mentioned in this section and in the Appendix are described in Siegel (1956) and/or Greenwood & Hartley (1962).

10. There are, at minimum, two interpretative issues that bear on this observation. First, on 'social behaviour': unlike Lee's (1968) study (in which he argued that schemes were related to numbers of local friendships), here the frequencies of social contact reported by the informants have not been interpreted as carrying any connotations with respect to the emotional involvements they might have attached to the contacts. Indeed, the absence of correlation between the A scores for this variable and the sizes of schemes could well be taken as an indication of the superficial nature—from the respondents' viewpoints—of the contacts they reported. Second, on 'territorial' perceptions: here too no attempt has been made in this report to elaborate on the connotations which the interviewees might have attached to their declared identification with an area of land, a 'home ground'.

11. This circumspection arises from an absence of information about two major issues relevant to the phenomena considered in the study. These are: first, clear delineation of the items and qualities that form the bases for assigning different statuses to different residential areas; and second, accreditation of information on whether, if at all, these items and qualities are perceived differentially by members of different socio-economic groups. In addition, firm conclusions await examination of situations in which it can be established that residents from different social classes have been allocated to 'rough' and 'respectable' status areas randomly.