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DEFENSIBLE SPACE

The crime problems facing urban America will not be answered through increased police force or firepower. We are witnessing a breakdown of the social mechanisms that once kept crime in check and gave direction and support to police activity. The small-town environments, rural or urban, which once framed and enforced their own moral codes, have virtually disappeared. We have become strangers sharing the largest collective habitats in human history. Because of the size and density of our newly evolving urban megalopoli, we have become more dependent on each other and more vulnerable to aberrant behavior than we have ever been before.

In our society there are few instances of shared beliefs or values among physical neighbors. Although this heterogeneity may be intellectually desirable, it has crippled our ability to agree on the action required to maintain the social framework necessary to our continued survival. The very winds of liberation that have brought us this far may also have carried with them the seeds of our demise. It is clear to almost all researchers in crime prevention that the issue hinges on the inability of communities to come together in joint action. The physical environments

we have been building in our cities for the past twenty-five years actually prevent such amity and discourage the natural pursuit of a collective action.

The anonymous cities we have built, for maximum freedom and multiple choice, may have inadvertently succeeded in severely curtailing many of our previous options. Collective community action, once easy, is now cumbersome. But even in the absence of a community of minds, joint action has become essential to the survival of urban life in America. Police forces operating without community consent, direction, and control are a wasted effort—more irritant than deterrent. Means must be found for bringing neighbors together, if only for the limited purpose of ensuring survival of their collective milieu. Where the physical design of the living environment can be used for this purpose, it must be so exploited.

Over the past fifteen years, the crime problem in our urban metropolitan areas has become severe enough to prompt a major exodus of middle-income families to the suburbs. However, the results of 1971 crime survey statistics indicate that the crime problem is shifting to the outer reaches of the city.[1] The horizons of escape promised by suburbia and the barricaded inner city towers seem to be narrowing. The only recourse now appears to be total lockup and self-restriction of movement: a self-imposed curfew and police state.

This book is about an alternative, about a means for restructuring the residential environments of our cities so they can again become livable and controlled, controlled not by police but by a community of people sharing a common terrain.

Over the past three years, the New York University Project for Security Design in Urban Residential Areas has been studying the nature, pattern, and location of crime in urban residential areas across the country. Our conclusion is that the new physical form of the urban environment is possibly the most cogent ally the criminal has in his victimization of society. The concentration of population in large metropolitan areas has produced an urban form that makes hapless victims of its occupants.

The time has come to go back to first principles, to reexamine human habitat as it has evolved, to become attuned again to all the subtle devices invented over time and forgotten in our need and haste to house the many. For even within the widespread chaos of our cities, it is still possible to find isolated examples of working living environments which are crime-free, although at times located in the highest crime precincts of cities. Architectural design can make evident by the physical layout that an area is the shared extension of the private realms of a group of individuals. For one group to be able to set the norms of behavior and the nature of activity possible within a particular place, it is necessary that it have clear, unquestionable control over what can occur there. Design can make it possible for both inhabitant and stranger to perceive that an area is

under the undisputed influence of a particular group, that they dictate the activity taking place within it, and who its users are to be. This can be made so clearly evident that residents will not only feel confident, but that it is incumbent upon them to question the comings and goings of people to ensure the continued safety of the defined areas. Any intruder will be made to anticipate that his presence will be under question and open to challenge; so much so that a criminal can be deterred from even contemplating entry.

Defensible space is a model for residential environments which inhibits crime by creating the physical expression of a social fabric that defends itself. All the different elements which combine to make a defensible space have a common goal—an environment in which latent territoriality and sense of community in the inhabitants can be translated into responsibility for ensuring a safe, productive, and well-maintained living space. The potential criminal perceives such a space as controlled by its residents, leaving him an intruder easily recognized and dealt with. On the one hand this is target hardening—the traditional aim of security design as provided by locksmiths. But it must also be seen in another light. In middle-class neighborhoods, the responsibility for maintaining security has largely been relegated to the police. Upper-income neighborhoods—particularly those including high-rise apartment buildings—have supplemented police with doormen, a luxury not possible in other neighborhoods. There is serious self-deception in this posture. When people begin to protect themselves as individuals and not as a community, the battle against crime is effectively lost. The indifferent crowd witnessing a violent crime is by now an American cliché. The move of middle- and upper-class population into protective high-rises and other structures of isolation—as well guarded and as carefully differentiated from the surrounding human landscape as a military post—is just as clearly a retreat into indifference. The form of buildings and their arrangement can either discourage or encourage people to take an active part in policing while they go about their daily business. "Policing" is not intended to evoke a paranoid vision but refers to the oldest concept in the Western political tradition: the responsibility of each citizen to ensure the functioning of the *polis*.

"Defensible space" is a surrogate term for the range of mechanisms —real and symbolic barriers, strongly defined areas of influence, and improved opportunities for surveillance—that combine to bring an environment under the control of its residents. A *defensible space* is a living residential environment which can be employed by inhabitants for the enhancement of their lives, while providing security for their families, neighbors, and friends. The public areas of a multi-family residential environment devoid of defensible space can make the act of going from street to apartment equivalent to running the gauntlet. The fear and

uncertainty generated by living in such an environment can slowly eat away and eventually destroy the security and sanctity of the apartment unit itself. On the other hand, by grouping dwelling units to reinforce associations of mutual benefit; by delineating paths of movement; by defining areas of activity for particular users through their juxtaposition with internal living areas; and by providing for natural opportunities for visual surveillance, architects can create a clear understanding of the function of a space, and who its users are and ought to be. This, in turn, can lead residents of all income levels to adopt extremely potent territorial attitudes and policing measures, which act as strong deterrents to potential criminals.

The spatial layout of the multi-family dwelling, from the arrangement of the building grounds to the interior grouping of apartments, achieves defensible space when residents can easily perceive and control all activity taking place within it. It is not of course intended that residents take matters into their own hands and personally restrict intrusion. Rather, it is suggested that they employ a full range of encounter mechanisms to indicate their concerned observation of questionable activity and their control of the situation: offers of assistance to strangers in finding their way, as a means for determining their intent and the legitimacy of their presence; continued in-person surveillance and the threat of possible interference; questioning glances from windows; and finally, to be able to set up a situation which will stimulate residents to call the police and insist on their intervention. As we have seen too often lately, the ability of even secure middle-class Americans to intervene, if only by calling the police, is not something that can be depended on any longer. Similarly, self-initiated police intervention in ghetto areas meets at times with community disapproval, even when the community feels intervention is required. The defensible space environment extends the area of the residential unit into the street and within the area of felt responsibility of the dweller—of both low- and middle-income. By contrast, the resident living within large, apartment tower developments feels his responsibilities begin and end within the boundaries of his own apartment. He has learned to be detached even from what he sees outside his own window.

In our newly-created dense and anonymous residential environments, we may be raising generations of young people who are totally lacking in any experience of collective space, and by extension, of community rights and the shared values of society. In many ways, therefore, defensible space design also attempts to attack the root causes of crime. In the area of crime prevention, physical design has been traditionally relegated the role of *mechanical prevention*, leaving intact the structure of motivation and attitudes which eventually lead to the criminal event. Defensible space design, while it uses mechanical prevention, aims at formulating an architectural model of *corrective prevention*. Our

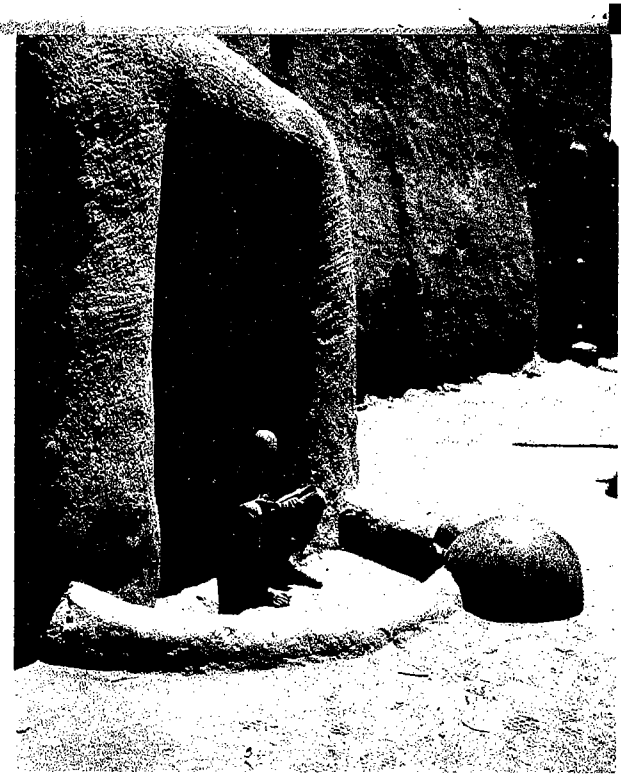
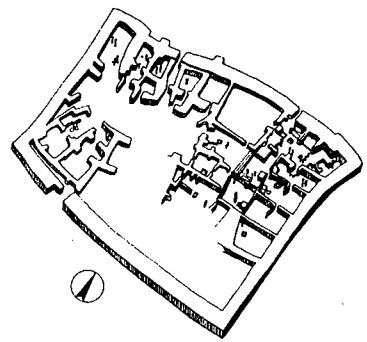


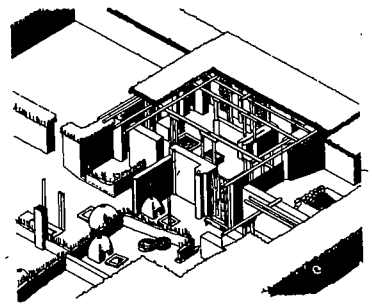
FIG. 1. Mud House in the African Sudan. The stoop symbolically defines the entry to the dwelling. It declares simply, but emphatically that this is where the territorial prerogatives of the tribe, defined by the compound, are overridden by the dictates of the members of the family unit. (Reprinted, by permission, from Joop Hardy, "Door and Window," in *Forum*, No. 8, 1960. Photo by Aldo Van Eyck.)

FIG. 2. Neolithic Settlement, Hacilar, Turkey. Excavation and reconstruction of extended family compound and individual house. There are two entries to the enclave, both of which lead to a central communal area shared by all dwellings. The entry to each family unit is then further defined by a smaller transitional court off the communal area. (Courtesy of The Hamlyn Group)

Excavation of extended family compound



House within family compound



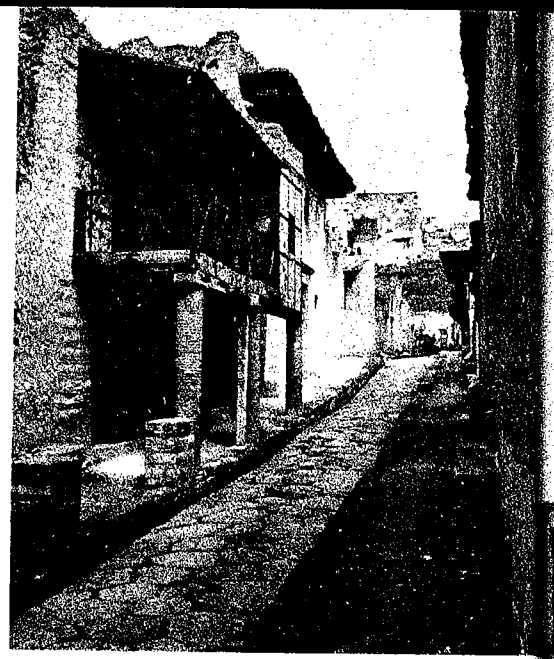


FIG. 3. Street in Herculaneum. Note stoop at entry to each house and positioning of windows to survey street entry. (Reprinted by permission from M. Grant, *Cities of Vesuvius*, p. 64. Photo by Werner Forman © 1971 by The Macmillan Company.)

FIG. 4. Street in Eighteenth-Century Dutch Town. Note how the realm of each dwelling unit is defined by the raised platform at the point where the entry meets the street. Windows further reinforce territorial claim by providing unmistakable surveillance from within the dwelling. (Photo by author)

FIG. 5. Row-House Street typical of Nineteenth-Century American Cities. It contains the identical ingredients which define the dwellings' relationship to the street found in the Dutch town (fig. 4). (Photo by author)

present urban environments, created with such speed and determination, may be little more than the spawning grounds of criminal behavior.

In the evolution of human habitat over the past thousands of years, men in every culture have developed cogent devices to define the territorial realm of their dwellings. The nature and function of these mechanisms evolved slowly through change and adaptation during use. So long as human environment was built within a tradition, simply repeating previous forms ensured the preservation of past learned experience. With the breakdown of building tradition, through the rapid evolution of new techniques and the need to answer the pressing problem of accommodating higher densities, the simple repetition of past practice has become difficult, if not impossible. Unfortunately, the accumulated traditions inherent in the residential forms of the past were not held within the conscious verbal bank of human knowledge. In architectural history there is ample evidence of territorial definition and symbolization in the forms of previous residential environments. There is unfortunately no parallel evidence of their overt discussion. The tradition, grown over thousands of years in man's piecemeal search for a form of residence in an urban setting, has been lost.

In building the residential environments of twentieth-century cities, there was no reference to tradition, simply because the needs seemed so totally new and unlike any experience in the past. In our rush to provide housing for the urban immigrants and to accommodate our high population growth rates, we have been building *more* without really asking *what?* The high-rise prototype, with its myriad of resident janitorial and security staff, worked well for upper-middle-income families with few children but cannot be simplistically transplanted, minus the accompanying staff and accouterments, for the use of large, low-income families. It is clear that we built without much thought and without much concern and are now stuck with the results. As will be shown in later chapters, poorly designed buildings and projects have crime rates as much as three times higher than those of adjacent projects housing socially identical residents at similar densities.

Considering the needs of low-income families, there is no rationalism to the design of most high-rise residential developments, other than the

FIG. 6. Pruitt-Igoe, St. Louis, Missouri. View of vandalism to windows of public access galleries serving upper levels of the buildings. (Photo by Bob Williams)

narrow dictates of investment economics. Once built, they prove dangerous to live in and costly to maintain. The economic argument which led to their initial construction is reversed exactly. Their cost of operation is surpassed only by the social costs borne by the inhabitants. High-rise apartment developments are a new genre, with us little more than a hundred years. As a means for housing low- and middle-income American families, most date back to the early fifties. They are not the result of a careful application of the knowledge employed in housing the few, transferred to the problems of housing the many. Their form evolved in response to pressures for higher densities, with no reference to previous traditions and no attempt at understanding the range of need to be answered in human habitat. Beyond an occasionally successful composition, there is little evidence of any genius and now, in this period of high crime rates, they have become containers for the victimization of their inhabitants. This book presents an alternative—housing of medium density which through its physical design enables residents to control their living environment rather than become its victims.

Defensible space design returns to the productive use of residents the public areas beyond the doors of individual apartments: the hallways, lobbies, grounds, and surrounding streets—areas which are now beyond the control of inhabitants. Four elements of physical design, acting both individually and in concert, contribute to the creation of secure environments.

The territorial definition of space in developments reflecting the areas of influence of the inhabitants. This works by subdividing the residential environment into zones toward which adjacent residents easily adopt proprietary attitudes.

The positioning of apartment windows to allow residents to naturally survey the exterior and interior public areas of their living environment.

The adoption of building forms and idioms which avoid the stigma of peculiarity that allows others to perceive the vulnerability and isolation of the inhabitants.

The enhancement of safety by locating residential developments in functionally sympathetic urban areas immediately adjacent to activities that do not provide continued threat.

Defensible space can be made to operate in an evolving hierarchy from level to level in the collective human habitat—to extend from apartment to street. It is a technique applicable to low-density row-house groupings as well as to developments composed of high-rise apartment buildings. The small cluster of apartments at each floor of a multi-story building is the first level beyond the apartment unit where occupants can be made to extend the realm of their homes and responsibilities. The

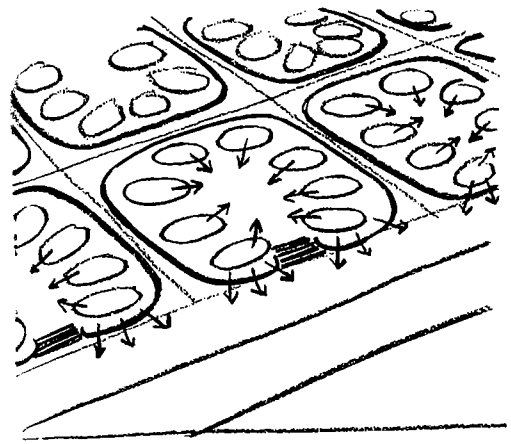
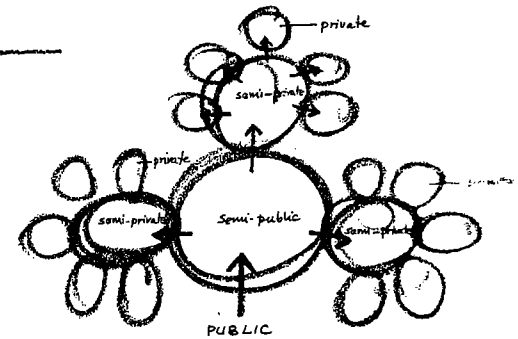


FIG. 7. Defensible Space. Schematic sketch illustrating territorial definition reinforced with surveillance opportunities (arrows).

FIG. 8. Hierarchy of Defensible Space. Schematic diagram illustrating evolving hierarchy of defensible space from public to private. Arrows indicate entries at different levels of the hierarchy.



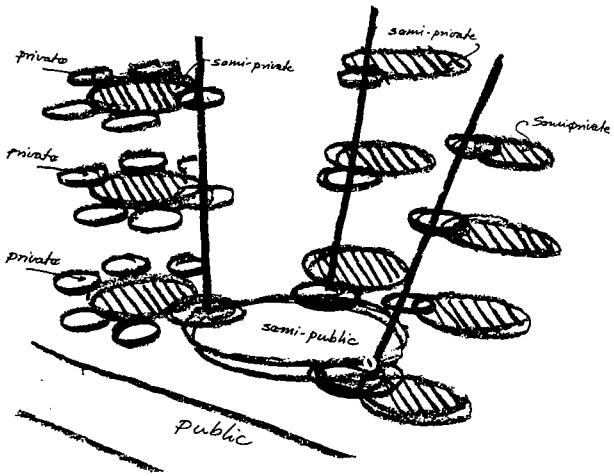


FIG. 9. Defensible space hierarchy in multi-level dwelling.

second level is the common entry and circulation paths within their buildings. The third level is the clustering of buildings which define a project's grounds and its entry. The final level in the hierarchy occurs when the housing development stakes its claim on surrounding urban streets.

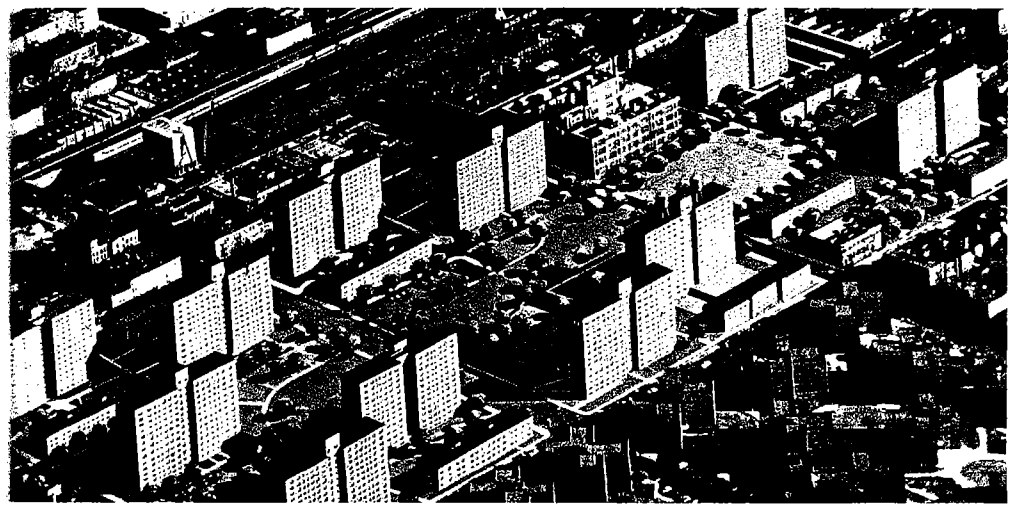
In our examination of developments in every major city in the country, an effort was made to study the housing of all income groups for the purpose of comparison. A variety of study techniques were employed, including interviews with inhabitants, project managers, and police who serve these developments. Where recorded data on crime, vandalism, and maintenance costs was available, it was incorporated into the analysis. In New York City the analysis has been most extensive and detailed. The New York City Housing Authority is responsible for 150,000 units of public housing located in its five boroughs. This represents approximately 19 percent of all public housing in the country. The Housing Authority keeps computerized files on all its tenants, their incomes, the ages of each of the members of a family, their backgrounds, etc. In addition, the Housing Authority has its own sixteen-hundred-man police force who in turn keeps data on the occurrence and reporting of crime. The unique aspect of the Housing Authority Police data is that it also pinpoints the place of the crime. Specific buildings and interior locations are recorded along with the nature of the crime, victim, and offender. This resource allows us to consider the function of every physical variable and its effect on crime.

The results of our findings from three years of study apply to residential design for most income groups. In all instances, the physical mechanisms suggested to create safety and improve upkeep are tools of

"self-help." The designs catalyze the natural impulses of residents, rather than forcing them to surrender their shared social responsibilities to any formal authority, whether police, management, security guards, or doormen. In a sense, this study takes its place as a partner in the political movements calling for the return of participation and control to the local level. However, it must be said that the ideas in this book, when initially presented to police, housing officials, and tenants often met with disbelief. Residents who live in hourly terror pointed at their scarred steel-plated doors and suggested that the author was wonderfully naive. Police officers—turning their attention from bands of teen-agers and addicts who do not appear to seriously weigh the consequences of being caught—pointed out the high costs of physical modification compared to increased police manpower. Ghetto leaders and social scientists have challenged us in our belief that crime, born of a poverty of means, opportunity, education, and representation, could be prevented architecturally.

Some of this skepticism is well-founded—particularly that of a low-income resident who does not believe physical change is likely to occur, regardless of the new-found knowledge. However, the skepticism is based on the assumption that a particular building prototype and project design represents the only available solution to a particular set of density and cost restraints. Most people do not know that different residential building prototypes are available to do the same job. The 150 New York families trapped in apartments that open onto the double-loaded corridors of a seventeen-story high-rise building—whose elevators, fire stairs, hallways, and roofs are freely roamed and ruled by criminals—find it hard to believe that the project across the street, composed of three- to six-

FIG. 10. Aerial Photo of two adjacent projects of equal density. The one in the foreground consists mostly of walk-ups; the other mostly of high-rises. (Courtesy of New York City Housing Authority)



story buildings in which two to three families share a hallway and six to twelve an entrance, actually accommodate people at the same densities and could be built at the same cost. The families in the seventeen-story building are continually aware of the fact that they are the constant prey of criminals and are equally aware that things are a lot better across the street. They find it incomprehensible that both projects house families at equal densities, and that the design differences between the two projects are predominantly the result of the whims of each designer. Examples of adjacent housing projects which differ dramatically in their crime vulnerability are detailed in subsequent chapters. It seems unforgivable that high-rise projects would have been designed to make their inhabitants so vulnerable, when projects across the street were able to avoid these problems simply by not creating them in the first place.

Society may have contributed to the victimization of project residents by setting off their dwellings, stigmatizing them with ugliness; saying with every status symbol available in the architectural language of our culture, that living *here* is falling short of the human state. However, architecture is not just a matter of style, image, and comfort. Architecture can create encounter and prevent it. Certain kinds of space and spatial layout favor the clandestine activities of criminals. An architect, armed with some understanding of the structure of criminal encounter, can simply avoid providing the space which supports it. In discussing our tenant surveys with police, they were surprised to discover that residents of alternate building prototypes have radically different attitudes toward representatives of formal authority, and policemen in particular. These varying attitudes are strongly reflected in the varying rates of reported crime. In the two adjacent projects already mentioned, residents with identical social characteristics hold quite different views of the police. In one high-rise project—a labyrinthine profusion of corridors, fire stairs, and exits—police report great difficulty in locating apartments, to say nothing of pursuing criminals. Officers responding to calls meet tenant indifference if not open hostility. It is not uncommon for tenants to angrily attempt to drive off police responding with well-intentioned assistance. Tenants are skeptical of police effectiveness and fearful of police officers and of police intentions. Records show that only very serious crimes are brought to police attention. A comparison of tenant interviews with police reports shows that only one crime in four is ever reported. The obverse is true as well. In anonymous, crime-ridden high-rises, police officers—whether out of fear or because they respond negatively to the apparent anonymity of the environment—are often dictatorial, arbitrary, and unrespecting of the tenants' rights and needs.

Yet across the street in a development mixing walk-ups and low, elevator buildings, the same policemen behave like polite, conscientious civil servants. Tenants respond positively. Police move easily and familiarly

through the project, and tenant-police relations are much better. Tenants in these buildings not only report more of the crimes they are involved in or witness, they make a practice of reporting loitering strangers and potentially threatening situations. In interviews, their trust in the efficacy of police intervention was found to be stronger, possibly not unrelated to their ability to keep police in hand in their own buildings.

The adoption of defensible space design in new building or the modification of existing buildings may well pay for itself in terms of the increased level of police efficiency. Although police expenditures are unlikely to go down in the near future, new projects constructed along defensible space guidelines can help curb an otherwise necessary expansion of police control and budget. If we are ever to lower the expenditures and profile of police in our cities, it will be through measures such as these. In federally supported housing, security personnel—always considered a luxury by the Federal Housing Administration—are increasingly expensive and difficult to support from overextended city and housing authority budgets. In New York it has been demonstrated that because of fringe benefits and time off, making one additional patrolman evident costs the equivalent of the annual salary of ten policemen.[2] The cost of security personnel is beginning to compete with the cost of building maintenance, while the effectiveness of increased manpower is in serious question.

The root causes of inner city and ghetto crime lie deep in the social structure of our nation. Criminal and victim alike come from that strata of the population without the power of choice. In the United States, the correlation of criminal and victim with poverty is unmistakeable.[3] To both, access to institutions which lead out of their condition has been denied. Our social and educational systems have not adapted to admit the minority groups who largely make up this population. In a disturbing percentage of the inner city and ghetto population, the one institution normally most resistant to social disruption, the family, is crumbling. Lee Rainwater, in his article "Fear and the House-as-Haven," about his study of Pruitt-Igoe, defines security as the most important need to be satisfied in a residence for low-income groups.[4] Feelings of insecurity about one's residential environment often lead to the adoption of a negative and defeatist view of oneself, to ambivalence about job finding, and to expressions of general impotence in the capacity to cope with the outside world. The secure residential environment—understood by a resident as a haven and interpreted by outsiders as the expression of the inhabitants' egos—may be one of the most meaningful forms of social rehabilitation available to the family and to society. The way in which community attitudes toward security and insecurity act as social causes is still to be studied. Children who live in high-rise buildings seem to have a poorly developed perception of individual privacy and little understanding of territory.

There may be evidence that the physical form of a residential environment plays a significant role in shaping the perception of children and in making them cognizant of the existence of zones of influence and, therefore, the rights of others.

It is difficult to isolate the various mechanisms which have been producing the high crime rates we are presently experiencing in our urban core areas. Some contributory causes can be assumed: the concentration of the disadvantaged in these areas; the attraction of criminals to an urban environment which is at the same time increasingly anonymous and decreasingly self-protective; and the evolution of an urban physical form and residential environment which encourages and fosters criminal behavior. The poor are most vulnerable to crime in any setting. But in anonymous buildings which facilitate their victimization, we have the makings of a situation of crisis proportions.

No one has met these problems with conscious solutions. The poor are unable to choose alternatives. Low-middle-income populations that have not succumbed to apathy have fled. The exercise of choice in the housing market has glutted the suburbs with newly transplanted families, who at times feel cut off from the social life of their original neighborhoods, from the convenience of place of work, shopping, entertainment, and friends—but are safe. How quickly suburbs will slide into the same insecurity that plagues the city is open to speculation. For the time, suburban families have avoided the problem for themselves. The problem remains, however, and evasion has its social costs.

Some middle-class families have not fled to the outskirts, but have withdrawn into high-rise security-guarded fortresses of semiluxury. This introversion and intentional isolation inevitably occurs at the expense of adjacent surroundings. But mental and physical withdrawal from the social order and its problems has at least three dangerous attending characteristics. First is the indifference to the problem once it has been evaded. Second—and this follows on the first—is the relegation of the problem of security, the traditional responsibility of the citizenry, to formally designated authority. It is no doubt impossible to imagine a modern city without a functioning police force, although their advent is as little distant as the introduction of the "Bobbys" of London in 1840. But the function of police has traditionally been to apprehend criminals. Fear of apprehension and ensuing speedy prosecution is, of course, a deterrent to criminal behavior. But police alone can in no major way create or foster security. Society, in the persons of citizens, must adopt this function. An apathetic, detached citizenry far too often limits its participation to bitter criticism of police for not accomplishing work which rightly must be undertaken by the citizenry itself. The well-off citizen, by isolating himself in a secure fortress, by restricting his own ventures into the streets, and by demanding that authority assume all responsibility for

ensuring the safety of streets, has effectively set the stage for the defeat of his own demands. The street, without the continued presence of the citizen, will never be made to function safely for him. Without the continued presence, focused demand, and responsibile overview of the citizen, the police become lackadaisical, their commitments distorted, and they fall easy prey to corruption.

The third characteristic of withdrawal from urban life is the resultant physical design of the buildings of our cities. To provide security by means of a guard or doorman requires that entry to a building complex be restricted to one location. This usually means walling off a two- to ten-acre housing complex from the surrounding neighborhood. By this action, thousands of feet of street are removed from all forms of social and visual contact. A natural mechanism providing safety to our streets has been sacrificed to insure the security of the residents of the walled-off complex.

On the other hand, it is possible to design a multi-family housing complex in which as low a number of units as possible share a common entry off the street. Designers can position units, windows, and entries, and prescribe paths of movement and areas of activity so as to provide inhabitants with continuous natural surveillance of the street and project grounds. The street comes under surveillance from the building, the building entries and lobbys under the surveillance of the street. As with the fortress, this design also provides security. But instead of relegating the responsibility to others, it is assumed by the residents in the natural flow of their everyday activities. Moreover, the building complex and the residents are integrated into the community. The complex protects the street as well as itself. The street life helps, in turn, to protect the complex. Instead of being an act of withdrawal, this design reinforces residents in their expression of concern for their own domain and for the streets and activity areas to which it is tied. In this way, residents do not achieve internal security at the expense of the surrounding area, but by insuring that the surrounding area is equally secure. Their concerns are in harmony with those of the community. This is defensible space design.

For urban residential settings, for low- and moderate-income populations in particular, defensible space design is imperative. In many cases, withdrawal is not an option open to them. Four million people live in federally subsidized low-middle-income housing. For them there is effectively no choice to exercise on the housing market. The same factionalizing of our society which is expressed in middle- and upper-class withdrawal has, moreover, infected the design and structure of their environment. The stigma of poverty and minority group membership has been stamped onto public housing. It has been made to appear as different as possible from its surroundings; it has been marked off as clearly as if by quarantine. It is not our concern here to unravel the social forces which

have influenced the architectural form and symbolism of contemporary low-income America, but to offer an alternate model of design. Because of the location of their residences, because of their social position, and because of the design of their housing, the poor are the most consistently victimized of our urban population.[5]

Even those who have fled the old neighborhoods often find they have purchased a transitory security. Thinking they left the victims behind, they have often designed themselves into a victimization which, if it has not yet arrived, is nonetheless on the way. In September 1970, a fifty-thousand-unit housing development, built privately for cooperative ownership, was completed in an outlying area of the Bronx, New York. It was occupied almost overnight, predominantly by an older, middle-class population fleeing an adjacent area of the Bronx only a few miles away. Many see that their new homes and environment are inferior to the area they have abandoned. Their apartments are smaller, shopping is inconvenient and expensive, television provides most of the available entertainment. They have left behind them friends and institutions—a way of life.

FIG. 11. Aerial view of Co-op City. (Courtesy of Skyviews Survey Inc.)

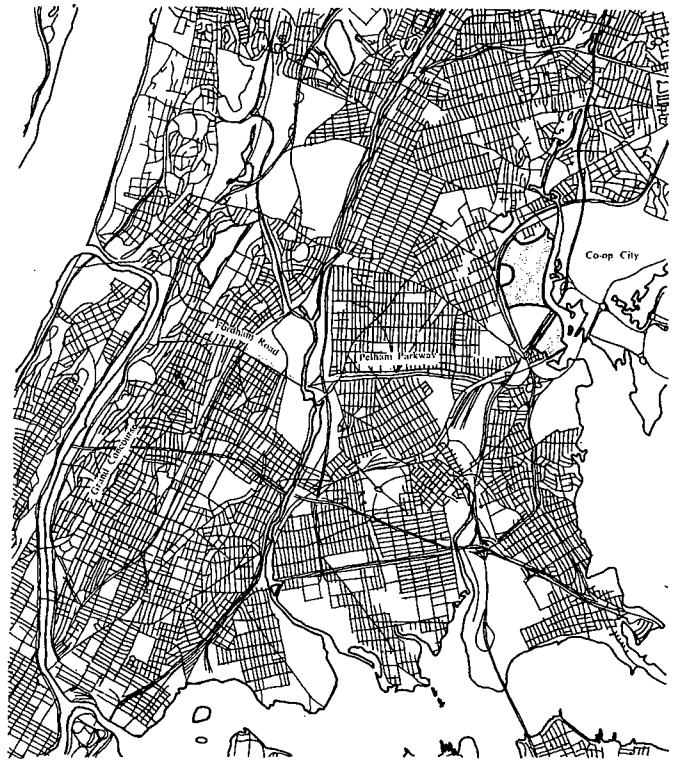


FIG. 12. Map of Upper Manhattan and The Bronx, locating Co-op City, Grand Concourse, Fordham Road, and Pelham Parkway.

Many of these deficiencies will be remedied as the project is completed and the area becomes more heavily populated. Yet the new residents spend little time complaining. In a sense they are pleased with the costs and faults. These are, after all, a small and necessary price to pay for what they most crave—security. They have escaped from a once-friendly environment, which had come to terrify them. Muggings, burglaries, and assaults had made life in their "old neighborhood" impossible for a generation of elders. In a random interview, almost all those questioned admitted that in their abandoned neighborhood they had long ago stopped going out in the evening. All had either experienced robberies or had close friends who had. This is no new story. What is fascinating

and fearful is the way this population chose to solve its problems. They fled *en masse* and segregated themselves within a new middle-class ghetto —an isolation of their own making, one which fits their image of the social order. In Co-op City they live among their own kind—45 percent of the adult population is over 50, 65 percent is Jewish, and the average wage earner makes between seven and ten thousand dollars a year.[6] Once a heterogenous, gregarious, active, and culturally involved community, the new residents of Co-op City now are segregated by income and ethnicity and only desire to breathe more easily. Those who fled to this haven would be shocked to know that the buildings and residential settings they now occupy are much less defensible than those they abandoned. The onslaught of only a small percentage of the criminals they fled is all that would be required to make their dream world evaporate.

Co-op City works now because it is far from the site of crime. But, how long before the project is recognized as vulnerable—before the criminal extends his range and mobility? The developers of Co-op City recognized that by ensuring a uniform middle-class population they could ensure a low crime rate. So long as all the families in Co-op City are exclusively white, middle-class, and elderly, the crime rate will stay down. The appearance of anyone else sends out a danger signal as obviously as an alarm bell. But already there are young families moving into Co-op City—black families, Puerto Rican families—seeking the same security and using the same means to achieve it. As the population becomes mixed, the success of this strategy will diminish.

An important principle of defensible space design is that subdivision allows residents to distinguish neighbor from intruder. In Co-op City this is accomplished not through design but by isolating a large, uniform population. Unfortunately, this is only a temporary respite for a small, privileged segment of the population. It employs statistics and segregation as weapons for keeping out those who are already the chief victims of crime—the poor. It will not work for very long, and it is repellent by virtue of the racism and prejudice it practices. It will not, in any way, contribute to the redemption of our cities.

The lesson to be learned from Co-op City is that crime control can be achieved by creating a situation in which it is possible for the potential victim to recognize in advance the potential criminal. A criminal will rarely commit a crime in a building in which he knows he will be easily recognized. Design can facilitate the process of recognition. Rather than the device of uniformity of population, such a design enables a varied and mixed population to know and control its own territory, to distinguish who (in an apparently complex and anonymous urban space) is neighbor and who intruder, and to do this at the level of the building as well as at the individual and communal level.

Subtle difficulties arise in attempting to improve the security of low-income, as compared with middle-income housing; these are mainly a function of the social characteristics of the resident populations. The social characteristics of the middle class greatly facilitate the task of providing them with a secure environment. Middle-class people have developed a refined sense of property and ownership; they have a measure of self-confidence and pride in their personal capabilities. Their everyday experiences reinforce their social competence; they can retain some control over the forces that shape their lives; and they recognize alternatives among which they can choose. These positive social controls give them a feeling of potency in protecting and enforcing their rights within a defined sphere of influence; for instance, they are well-practiced in their demand for and use of police protection.

Security design for a low-income population is very difficult. This is not only because of the economic restraints on cost and the higher concentration of criminal and victim. Daily social experience reinforces among the poor the sense of their own impotence and removes to a level of fantasy the thought of altering or improving the conditions of their lives. Closed out of the game financially, politically, educationally, and in virtually every other way, those among the poor who have not accepted the image of their own impotence are rare. In this light it may be unrealistic to expect an individual to assume positive social attitudes and influence in one sphere of his life—his family and residential environment—when he has learned clearly and consistently in the other facets of his existence that he has no such power.

Defensible space, it may be charged, is middle-class thinking. The poor have their own culture. They don't want the peaceful, secure, dull life of the middle class. They don't want property. They don't want the values middle-class society wishes to foist upon them. Violence, it is contended, is part of their culture. So, apparently, is communality. They don't want walls, whether real ones, or the ones you place in their minds by the design of space.

This romantic view of the poor is without foundation. Interviews with hundreds of low-income housing residents reveal that most hold the goals and aspirations of the middle class. The desire for security is not limited to the middle class. The desire for a living environment over which one has personal control is part and parcel of the desire for a life which one controls. The creation of communities able to keep themselves free of crime—and to keep their members from becoming criminals—is the task of every society. Anonymous, stigmatized high-rise projects are neither the work of nature, nor the free choice of their inhabitants. They do, however, prove to be important contributors to crime. If it is "middle class" to wish to escape this fate, then the overwhelming majority of

FIG. 13. Aerial Perspective of Tilden Houses in Brooklyn, New York. (Courtesy of New York City Housing Authority)

lower-class people hold middle-class goals and aspirations which are very dear to them.

NOTES

1. The total number of crimes reported in the first nine months of 1971, as compared with the same period in 1970, indicates that crime rose nearly three times as fast in suburban areas as in cities with populations over one million—11 percent as compared with 4 percent. Overall, crime in the suburbs rose nearly twice as fast as in the nation as a whole (*Uniform Crime Report*, Federal Bureau of Investigation, as reported in the *New York Times*, 30 January, 1972, p. 1).

2. *New York City Criminal Justice Coordinating Council Report* (New York, 1971), p. 34.

3. *To Establish Justice, to Insure Domestic Tranquility: Final Report of the National Commission on the Causes & Prevention of Violence* (New York: Bantam Books, 1970), pp. 20–21.

4. Lee Rainwater, "Fear and the House-as-Haven in the Lower Class," *AIP Journal* 32 (January 1966):23.

5. *To Establish Justice*, p. 24.

6. Jane Krause, "Co-op City: Beauty or the Beast?" (Paper, New York University Graduate School of Public Administration, January 1972 [from an interview with Don Phillips, quoting in-house publication, "Projection Completion," of the Office of Cooperative Education, Co-op City, Bronx, N.Y., December 16, 1971]).

signment of territorial areas to groups of inhabitants has been found to operate most effectively where occupants have also been given visual control of the defined area. Equally, improving visual surveillance opportunities may be a pointless task if the resident is viewing activity taking place in an area he does not identify with. Therefore, in the discussion of each defensible space mechanism, continuous cross-reference will be made to other categories where the two act in tandem or symbiotically.

Many of the housing projects described in the following chapters as significant accomplishments in "defensible space" design were born of a different historical era. For a variety of reasons—some economic, some social, some relating to evolving building and fire codes—they would be difficult to reproduce today. However, the same social and psychological benefits could be achieved through the use of contemporary physical and electronic means.

The four major categories created for the discussion of defensible space in the following chapters are:

1. The capacity of the physical environment to create perceived zones of territorial influence: mechanisms for the subdivision and articulation of areas of the residential environment intended to reinforce inhabitants in their ability to assume territorial attitudes and prerogatives. (Chapter 3)

2. The capacity of physical design to provide surveillance opportunities for residents and their agents: mechanisms for improving the capacity of residents to casually and continually survey the nonprivate areas of their living environment, indoor and out. (Chapter 4)

3. The capacity of design to influence the perception of a project's uniqueness, isolation, and stigma: mechanisms which neutralize the symbolic stigma of the form of housing projects, reducing the image of isolation, and the apparent vulnerability of inhabitants. (Chapter 5)

4. The influence of geographical juxtaposition with "safe zones" on the security of adjacent areas: mechanisms of juxtaposition—the effect of location of a residential environment within a particular urban setting or adjacent to a "safe" or "unsafe" activity area. (Chapter 5)

NOTES

1. The President's Commission on Law Enforcement and Administration of Justice, *The Challenge of Crime in a Free Society* (New York: E. P. Dutton, 1968), pp. 66–67.

2. *Ibid.*, pp. 130–132.

3. The elderly are 9.7 percent of all tenants in New York City Housing Authority projects, but experience 29.9 percent of all the robberies and 19.6 percent of all felonies, misdemeanors, and offenses. Source: New York City Housing Authority Police, 1969.

3

TERRITORIALITY

- *The Capacity of the Physical Environment to Create Perceived Zones of Territorial Influences*

TERRITORIAL DEFINITION

Historically the intactness of the family living unit and the territorial zone of the cluster of family units has always been given architectural expression. The single-family house set on its own piece of land, isolated from its neighbor by as little as six feet, has been the traditional expression of arrival in most every Western culture. It is the symbolic token of having a stake in the social system; it is deeply rooted in notions of proprietorship and belonging to the establishment. To many it represents the reaching of maturity and the achievement of success and potency. In certain cities and states in our nation, home ownership brings with it special rights and responsibilities which relate to participation in legal processes, and the opportunity to reinforce existing societal values. In our interviews with public housing tenants, we have found that expression of territorial feelings correspond strongly with a concern for the maintenance of law and belief in the possibility of its enforcement.

By its very nature, the single-family house is its own statement of territorial claim. It has defined ownership by the very act of its positioning on an integral piece of land buffered from neighbors and public street by intervening grounds. At times the buffer is reinforced by symbolic shrubs or fences, and in other cultures by high walls and gates. The

FIG. 29. Semidetached Housing, The Bronx, New York, circa 1930s. The integrity of the single-family unit is still very much intact: the defined front walk, porch, and lawn and the fenced-off rear yards. (Photo by author)

positioning of lights and windows which look out upon the buffering grounds also act to reinforce this claim.

As one moves to denser and denser agglomerations—to row houses, walk-up flats and high-rise apartments—opportunity for individual and collective efforts at defining territory become increasingly difficult.

The pathetic jerry-built row-house grouping (see figure 30), for all its anonymity, bears testimony to the depth of the need to pursue the life style and gain the social status of the territorially intact single-family house. But what of the apartment unit embedded somewhere in a 300-family high-rise building on a thirty-acre project site? What recourse have its occupants? What avenues exist for self-assertion, or opportunities for an even limited form of collective identification or territorial association?

At present, most families living in an apartment building experience the space outside their apartment unit doors as distinctly public; in effect they relegate responsibility for all activity outside the immediate confines of their apartments to public authority. The question is whether there are physical mechanisms which can be employed to extend the boundaries of these private realms: to subdivide the public space outside the private apartment unit so that larger dominions come under the sphere of influence and responsibility of the apartment dweller.

Examination of some better functioning housing developments indicate that through exterior site planning and interior building design, it is possible for an architect to subdivide a high-density project so that occupants and outsiders will perceive various portions of it as being under the

sphere of influence of particular groups of occupants. It is further possible to structure this subdivision hierarchically so that at the level of housing projects, the grounds are subdivided into building clusters, and at the level of the apartment units, three or four apartments share a commonly defined entry area.

We have found that such physical subdivisions, if clearly defined and related to access paths, amenities, and entries, encourage occupants to adopt proprietary attitudes and to exert potent territorial prerogatives which serve as natural and significant deterrents to crime.

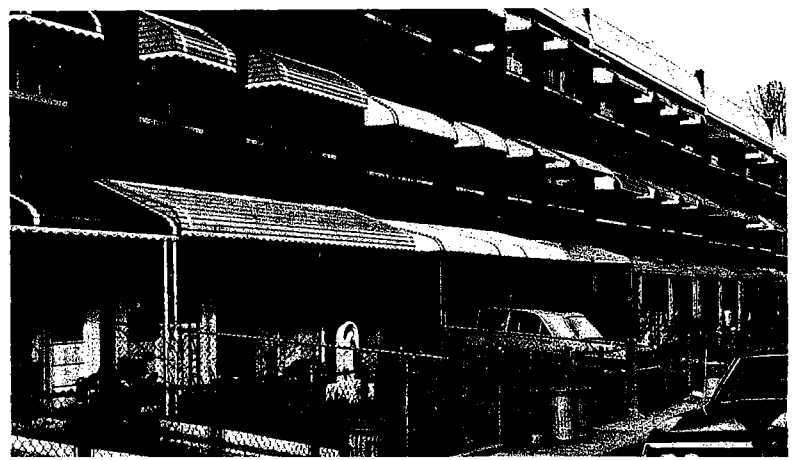
The following pages define the various mechanisms which can be employed to break down high-density residential agglomerations into territorial, subdivided, and identifiable subunits. These mechanisms succeed in providing both resident and outsider with a perceptible statement of individual and group concern over areas of buildings and grounds. More importantly, in so doing, they allow occupants to develop a heightened sense of responsibility toward care of the environment and control of its penetration by outsiders.

MECHANISMS FOR THE SUBDIVISION OF HOUSING DEVELOPMENTS TO DEFINE THE ZONES OF INFLUENCE OF PARTICULAR BUILDINGS

SITE DESIGN

It is our hypothesis that high-rise buildings, sited so that the grounds around them are defined and related to particular buildings, serve to create a territorially restricted area. These defined areas, outside otherwise anonymous high-rise towers, strongly indicate to residents and

FIG. 30. Jerry-built Row Housing, The Bronx, New York, circa 1965. (Photo by author)



strangers alike that the grounds, and hence the building, are for the private use of residents. This definition of grounds can be made to occur naturally when high-rise apartments are built on vest-pocket sites, that is small sites surrounded by the medium-density fabric of the existing city. It should be noted that a single high-rise building perceived as a unit defined by its exterior walls is itself a form of subdivision and territorial identification. Reinforced with symbolically defined grounds, and with sufficient space around it to be recognized as an entity, it can become a potent form of territorial expression.

Breukelen Houses in New York, a medium-density project built in 1952, is an excellent example of such grounds differentiation. The buildings are L-shaped and are positioned so as to touch the street at the two extreme points of the "L." The area enclosed by the right angle is defined as a semiprivate territory onto which two to four entries to the building open. The use of this area for recreation, through the provision of play equipment for young children and seating areas for adults, reinforces its territorial restriction. The location of such activities in this area facilitates its recognition as an extension of the semiprivate building zone of residents. The fact that children play and adults sit in these areas serves to increase residents' concern with the activity taking place there. Interviews show that residents know most other building residents who share this space with them. Strangers are easily recognized, and their activity comes under observation and immediate questioning. Building residents have no right, under the laws governing public housing, to evict anyone from these grounds; but at Breukelen they go to great lengths to assure themselves that strangers represent no threat. If not so assured, they readily call Housing Management or the police.

Entry to all buildings at Breukelen is through these semiprivate zones, which for the most part face directly onto existing city streets. Al-

FIG. 31. Site Plan of Breukelen Houses, Brooklyn, New York. Built in 1952, consisting of a mix of three- and seven-story buildings. Contains 1,595 apartments at a density of 21.3 dwelling units per acre.

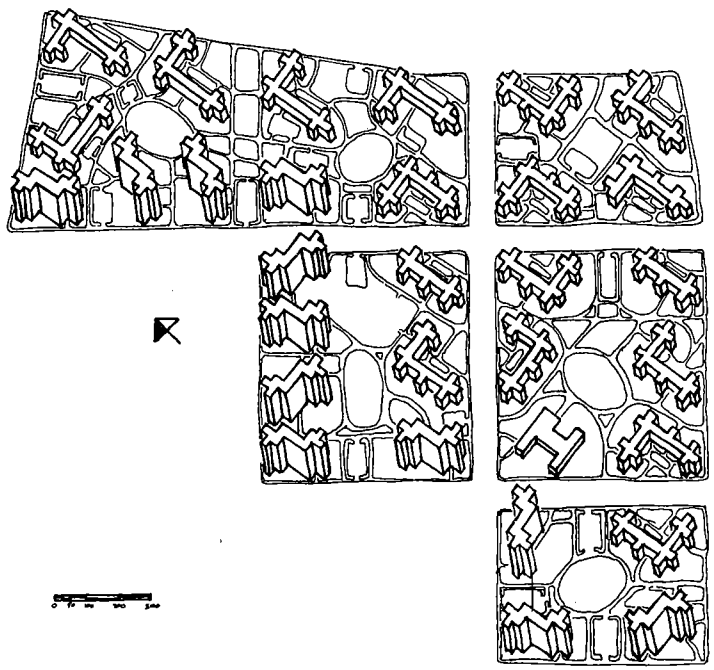


FIG. 32. Street View of Breukelen Houses. The L-shaped block forms a play and sitting area, creating a buffer zone for the four separate entries within the one building block. (Photo by author)

FIG. 33. View of the Interior Grounds at Breukelen. The interior grounds were designed to be open to public access from surrounding streets. They do not relate to particular buildings and house few defined activities. Residents view these interior areas as the most dangerous in the project. (Photo by author)

though the grouping of these L-shaped buildings partially seals off the interior grounds of the project from neighboring streets, this has not been done with conviction sufficient to achieve territorial integrity; the interior grounds at Breukelen remain open and accessible from many directions. In interviews, residents have identified these interior grounds as the most dangerous of the project. Had the interior grounds been fenced off from all access other than from the buildings proper, their success as grounds for resident use might have been greater.

As a means of implementing their policy that project grounds contribute to the amenity of neighboring communities as well as their own, housing authorities prefer to keep them open. The result is that these areas are seldom used either by residents or by the surrounding community.

In contrast to the subdivision and territorial definitions in Breukelen are most of the now typical examples of high-rise public housing. The early fifties produced a series of large-scale projects across the country. Born of that period were Pruitt-Igoe in St. Louis, Columbus Homes in Newark, Van Dyke in New York, and Rosen Houses in Phliadelphia. Every city has its own claim to notoriety. It was common practice, in developing the site plan for these projects, for the architects to close off the existing streets in the four to twelve blocks they acquired, thus freeing additional grounds to be turned into either recreation areas or off-street parking. It was common, too, in the design of these superblocks, to position the high-rise towers freely, with little attempt at assigning particular areas of grounds for the use of specific buildings. The Pruitt-Igoe project in St. Louis consists of large high-rise slabs sited on grounds intentionally left open for use by both the resident population and the surrounding community. Each building is entered directly from the public grounds, onto which the elevator doors open. As a result, areas which should be recognized as territorially restricted have remained public in nature.

A stark remedy to the problems created by high-rise towers being scattered randomly on project grounds occurred by chance at Pruitt-Igoe in St. Louis. During one of the many salvaging operations attempted in the series of crises it has faced, an endeavor was made to provide some new play equipment and seating areas adjacent to one building. For the period of construction, the area around one building was fenced off (except for a gate opposite the building entry) to reduce the pilferage of materials and to prevent accidents. Residents of this building subsequently asked that the fence be left in place. They found that incidents of crime and vandalism had been reduced significantly during the six-month construction period. Two years later, the fence is still there; the crime and vandalism rate in this building is 80 percent below the Pruitt-Igoe norm. This building, like others in Pruitt-Igoe, has no security guard. It is the only building in which residents themselves have begun to show

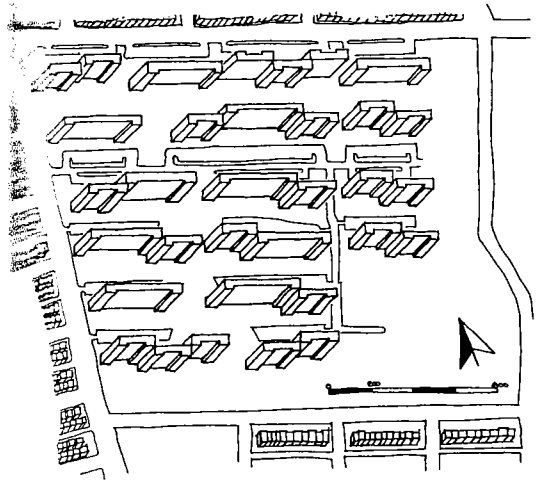


FIG. 34. Site Plan of Pruitt-Igoe, St. Louis, Missouri. Built in 1955; eleven-story buildings; 2,764 apartments; fifty dwelling units per acre. This drawing illustrates the marked contrast between project buildings and surrounding residential community.

FIG. 35. View of Grounds and Building Entries at Pruitt-Igoe. Photo illustrates vast open spaces between buildings devoted primarily to large parking areas. Building entries are visible in background. (Photo by Bob Williams)

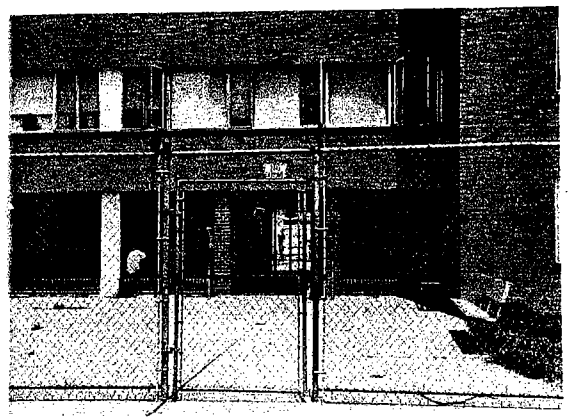


FIG. 36. View of Retained Construction Fence and Breezeway Entry at Pruitt-Igoe. Note residents sitting in the breezeway and making use of this now semiprivate defined space. The gate is locked with only tenants of this building having keys. (Photo by author)

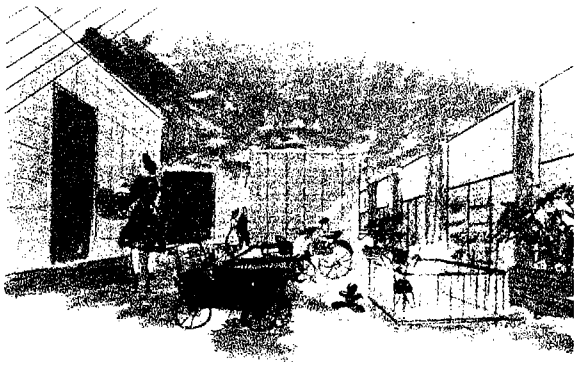


FIG. 37. Pruitt-Igoe gallery area, as seen in 1951 artist's rendering. (Drawing by the architect)

FIG. 38. Actual View of Pruitt-Igoe Gallery Area. View of what was intended by the architects to be highly-used public gallery (see fig. 37). These corridors are not juxtaposed with apartment units and so are feared by residents and unused. The open doors lead to what were once laundry rooms. (Photo by author)

signs of concern about the maintenance of the interior: picking up litter, sweeping the corridors, and replacing light bulbs. The vacancy rate in this building varies from 2 percent to 5 percent, in contrast with the overall vacancy rate for Pruitt-Igoe of 70 percent.

This is an extreme example of territorial definition and is certainly not one which we are advocating. But its accomplishments are significant in the light of the Pruitt-Igoe failure. The question to be asked is how does one initially achieve thoughtful building groupings rather than having to resort to barbed-wire fences and locks after the fact.

FIG. 39. Public Gallery in Fenced-In Pruitt-Igoe Building. Although vandalism has been curbed by restricting access to this building, the galleries are still not used as gathering and sitting areas because they are dissociated from apartment unit entries. The exit sign marks the elevator area. (Photo by Bob Williams)

THE COMPOSITIONAL VERSUS THE ORGANIC APPROACH

Examination of the design methodologies employed by architects of Breukelen and Pruitt-Igoe reveals two fundamentally different approaches, each with its own accompanying evaluative criteria for successful design. The design approach which produces projects in the Pruitt-Igoe mold has its root in a "compositional" commitment and orientation: the architect was concerned with each building as a complete, separate, and formal entity, exclusive of any consideration of the functional use of grounds or the relationship of a building to the ground area it might share with other buildings. It is almost as if the architect assumed the role of a sculptor and saw the grounds of the project as nothing more than a surface on which he was endeavoring to arrange a series of vertical elements into a compositionally pleasing whole. Little effort was expended in developing relationships between buildings and ground activities; in fact, separation was most desired. Success in building disposition was thought to be achieved through strict adherence to compositional dictates; therefore concern with function on the part of the designer would only serve to muddy this design approach. Only when the composition of buildings was completed were access paths, play equipment, and seating areas located to serve the buildings.

This compositional approach to the form and positioning of buildings has serious repercussions when one confronts the problem of apartment unit design and location within the building proper. In this approach, the primary concern in the disposition of individual apartment units within the building is the effect the individual unit will have in giving form to the building as seen from the outside. The relationship of individual units to one another and the provision of functionally useful and shared space at each level become secondary considerations.

The design approach which produces a territorially intact project,

as exemplified by Breukelen Houses, begins by viewing buildings and grounds as an organically interrelated whole. In this approach, a major design concern is the way in which buildings themselves serve to define and break up the grounds on which they sit. The relationship of building entrances to territorially defined grounds, and of vertical access systems to entry areas, also receive primary consideration in the site plan. The disposition of the apartment units follows organically the results of the initial site plan and is directed at framing relationships between units and creating areas of shared entry, much as the building itself defines the use of the ground on which it sits.

STREET DESIGN

In a similar way, it is possible to subdivide the existing fabric of city streets in order to create territorially defined blocks and areas. We have learned of instances in which associations of private homeowners have restricted parts of the city street system for predominant use by residents of a single block. The two instances we will discuss here—the St. Louis private streets and St. Marks Avenue in Brooklyn—do not totally restrict vehicular access, but rather interrupt the existing geometric traffic pattern and so discourage easy vehicular through-access by requiring intentionally circuitous movement. It is important to note that in both instances vehicles were not excluded but rather their movement restricted. This is an important distinction in that vehicular access provides a form of continuous natural surveillance, as well as an opportunity for formal patrol by a policing authority.

The St. Louis private street system was a device initially developed by wealthy residents occupying large single-family houses at the periphery of municipal St. Louis. The residents contracted with the city to take on the responsibility of road and street-light maintenance for a slight rebate of city taxes. Through this arrangement they gained the right of closing a one- to two-block stretch of street at either end. Access was provided from the central cross streets.

We have not yet measured the full success of this endeavor in reducing crime, vandalism, and maintenance costs. It is also a high-income area, and the resources available for the upkeep of the street and its general welfare makes an objective analysis difficult. However, five years ago, residents of an adjacent middle-income neighborhood formed a street association and closed their streets in the same way. These residents feel that there has been an appreciable reduction in crime. Most importantly, however, the residents claim that their street is now used very differently: children play in the central roadway; most everyone claims to know, or at least recognize people up and down the block; strangers to the street are greeted by questioning glances and a cacophony of barking dogs.

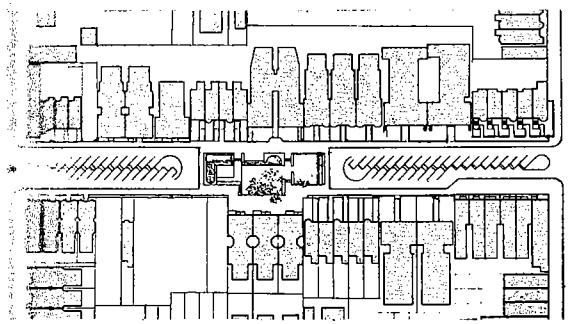


FIG. 40. Site Plan of Saint Marks Avenue. New York City. Plan shows modifications to vehicular circulation and parking and provision of play and sitting areas.

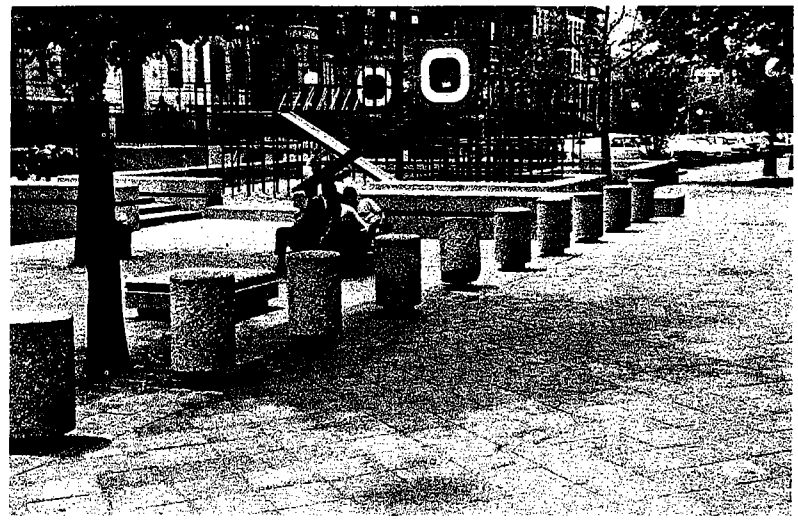


FIG. 41. Pedestrian Area, St. Marks Avenue. View of play equipment and parking area. The rear portion of the street is not open to through-traffic. The only visible sign of vandalism is the broken concrete piling which was hit by a city sanitation truck. (Photo by author)

Modifications to St. Marks Avenue in the Bedford-Stuyvesant section of Brooklyn, New York, completed only one and a half years ago, involve no major street closings. The street has been shaped to slow traffic, and symbolic portals have been located at each end. A portion of the central area of the street has been completely closed to traffic and has been turned into a play and communal area. Residents claim that street crime has been almost eliminated, that their residences are burglarized much less frequently, and that drug addicts noticeably avoid the area. On their own initiative, residents have begun to plant gardens and define the areas immediately adjacent to their houses. Concern for the maintenance and safety of the street appears to be universally shared by residents. Every Saturday morning a different group of residents gather to give the street a thorough cleaning.

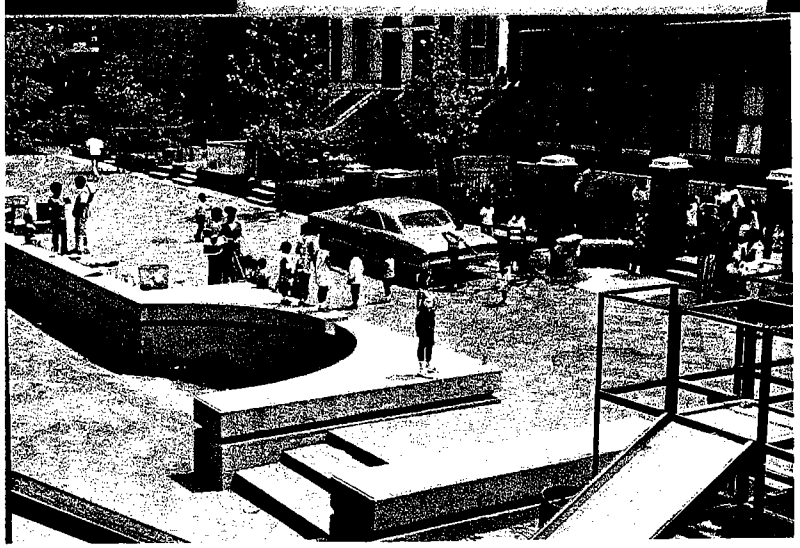


FIG. 42. Community use of St. Marks Avenue. (Photo by Bob Williams)

FIG. 43. Parking Area, St. Marks Avenue. View of St. Marks Avenue showing solution to parking which frees other half of street from all traffic. (Photo by author)

Interviews with inhabitants and with the president of the block association found expressions of a new cohesiveness among the people living on the street and a parallel active interest in the maintenance of physical surroundings and in social activities. The staying power of these attitudes and activities remains to be measured over a longer period of time.

MECHANISMS FOR CREATING BOUNDARIES WHICH DEFINE A HIERARCHY OF INCREASINGLY PRIVATE ZONES—FROM PUBLIC STREET TO PRIVATE APARTMENT

SYMBOLIC VERSUS REAL BARRIERS

There is a language of symbols which has come to be recognized as instrumental in defining boundaries or a claim to territory. These boundary definers are interruptions in the sequence of movement along access paths and serve to create perceptible zones of transition from public to private spaces. Many of these symbols have been mentioned in our previous discussion of the mechanisms for defining territory or zones of influence. Some represent real barriers: U-shaped buildings, high walls and fences, and locked gates and doors. Others are symbolic barriers only: open gateways, light standards, a short run of steps, planting, and changes in the texture of the walking surface. Both serve a common purpose: to inform that one is passing from a space which is public where one's presence is not questioned through a barrier to a space which is private and where one's presence requires justification.

These symbolic barriers are also found to be identified by residents as boundary lines in defining areas of comparative safety. Because they force an outsider to the realization that he is intruding on semiprivate domain, symbolic barriers prove very effective in restricting behavior within the defined space to that which residents find acceptable. For example, almost any type of behavior can occur on a city street: loitering, dancing to a transistor radio, leaning against cars, and begging. Within the confines of an area, defined if only by a change in surface texture or grade level, the range of possible behavior is greatly reduced. It is, in fact, limited to what residents have defined as the norm. All other behavior is incongruous and is so understood and dealt with. An intruder who does not know the rule system, or hesitates in making his intentions clear, is easily spotted as not belonging. He arouses suspicion which leads to the circumvention of his activities.

Different from symbolic zone definers, real barriers have the further capacity of requiring that prior to entry, intruders possess a key, a card, or some other means of indicating their belonging. That is, access to a residence through a real barrier is by the approval of its occupants only, whether in person, through their agent, or by electronic signal. The success of the symbolic versus real barrier in restricting entry hinges on four conditions: (1) the capacity of the intruder to read the symbols for their intended meaning; (2) the evident capacity of the inhabitants of the

internally defined space, or their agent, to maintain controls and reinforce symbolic space definition through surveillance; (3) the capacity of the internally defined space to require that the intruder make obvious his intentions—that is, the space must have a low tolerance for ambiguous use; and (4) the capacity of the inhabitants or their agent to challenge the presence of the intruder and to take appropriate subsequent action if need be. It is obvious that these conditions work in concert, and that a successful symbolic barrier is one that provides the greatest likelihood of all of these components being present. By employing a combination of symbolic barriers, we have found it possible to indicate that one is crossing a series of boundaries in the transition from public access paths and spaces to sequentially more private areas, without employing literal barriers to define the spaces along the route.

When moving through a sequence of territorially defined areas—from project grounds to dwelling unit cluster—one experiences these symbolic barriers and portals as a matter of course. Behavior and expectations are changed accordingly, even without the sharp divisions created by locked gates and doors. These tools for symbolically restricting space usage assume particular importance in the case of projects which simply do not allow themselves to be subdivided into territorially intact zones. Where it is still the intent to make space obey semiprivate rules and to fall under the influence and control of tenants, symbolic elements along paths of access can serve this function without actually prohibiting entry.

The opportunities for the use of real and symbolic barriers to define zones of transition are many. They occur in moving from public street to the semipublic grounds of the project; in the transition from outdoors to indoors; and finally in the transition from the semipublic space of a building lobby to the corridors of each floor. The use of literal barriers, e.g., locks, gates, and electronic interview systems, must be viewed as one component of a hierarchy of means of defining space which also includes a wide range of suggestive and persuasive symbolic elements.

A good example of a housing project which employs symbols to define boundaries, or zones of transition, but does not literally delimit specific territorial areas, is First Houses, located in a relatively high-crime area in the Lower East Side in New York City.

Figure 45 shows the low walls and entry portals to the project set four feet back from the line of the street. This four-foot setback of sidewalk defines the first step in the transition from public to private. The walls and portals then define the semiprivate nature of the project interior. Further territorial restrictions are symbolized by the steps and porch shared by both of the five-story buildings. The design of the building interiors continues to reinforce this symbolic system, indicating a progression to more private space through the use of stairs and landings, leading

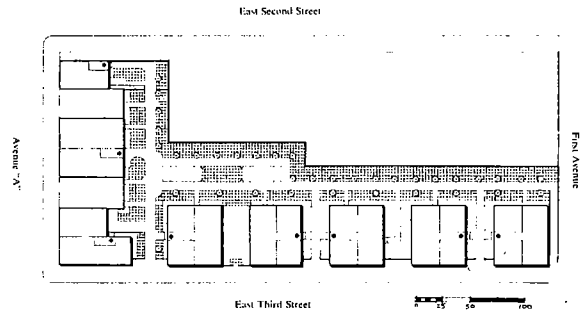


FIG. 44. Site plan of First Houses. (Courtesy of New York City Housing Authority)

FIG. 45. First Houses, Manhattan. View showing relation of entrances to street. Note the large number of symbolic barriers: walls, piers, stoops, hedges. The courtyard area serves as a symbolic transition zone and barrier to the project grounds beyond. The defining zones are reinforced with many opportunities for visual surveillance. Note that there are bars on ground-floor windows facing the street, but not on windows facing the court. (Photo by author)

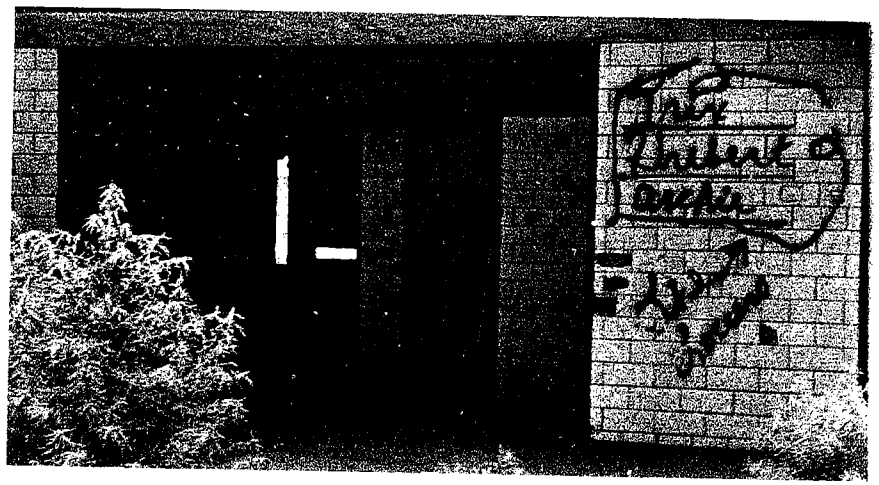
eventually to the apartment proper. Figure 45 also shows two elderly residents of the project who have chosen to move their lounge chairs onto the semipublic portion of the public sidewalk. The feeling of security they display is evidence of how well these symbolic indicators can work to enhance the sense of safety.

What ingredients are responsible for making the presence of strangers obvious in a zone which is private? The decisive element is the degree of ambiguous behavior a zone will tolerate. As was briefly mentioned, intensely public streets are places which will tolerate a wide variety of behavior: people can choose to walk by, stand and chat, sit on

the hood of a car; in some neighborhoods singing, dancing, screaming, and soliloquizing are common street activities that are not challenged. This activity, which is accepted by residents if it takes place on adjacent sidewalks, is rejected when carried beyond the symbolic portals of First Houses into the defined semipublic space of the project. This is a space that is merely an extension of the public sidewalk but here such behavior is perceived by residents and public actors as intolerable. Within this defined zone, activity must have an acceptable purpose or intent; if it is unusual, it is dangerous. While no attempt is made to question the presence of, or to identify, individuals on a public sidewalk, individuals within a territorially restricted zone are required to efficiently pursue a goal or purpose; lingering becomes a privilege available only to recognized residents following proscribed rituals.

It is noteworthy that buildings which consistently have the highest crime and vandalism rates: Pruitt-Igoe in St. Louis, Columbus Houses in Newark, and Van Dyke in New York, have little in the way of these transitional differentiating elements, either literal or symbolic. For the most part, public space in these projects flows uninterrupted from the bordering streets onto the project grounds; from the lobby and corridors of a high-rise building right up to the door of the individual apartment unit. The Pruitt-Igoe project in St. Louis is perhaps the most notorious example of this phenomenon, and its present state of devastation bears full witness to the potential seriousness of breakdowns in the social system resulting from the spatial design of high-rise buildings.

FIG. 46. Breezeway at Pruitt-Igoe, St. Louis. Typically vandalized breezeway entry to a high-rise building. Destruction of public areas around mailboxes, elevators, and stairwells at Pruitt-Igoe is systematic and complete. (Photo by author)



MECHANISMS FOR THE SUBDIVISION OF BUILDING INTERIORS TO DEFINE THE ZONES OF INFLUENCE OF CLUSTERS OF APARTMENT UNITS

When economic considerations become the paramount criteria in high-rise building design, the result is usually the production of high-rise slab buildings in which many individual apartment units are served by long, double-loaded corridors. The physical configuration of this corridor results in an overwhelmingly large and anonymous public space, devoid of opportunities for the assumption of territorial prerogatives which subdivision would provide.

Alternatively, the interiors of high-density buildings can be designed so that peculiar groupings of units and shared, vertical-access stairs provide the opportunity for inhabitants to develop territorial concern for the space immediately adjacent to their dwellings. A good example is the interior stair system and corridor at Breukelen. The L-shaped buildings at Breukelen are subdivided to allow each building two to five entries, each serving from six to nine families. This subdivision has created an entire network of small social groups whose members cooperate to maintain a mutually beneficial environment. The lobby and stair area of each entry is understood by the families who share it to be their corporate responsibility. Our interviews show that residents can all recognize one another, although the extent of their relationships varies from nodding acquaintance to fast friendship.

At each floor of an entry level, two to four families share a common corridor area. The doors to the apartment units are grouped around this common corridor, and access to it from the stairwell is screened by a

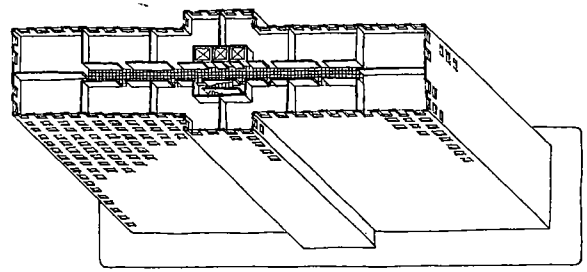


FIG. 47. Double-Loaded Corridor Apartment Building. Exploded view of a typical floor of a high-rise double-loaded corridor building. Note position of elevator and scissors stairwell.

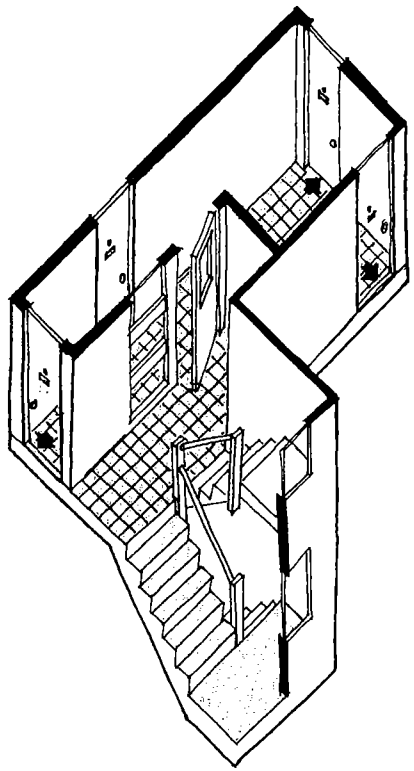


FIG. 48. Interior Corridor at Breukelen Houses. Common corridor shared by four apartments in Breukelen Houses, a walk-up apartment building. The corridor follows this configuration so as to provide the necessary separation from the access stairs to meet fire codes.

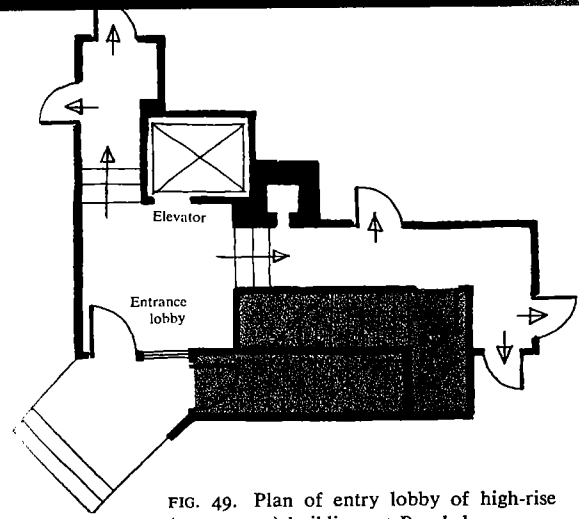


FIG. 49. Plan of entry lobby of high-rise (seven-story) buildings at Breukelen.

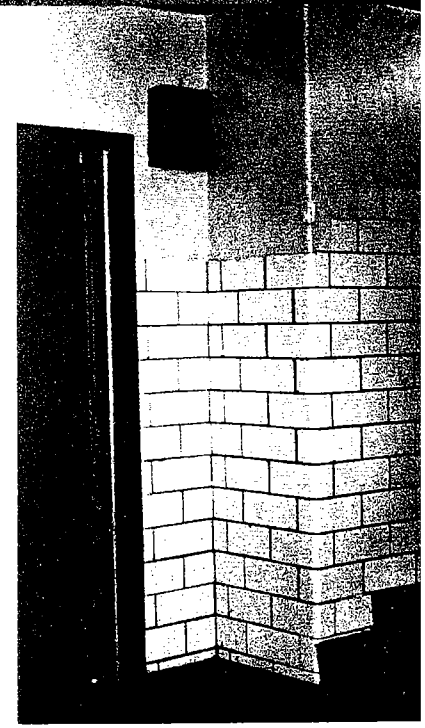


FIG. 50. Entry Lobby at Breukelen. View of entrance lobby showing a portion of the elevator door and the two steps which separate the lobby from the corridor serving the ground-floor units. (Photo by author)

glazed partition to satisfy fire regulations. The net effect is that the residents of the floor have adopted the corridor as a collective extension of their dwelling units. Management informs us that although the tenants are not required to maintain this area, they see that it is kept scrupulously clean and well lighted. Further subtlety appears in the design of the seven-story units at Breukelen. The entrance lobby is two steps lower than the corridor serving the ground-floor apartments. These steps serve to differentiate the more public lobby from the semiprivate corridor on the ground floor serving two to four families.

It is probable that neither these steps nor the glass partitions previously mentioned are the result of a conscious attempt on the part of the architects to define territorial zones within the building. Each was built in response to other demands: the wired-glass partition is a form of fire wall, isolating the stairwell. The three-step transition from the common lobby area to the ground floor apartments is a device often used to raise the windows of these apartments eight feet above the outside grounds to discourage burglaries. Both, however, are perceived by tenants as building components which clearly define zones within their building. Very young children are permitted to play in the common corridor and are cautioned not to go beyond the steps or outside the glass wall. As in Brownsville Houses, the doors to the apartments are usually kept slightly ajar in order to allow the mothers to monitor the activity in these spaces. The screening of strangers in these spaces and, by extension, in the more public lobby and stairwell is an additional beneficial result.

In order to measure the extent to which crime rates increased with the number of families sharing a hallway, the total number of felonies, misdemeanors, offenses, and lingering crimes committed in hallways was compared for every housing project in New York City. Examination of the results, as seen in figure 51, reveals that smaller halls (defined as those with two–five apartments) have a much lower crime rate average than larger corridors.

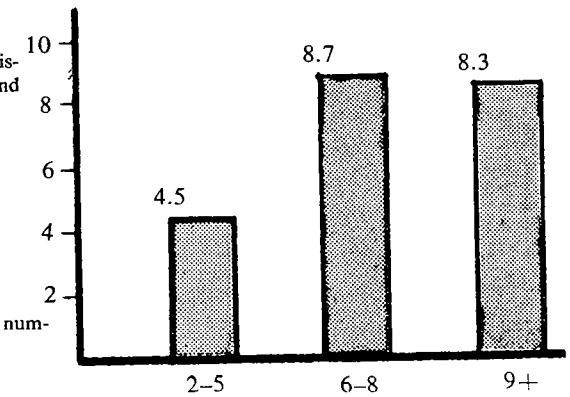


FIG. 51. Influence on crime rate of number of families sharing a hallway

THE INCORPORATION OF AMENITIES AND FACILITIES WITHIN DEFINED ZONES OF INFLUENCE WHICH ANSWER TO OCCUPANTS' NEEDS

The subdivision of areas within housing projects to define the zones of influence of groups of residents receives significant reinforcement as defensible space if facilities directed to the needs of intended sharers are located within these zones.

Our observations have shown that very young children (ages two to five), when playing out-of-doors, limit their field of play to the area immediately adjacent to the entry door of the apartment buildings. If these entry courts are further enhanced by play equipment and surrounded by benches, the areas will become an important focal point and screening device for the use of building residents. Breukelen Houses is a particularly good example of a project with building entry areas that are reinforced by the incorporation of amenities.

The location within territorially assigned grounds of amenities such as play and sitting areas, washer-dryer facilities, and automobile repair facilities will tend to give an area a higher intensity of use and further support any initial claim of territory. The presence of residents involved in various activities, individual or communal—children at play, women chatting or doing a wash, or men talking over the best way to tackle a

FIG. 52. Entry Buffer Area at Breukelen. View of entry to seven-story buildings—sitting and play area create semiprivate transitional zones which are further strengthened by sloped walk leading to entry doors. (Photo by author)

faulty carburetor—brings these areas under casual surveillance by concerned members of the family and further reinforces its defensible space attributes. If these areas are juxtaposed to building entrances, then still another means has been created for facilitating the screening of possible intruders.

THE SIGNIFICANCE OF "NUMBER" IN THE SUBDIVISION OF BUILDINGS AND PROJECTS

Reducing the number of apartment units grouped together to share a collectively defined territory, and limiting the number of buildings that comprise a housing project, are extremely important factors in the successful creation of defensible space (see table 8).

At various scales of subdivision—from number of apartments per hallway, apartment units per building, and number of buildings per project—there appears to be a rule which says that the lower the number, the better. We are by no means certain that we can identify the magical number beyond which the grouping of units at each of the identified scales becomes critical. We have, however, been able to find various situations where a specific number has proven quite effective.

In the design of walk-up buildings there is usually no economic conflict in choosing to either design the building as a single entity (running a central corridor down the full length of it—positioning stairs every hundred feet or so as fire codes dictate) or to distinctly subdivide the building mass internally so that stairs serve only a limited number of units. There are economies in both designs. In the second case, each stair serves only a small number of families (two to four at each level) and a maximum

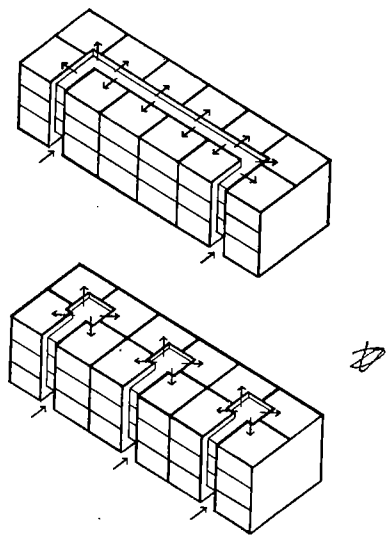


FIG. 53. Alternate designs and access arrangements for three-story walk-ups. Both buildings were designed within the same three-dimensional envelopes, but their internal subdivisions produce radically different environments.

A. All thirty-six units in the building are accessible from the two entries and the double-loaded corridors. Twelve units share a hallway at each level.

B. Each of the three separated entries serves its own twelve units. Only four units share a hallway at each level. Residents are easily able to extend their territorial claims to include the hallways and the entry to their particular sub-building.

TABLE 8

Project Size and Building Type versus Crime

		BUILDING TYPE	
		Point Block	*Double-Loaded Corridor*
Project Size	1000 Units or Less	N = 6 M = 54 SD = 31	N = 41 M = 51 SD = 22
	More Than 1000 Units	N = 4 M = 72 SD = 15	N = 30 M = 66 SD = 25

NOTE: N = number of cases examined; M = mean, crimes per thousand; SD = standard deviation

In studying the effect of size on crime, projects were divided into two groups: those with 1000 units or more, and those under 1000 units. It was hypothesized that larger projects would most likely experience higher rates of crime, due to their impersonality as perceived by both tenants and potential criminals and that residents of large projects would be less likely to be able to identify fellow tenants or develop associations of mutual benefit. Such isolation breeds anonymity and alienation—two factors that make projects attractive to criminals.

When a two-way analysis of variance was performed on project size and building type, those projects that were under 1000 apartment units in size had a significantly lower crime rate in both of the building types examined than those of over 1000 units. There was no statistically significant interaction between type and size.

of six to twelve families for the full three stories, rather than connecting to a common corridor that serves all units at each level. In the former instance, there are many entries to the building, each serving a limited number of families.

We have found that where buildings have been subdivided in the second fashion, residents have adopted a very clear proprietary attitude toward what they can identify as their sub-building, its internal corridor, landings, stairwells, entry, lobby, and the grounds immediately outside the entry door. Brownsville Houses and Breukelen Houses in Brooklyn are examples of this phenomenon. The St. Francis Square development discussed in chapter 7 is an example of a three-story slab building divided into independent vertical subunits.

Two operating mechanisms make "number" significant.

The capacity for people to distinguish or recognize by sight the members of the families sharing a building and entry with them. The lower the number, the more quickly and easily this capacity is established.

The value of a facility shared with others decreases with the number of people involved in the sharing. We have found that an outside play and sitting area, if it is intended for the exclusive use of twelve families, has greater significance for each family than a larger area shared by proportionately more families.

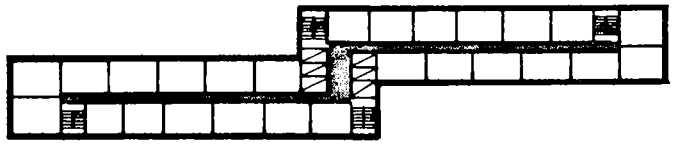
These two mechanisms operating in concert seem to play a very important role in facilitating residents' adoption of territorial attitudes and prerogatives.

Elevator apartment buildings, unlike walk-ups, do not readily allow themselves to be subdivided. Depending on the type of elevator employed, economics dictates a very specific ratio of apartments-per-floor to be serviced by each elevator. Buildings four to six stories in height can usually be served by an inexpensive hydraulic elevator. In such instances, one elevator can serve as few as four or five units per floor. High-rise buildings over seven stories in height, however, require expensive high-speed elevators, which economy dictates must serve a large number of apartments, both per building and per floor.

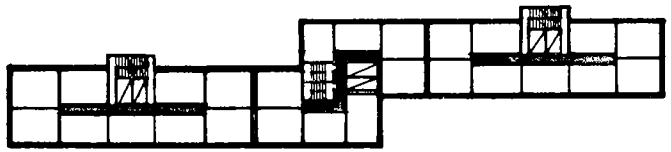
To reduce elevator waiting time and installation costs, it is common practice for two to six elevators serving a building to be grouped into a single bank. This practice of grouping improves the performance time of

FIG. 54. The photograph shows a 540-unit housing project in Minneapolis (with one common lobby) following the plan of alternate A, shown in figure 54a. (Photo by author)

FIG. 54a. Alternate access and circulation plans for 520-unit high-rise building



A. Plan of a twenty-story building housing 520 families who share one entry lobby and a bank of six elevators



B. Assuming the building configuration is fixed by the site and the desire to hold the building's peripheral walls to a minimum, it is still possible to divide the building into three distinct segments. Each would have its own entry and two elevators serving 160 to 180 families. This plan requires additional sets of fire stairs but saves space by reducing the length of corridors.

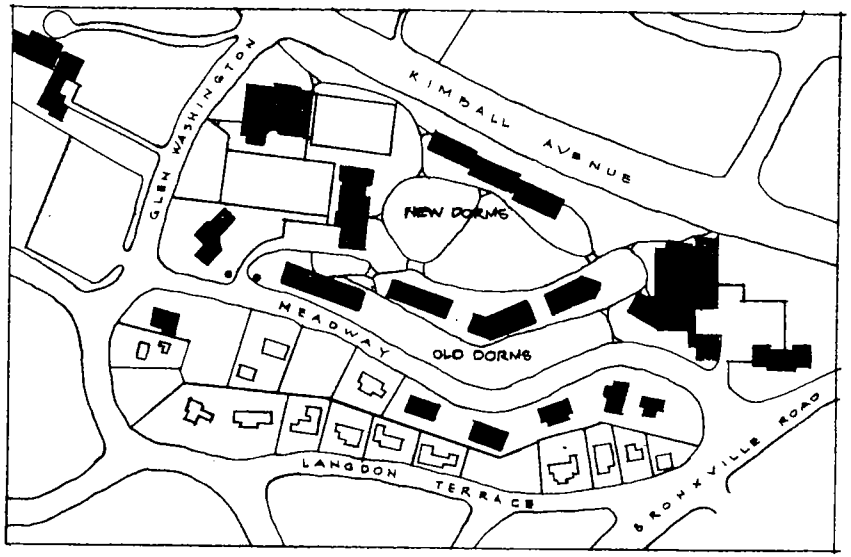


FIG. 55. Site Plan of Sarah Lawrence College, Bronxville, New York. Dormitories are situated on either side of the main campus commons. Old dorms: MacCracken, Lawrence, Titsworth, Gilbert. New dorms: Rothschild, Carrison, Taylor. (Courtesy of Sarah Lawrence College)

elevators, and produces in corridors 200 to 600 feet long, many with L- and T-shape configurations. Following the requirements of fire-safety codes, emergency stairs must be located every 150 feet along the corridor. The combination of frequent fire stairs and long corridors which serve as many as twenty to thirty apartments results in a highly anonymous interior public spaces. This can be remedied, at the expense of increased waiting time, by separating the elevators so that each serves only four to eight apartments per floor.

Perhaps the most fascinating example of the phenomenon of "number" at work was provided by a comparative analysis of two sets of dormitories situated on either side of the main campus commons at Sarah Lawrence college. Both sets of dormitories house approximately the same number of students. The one to the west is a new building, consisting of one long slab served by an interior, double-loaded corridor and four sets of stairs. On the eastern side of the Commons is the older set of dormitories, consisting of three detached buildings, each with its own internal hall and stairways. The three buildings are in the style of an old English manor. Each has two entrances and a small internal corridor. The entries are small and cramped, with narrow halls and stairs and low ceilings. The individual rooms in both old and new buildings are very small.

In interviews with students in both sets of buildings, and with student counselors, the following story emerged. Whereas there is a strong communal sense in each of the old buildings (called "houses"), it is nonexistent in the new buildings. Student residents in the new buildings have resisted any and all attempts by counselors and other students to shape them into social groups. Almost universally, they have adopted a loner's attitude, conducting their lives within the confines of their individual rooms, and seeming unconcerned with the other residents of the building.

The new building also suffers from a high incidence of vandalism and a general disregard, on the part of students, for the maintenance and cleanliness of corridors and furnishings provided in the common lounges. By contrast, students in the older set of dorms feel that they are very much members of an individual house, and that its property, furnishings, and image are theirs for their period of stay at the college. They form strong social entities which define norms or orders of behavior. As a result, the corridors and common areas in the older dorms are meticulously cared for by the students.

Two other problem areas facing most dormitory colleges across the country also trouble Sarah Lawrence. The way in which the two dormitories deal with them is very revealing. There is a much lower frequency of drug abuse and problems stemming from the occasional use of drugs in the individual houses than in the large dormitory. Student counselors explain this as being the result of (1) the greater ease with which strangers from outside the campus can frequent the new building, (2) the fact

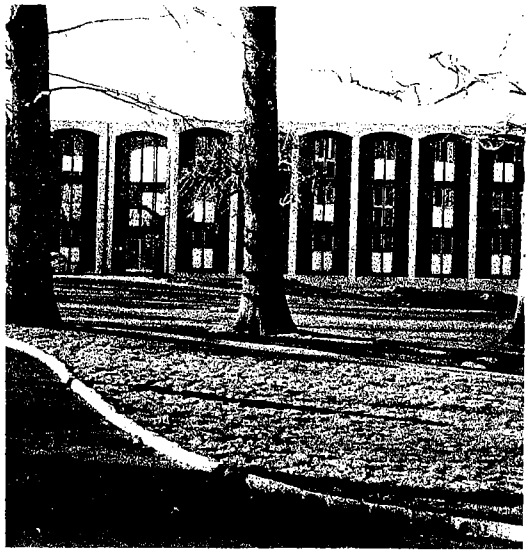


FIG. 56. New Dormitories, Sarah Lawrence College. The new dorms are tied together in one long double-loaded slab structure, not unlike a motel. Students in the new dorms feel isolated without any sense of community. It is claimed by college counselors that the students easily fall into patterns of antisocial behavior. (Photo by author)

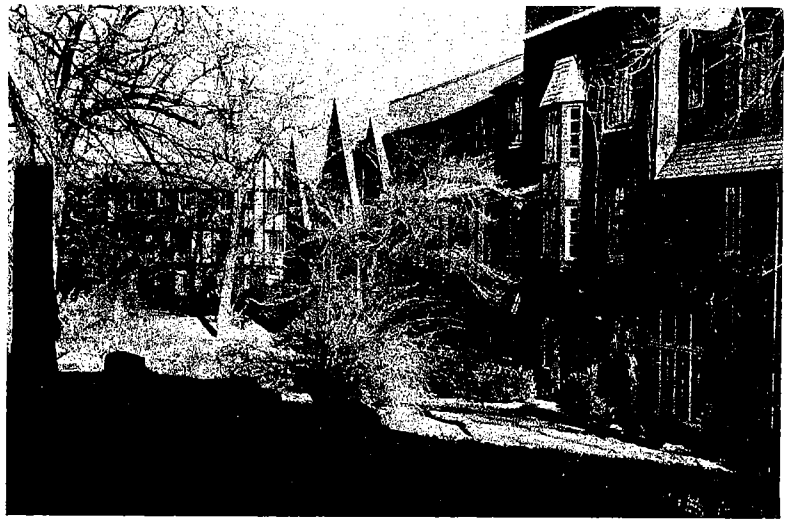


FIG. 57. Old Dormitories, Sarah Lawrence College. The old dorms are divided into separate buildings which resemble old manor houses. Students in each dorm have a strong sense of identity and communal responsibility. (Photo by author)

that girls in the new building feel they are isolated and on their own, and (3) lack of group moral pressure to respond to situations which get out of hand.

Since the adoption of a new open-door policy at the college, students are allowed to have occasional overnight guests. In some instances, this policy has resulted in boyfriends from the surrounding community using the opportunity to find a place to stay for longer stretches of time. Such guests have occasionally grown unruly, too dependent, or have otherwise proven to be a problem for a girl, and she has found it necessary to evict him. In the new dorms, a pattern has emerged wherein the rejected boy has simply moved down the corridor, or to another floor in the building, and thus succeeds in extending his stay for weeks at a time. By contrast, a boy evicted by a girl living in one of the older dormitories also finds himself evicted from the house and finds it extremely difficult to ingratiate his way into another such house. (The studies of Pruitt-Igoe and other similar large-scale projects housing welfare mothers identified a parallel phenomenon—a similar floating male population—among the Aid-to-Dependent-Children mothers.)

The reputation of the new dormitory building has now become legend at Sarah Lawrence, and every freshman scrambles to be rehoused elsewhere for her sophomore year. This has resulted in the new dorms being assigned primarily to unsuspecting freshmen—further aggravating the situation. So insurmountable are the problems of the new dormitory that the college has entered into negotiations with the State, under whose dormitory program the building was constructed, to persuade them to allow the college to purchase it back and turn it into classrooms and offices. It is now the intent of the college authorities to construct new dormitories similar in form to its more successful older buildings.

In summary, it should be pointed out that project sites containing only a few (two to four) high-rise buildings have been found to have appreciably lower crime rates than projects containing many buildings. It is possible that this is due to the radical reduction in the housing project image. It is improbable that residents are able to distinguish intruders more readily in a grouping of a few high-rise buildings than in one with many, but it is possible that intruders may feel that they can. In either case, there appears to be much less freedom of movement in the public spaces of the smaller high-rise projects. Unlike buildings in large developments, every building of a small grouping usually has an entrance directly off a public street. They more closely resemble middle-income high-rise developments and look more private and impenetrable.