HOUSING & VANDALISM

Does bad design

By Alice Coleman

VIOLENCE, like charity, begins at home, which is usually interpreted as the family group but can also mean the *place*.

During the last four decades there has been a profound transformation in the sort of place built as a British home; the single-family house that evolved by natural selection over the centuries has been progressively superseded by the multi-family building favoured by planning ideology.

Flats have multiplied and so has crime. Is there any connection between the two trends?

Oscar Newman thought that there was. From a detailed study of 169 publicly-owned housing estates in New York, he identified eight design variables that were strongly associated with crime levels.

Designs involving large numbers of dwellings make for anonymity, so criminals feel sure of being unrecognised. Designs that enforce shared responsibility for the building and grounds mean that no-one has an individual patch to watch out for, and criminals feel unlikely to be even noticed.

And designs which thread through the building in a web of corridors, lifts and staircases provide alternative escape routes for criminals and mark the building as vulnerable to crime.

Newman's book, *Defensible Space* (1972), did not find favour with the British Department of the Environment, which has been the fountainhead of advice and subsidy, promoting the very designs he was criticising.

Instead of having the courage to change their policies in the light of his evidence, the DOE housing advisers disparaged it, asserted that design could not affect crime, and continued to advocate shared accommodation.

They also assigned blame to non-design scapegoats: problem people in "sink" estates, problem children unsuited to tower-blocks, and problem local authorities exercising inefficient management.

Local Housing Departments have responded by dispersing problem families from unpopular estates, reducing child densities in high-rise buildings, and decentralising management.

These actions have removed disturbing factors that were masking the role of design and revealed it as an even more powerful influence than previously supposed.

THE evidence for this conclusion was assembled in a major research project, "Design-Disadvantagement in Housing", conducted at King's College, London.

More than 4,000 houses and 4,000 blocks of flats have been scientifically surveyed for design, together with various test measures for assessing each design variable's influence: litter, graffiti, vandal damage, excrement in the entrances, the number of children in care and, for one police division only, nine categories of crime.

Current work includes the distri-

'CONVEYOR BELT' FOLLY!

PROVISION of public housing has become a mark of the success of the welfare state, *writes Ian Barron.*

We tend to forget that the need to build homes that are financed by the taxpayer is a recognition of the failure of the capitalist economy as it is structured today.

The economy prevents a large number of people from earning wages that are high enough to enable them to provide their own homes, tailored to their particular needs and tastes.

So: bureaucracy and the planner arbitrate on the location and quality of public housing. Because of the absence of individual choice, design and construction becomes the product of patronising social theory rather than family preference.

Not surprisingly, therefore, the human dimension has been abstracted out of public housing.

The result:

- Considerable dissatisfaction among tenant families with their living environment; and
- Waste of taxpayers' money, in the process of mopping up the consequential social and economic effects of the sort now catalogued by Alice Coleman (see above).

The Wellington Street Estate in Manchester – known as Fort Beswick by the tenants – is a perfect example.

It was built 15 years ago at a cost of £4.29m. The city council thought it was rendering a service to the families who moved in from the surrounding slums. No-one thought to ask the families if they fancied living in the nearest thing to one of Hitler's Second World War gun emplacements built along the English Channel.

The estate consisted of 1,010 apartments and maisonettes, plus 63 two-storey houses. It was built on a conveyor belt using pre-cast wall, floor and roof panels and laid out in deck access form with linking bridges and walkways.

Design faults, as well as personal dissatisfaction, quickly became apparent. There was serious water penetration, condensation and structural defects, along with faulty human behaviour known as vandalism.

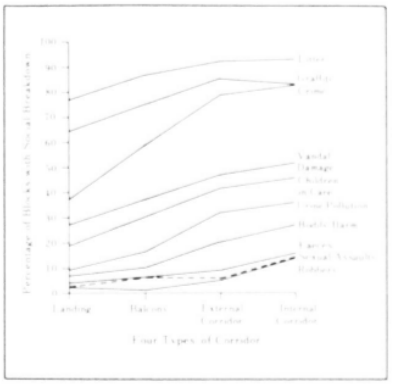
In 1981, the council discovered that it would cost £9.3m.

And it will cost the taxpayers £27.5m to rehouse all the families in new houses.

Meanwhile, despite its claim to be a radical government, the Thatcher administration has failed to propose reforms to the economic system so that every working family in Britain can earn enough money to enable it to buy tailor-made homes.

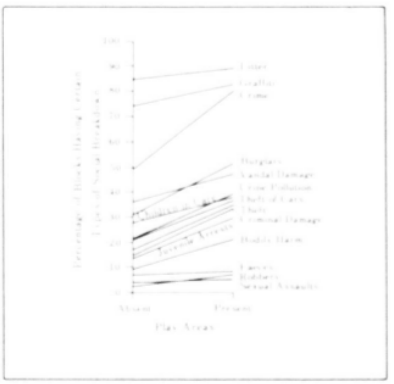
lead to crime?

PERCENTAGE OF BLOCKS WITH SOCIAL BREAKDOWN



● When the 4,099 blocks of flats included in the design disadvantagement survey are divided according to four types of horizontal circulation, a regular pattern of vulnerability to crime and social breakdown emerges. Small landings serving four or fewer dwellings are the best, followed by short external balconies for four or fewer flats. Longer corridors attract more abuse, especially if they run through the interior of the block. Youngsters are more at risk of arrest or care orders, and violence to people and property is common. 'Small is beautiful' is a good maxim for avoiding a violent environment in which to raise children.

PERCENTAGES OF BLOCKS WITH CERTAIN TYPES OF SOCIAL BREAKDOWN



● Play areas are officially advocated as essential for children's well-being, but they are also centres of learning for crime and abuse of neighbouring blocks of flats. The trend line for crime includes all the categories of offence shown on the graph, and also two others which would have overcrowded it: theft from motor vehicles and drug offences. Crime leaps from 50 to 80% in blocks where play areas are located nearby, and the number of crimes per block also multiplies.

bution of fires and false alarms in relation to design, and also several types of mental illness.

Fifteen design variables prove to be strongly associated with all, or virtually all, the test measures.

Size variables: Dwellings per block, dwellings per entrance, storeys per block, storeys per dwelling.

Circulation variables: Corridor type, inter-connecting exits, overhead walkways linking blocks together.

Entrance characteristics: Entrance position, the presence or absence of individual external doors to ground-floor flats, blocks raised up above concrete stilts or garages.

Features of the Grounds: Number of blocks sharing the same site; number of gates or gaps in the site perimeter, play areas, "spatial organisation".

Most of the 15 designs have a similar effect on each type of behaviour used as a test measure, regardless of whether it is as mild as litter dropping or as violent as bodily harm, sexual assaults or robbery (mugging).

This is illustrated by Fig. 1, which shows a steady increase in the percentage of blocks with each test measure as the type of corridor changes from landings to short shared balconies, to external corridors, to internal corridors.

A few designs, however, affect the various forms of behaviour differentially. Play space (Fig. 2) is an example. Children's play areas equipped with swings or climbing frames, etc., plague neighbouring blocks with urine pollution and also attract a higher incidence of robbery.

Hard-surfaced games areas maximise litter, graffiti, car theft and juvenile arrests. Both types together are associated with a peak in vandal damage, criminal damage (including motor vehicles), burglary, theft, bodily harm, sexual assaults and defaecation in the entrances.

Unexpectedly, an absence of play areas minimises virtually all forms of abuse; we have even been told of a problem estate that spontaneously improved when the residents dismantled all the play areas.

Corroborative evidence is the reduced level of abuse where individual back gardens for ground-floor flats provide toddlers' play areas outside estates are less vandal-prone than those inside.

OSCAR Newman has shown that design modification can lower crime rates, but DOE discouragement means that it has rarely been tried in Britain, and nowhere has there yet been any scheme to improve as many of the 15 design variables as possible.

This may now change, as the City of Westminster housing department has approved the recommendations of a design disadvantage survey of its worst problem estate.

To simplify the approach to design modification, we have devised two concepts: *disadvantagement threshold* and *disadvantagement score*. The threshold is the cut-off point between those values of a design which have better-than-chance frequencies of each type of abuse and those that have worse-than-chance frequencies.

Design modification should aim to bring each design variable down to its threshold level. For example, the threshold for walkways is zero. Burglary is likely in all blocks with five or more walkways, but only in 32% of those with none.

Walkways are the most powerful factor in spreading crime from block to block, so their removal would restrict it to a smaller number of blocks where policing could be intensified.

It would also eliminate the worst values of three other design variables: interconnecting exits, interconnecting lifts and staircases, and the number of dwellings accessible from each entrance, and so the drop in crime might be quite substantial.

The disadvantagement score is a simple count of how many of the 15 designs breach their thresholds in any given block. It draws attention to precisely what needs modification, and can also be used to assess improvement schemes on the basis of how far they would reduce the score.

The Westminster estate mentioned above has 29 blocks with an average score of 12.8, which the recommended changes would bring down to 4.8.

Fig. 3 shows trend lines for disadvantagement scores; these are the best estimates of the probability of abuse at each score. The before and after arrows at 12.8 and 4.8 indicate the likely reduction in each kind of abuse on the estate in Westminster. Burglary, for example, may well vanish from 44% of the blocks and

● Turn to Page 108

HOUSING & VANDALISM

Wanted: clear

● From Page 107

continue, but at a lower frequency, in 20%.

MODIFICATIONS fall into four stages, beginning with demolition of walkways to leave each block free-standing. The next step is to improve the spatial organisation of the grounds, which is the most potent factor affecting the rate of crime per dwelling.

The vogue for "confused space" flowing uninterruptedly among the blocks would be replaced by "semi-public space" serving each block separately inside its own walled grounds. There would be only one gate in the perimeter so that outsiders could no longer take short-cuts through the territory.

Play areas, if retained, would serve only the known children from the block itself, instead of anonymous hordes from the estate at large.

The third stage of modification focuses on the buildings themselves, to reduce the extent of sharing among large numbers of households. This involves partitioning into self-contained sections, each with its own fenced share of the grounds. A section becomes, in effect, an independent block.

Finally, estate roads should be remodelled to resemble the traditional streetscape that has produced successful communities in the past.

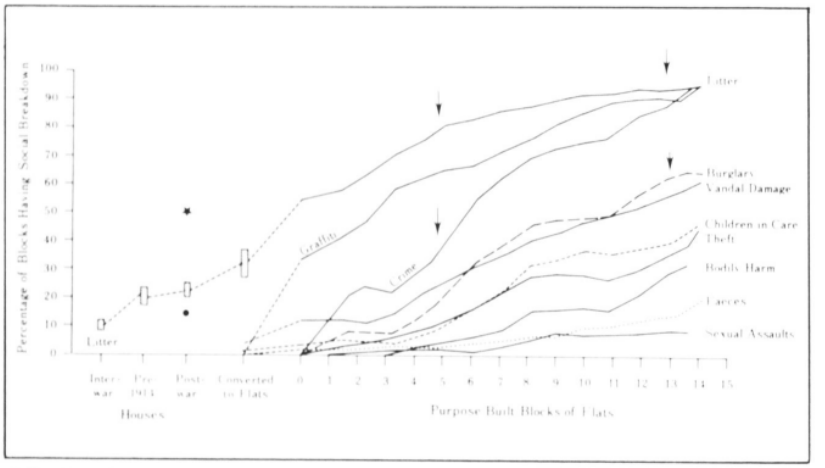
Facades and frontages should both be made more continuous, so that the public can no longer roam round all four sides of a block at will.

Front garden walls and gates should be about waist-high to facilitate surveillance of the street from the windows of dwellings, and to avoid a shuttered, faceless appearance from outside.

Back walls, by contrast, need to be high and defensible – perhaps protected by prickly shrubs to deter intruders from crossing from one block's territory to another's.

Houses can be inserted in gaps along the building line, or used to infill counter-productive open spaces that attract hooligans. A higher ratio of houses to flats has a diluting effect upon the detrimental influence of flatted designs.

PERCENTAGE OF BLOCKS HAVING SOCIAL BREAKDOWN



● Trend lines for disadvantagement scores show how crime and social breakdown affect progressively more blocks as the number of deleterious design features increases. In addition, each type of problem becomes commoner in the afflicted blocks. For example, no crime was reported from zero-scoring blocks during the study year, but blocks scoring worse than 13 had an average of one crime per five dwellings. Crima data were not available for houses. The asterisk and black spot show litter and vandalism percentages for a Radburn type layout in Cheshire: this type of design usually creates problems. The arrows indicate the predicted effect of modifying the average score of an estate in Westminster from 12.8 to 4.8: all the test measures would affect substantially fewer blocks.

MOST OF the 4,000 houses in the survey were so much better than flats that the only visible sign of social breakdown was litter. This was observed in about 20% of pre-1914 houses, but only 10% of the more highly evolved designs of the inter-war period.

Post-war houses, however, seem to have been evolving backward. In estates of the 1950s, or small infill areas of later date, more than 20% of the houses were affected, and in some cases litter was left lying long enough to become "dirty and decayed" instead of "clean and casual".

Outside the survey area we have seen a number of estates that are both very recent and very large, where the latest official design advice seems to breed graffiti, vandal damage and crime as well as litter. Here we recognised the importation of layout features that had previously been reserved for estates of flats.

We clearly need a new philosophy of the role of housing design. Creative rumblings in the Department of the Environment are not enough; nor, even, is reasoned argument on what *ought* to be beneficial.

We need hard factual evidence on what actually does work to promote a stable social structure and to avoid the stresses of hostile, violent habitats. This is what the design-disadvantagement research has aimed to provide.

HOW does badly designed housing exert its anti-social effect? Well-adjusted adults do not suddenly become graffiti artists or criminals when they move into a flat, but they frequently find it difficult to bring up their children to their own standards.

Some parents succeed, against all the odds, but others, who could have coped quite well in traditional housing, cannot overcome the obstacles imposed by modern estates.

The worse the design, the larger the proportion of people who are adversely affected, and the more serious are the lapses from civilised behaviour on the part of unintegrated youth.

With a disadvantagement score of

new philosophy

zero, 12% of blocks are the scene of vandalism, but with a score of 13-14 the percentage has escalated to 62, and the various kinds of violence have become common.

Fig. 3 shows that bodily harm occurs in 30% of these blocks, sexual assaults in 14% and robbery in 7%.

There seems little doubt that if Britain had stayed with its traditional houses instead of flats, many victims would have been spared their trauma, many parents would have been spared their sense of failure, and many children would have grown up as law-abiding citizens, instead of becoming criminals.

DESIGN is not the only detrimental factor, and 20 possible alternatives have been tested.

Poverty is a hot favourite, but proves to be negatively correlated, which makes sense in view of the fact that anti-social behaviour burgeoned during the period of the post-war affluence.

● Extensive green space is also counter-productive, probably because it is the fabric of confused spatial organisation, which assaults the primordial human sense of territoriality.

● Population density proves, as often before, non-significant, which means that the sacrifice of higher density housing to provide lower density flats has been misguided.

The only socio-economical factor to rival design is type of tenure, but this may be mainly due to design differences. Council flats have an average disadvantagement score of 9.1, vastly worse than private blocks at 4.0.

Private developers are subject to two healthy constraints. They have to please their customers' tastes and meet their price range; they do not waste money on unnecessary and unpopular features such as overhead walkways, ramifying corridors and multiple lifts and staircases.

Council builders, on the other hand, have had access to lavish subsidies; the Department of the Environment's own cost yardstick states that blocks of more than five storeys cost 50% more than the same accommodation in two storeys.

The money has not been spent on what people would choose, but on what bureaucracy in its omniscience decrees is good for them.

Official paternalism is now revealed as wastefully extravagant of land and money, and woefully destructive of human happiness.

Like a baby-battering parent, it has done violence to its charges, and encouraged many of them to become violent in response.

The abrogation of housing liberty is a failed experiment, which should now be discontinued.

● The 'design-disadvantagement' research is published in *Utopia on Trial* by Alice Coleman *et al*. Hilary Shipman, London, £7.95.

SITE VALUE RATING SUCCESS

POLITICIANS who oppose site value rating – the system in which the property tax is levied on site values alone – have been accused of trickery by Mr. Allan Hutchinson, spokesman for the General Council for Rating Reform in the Australian state of Victoria.

Time and again, they have used their power to override the wishes of the electorate by switching to a system of Net Annual Values (NAV) in which the tax also falls on buildings. But according to Mr. Hutchinson: "The tide has now turned".

This follows two major victories, in which attempts by two councils to change the rating system was overturned by popular vote.

Oakleigh and Mordialloc are two of the 62 cities in Victoria that adopted site value rating many years ago. The reform was always preceded by popular demand at the polls.

But the Local Government Act allows a council to propose a change that would supersede the ratepayers' original decision. And ratepayers could only block such a bid by petitioning for yet another poll on the issue.

Rate reformers succeeded in getting enough signatures on a petition to force their councils to hold new polls. The votes reveal a strong preference for retaining the site value basis.

OAKLEIGH

Site Value Rating	14,426
Net Annual Value	10,278
Majority	4,148

MORDIALLOC

Site Value Rating	10,026
Net Annual Value	4,903
Majority	5,123

In a third case, Nunawading City, the council gave notice two years ago that it proposed to revert to the NAV basis. But when the issue came before the council again, this year, nine of the 12 councillors changed their minds.

The three dissenting councillors were not able to muster enough signatures to force the issue to a poll.

Mr. Hutchinson told *Land and Liberty* "The message will now get around to other places that in all three of these cities the concerted efforts of people with axes to grind failed spectacularly. No doubt there will be more such cases, but the rot has been stopped convincingly".

He accused Oakleigh Council of circulating "phony figures" in its bid to persuade voters to back their plan to revert to the NAV basis.

"The people who read the council's document were entitled to think that they would pay less under NAV, but a bigger proportion of those who appear to make a saving would in fact have ended up paying more", says Mr. Hutchinson.