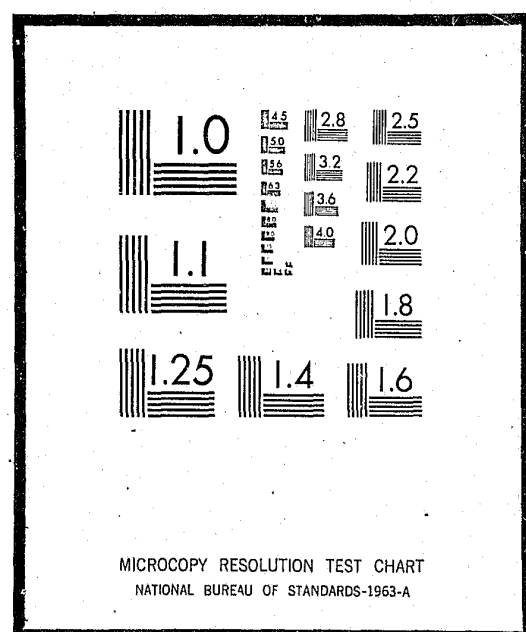


NCJRS

This microfiche was produced from documents received for inclusion in the NCJRS data base. Since NCJRS cannot exercise control over the physical condition of the documents submitted, the individual frame quality will vary. The resolution chart on this frame may be used to evaluate the document quality.



Microfilming procedures used to create this fiche comply with the standards set forth in 41CFR 101-11.504

Points of view or opinions stated in this document are those of the author(s) and do not represent the official position or policies of the U.S. Department of Justice.

**U.S. DEPARTMENT OF JUSTICE
LAW ENFORCEMENT ASSISTANCE ADMINISTRATION
NATIONAL CRIMINAL JUSTICE REFERENCE SERVICE
WASHINGTON, D.C. 20531**

Date filmed

1/5/76

18773

X

DATE DUE	
<i>NCJRS</i>	
<i>copy</i>	
<small>GAYLORD</small>	<small>PRINTED IN U.S.A.</small>

Gold, Robert

Urban Violence and the Design and Form of the Urban Environment

DATE	ISSUED TO
<i>—</i>	<i>NCJRS</i>
<small>GAYLORD 40</small>	

Source: *Crimes of Violence, Vol. 12*
(A Staff Report Submitted to the
National Commission on the Causes and
Prevention of Violence), Washington,
D.C.: Government Printing Office, 1969.



Over London by Rail. Engraving by Gustave Doré, 1872. Rare Books Room,
Library of Congress.

CHAPTER 16

URBAN VIOLENCE AND THE DESIGN AND FORM OF THE URBAN ENVIRONMENT¹

Violent crime has been increasing at an alarming pace in the large metropolitan areas of the United States at a time when efforts are being made to redevelop or rehabilitate entire neighborhoods in central cities and when new suburban communities and entire new towns are being built to accommodate our growing national population. Some of the causes of violent behavior may stem from the physical environment. Therefore, it is timely to inquire whether the design and form of our cities are related to urban violence and whether violence can be controlled or prevented by urban planning. Whatever the causes, it is now a hard fact of American life that violence has consequences of its own and is causing changes in the urban environment. It is important to determine what these changes are, why and how they are occurring, and what they portend for the future of urban society in America. Historical precedents and the warning of the Kerner Commission that America "is moving toward two societies, one black, one white—separate and unequal"² compel us to consider the dangers of violence in our cities.

Few definite relationships between the design and form of the urban environment and violent behavior have been defined in the past. The purpose of this chapter is to summarize the knowledge available, to report different ideas, and to describe our conclusions.

RELATIONSHIPS BETWEEN THE URBAN ENVIRONMENT AND VIOLENT BEHAVIOR

Three possible relationships between the design and form of the urban environment and violent behavior can be defined:

(1) Design and form of the urban environment may control violence directly. Residential areas, for example, may be selected by a criterion of distance from populations with real or assumed propensities to commit violence. Buildings may be designed to include crime control features, perhaps with other social or aesthetic values subordinated or eliminated entirely.

(2) Design and form of the urban environment may encourage positive forms of behavior. To the extent positive behavior is promoted, negative behavior—including violence—is prevented.

(3) Design and form of the urban environment may invite violence. Buildings or open spaces may be negative symbols or may be attributed to other sufficiently neutral or negative values to such an extent that people are willing to destroy or deface them, or to use them as places to commit violent acts.

If violent crime continues to increase, the very character of the urban environment may depend on which of the relationships between design and behavior are emphasized by urban designers, public officials, and to an even greater extent, urban consumers. If all the relationships are valid, and if urban design or consumer choices are oriented primarily toward crime control, the ways our cities are changed will conflict with socially and aesthetically desirable features of the urban environment. Our cities will be caught in a cycle of increasing violence in which the ways the urban environment can be used to control crime will generate more violence and create more racial and economic segregation of residential neighborhoods. Choices of housing types and safe neighborhoods in central cities would be limited even for affluent populations. The enjoyment of the diversity of urban life would be reduced. If individual buildings or whole communities are "fortified," our urban society will be polarized and fragmented within comparatively limited geographic areas. Communication among different ethnic and racial groups which comprise large urban populations will be even more difficult.

The following variables in the urban environment are pertinent to the three relationships mentioned above:

- (1) *Space and location*—which can permit or limit behavior.
- (2) *Distance and access to space*—which can separate potential victims from potential offenders.
- (3) *Visibility*—enabling observation which can be a deterrent to violence.
- (4) *Scale*—not only the absolute size of a design feature which can impede entry, but size relative to the population groups which can prevent violence. A garden wall and a city wall are similar means of restricting access to space, differing only in scale; yet the consequences of setting a house apart from others and setting a city apart from its surroundings are different.
- (5) *Mastery, control, and ownership of property*—which can influence the values people impute to the urban environment and thereby affect behavior.
- (6) *High residential densities, poor physical condition, and low general quality of the urban environment*—which are usually associated together with other features of poverty and deprivation, and which may be causally related to violent behavior.

It is important to ask: What role has the urban environment played in the past in preventing or controlling violence, what present trends can be observed, and what are likely to be the consequences if urban violence continues to increase?

HISTORICAL PERSPECTIVE

A review of the literature shows that little attention has been paid to historical relationships between the design and form of the environment and violent behavior by scholars in architecture and urban design, except in peripheral ways, and then only in general terms. Conversations with authorities in these fields support this conclusion.³

Much of the historical evidence which exists is in the form of surviving structures, illustrations, and descriptions of past urban environments. However, few questions can be answered solely by these sources, because the evidence only pertains to the solutions for given problems, not to the problems themselves. Rarely can the nature of design problems be deduced from specific characteristics of their solutions. During various historical periods, for example, drawing rooms were often placed on the second floor. This may have been to remove residents from noise and smell of the streets, for greater protection from violence, because it was the fashion of the day, or for any combination of these reasons. Other evidence is needed to determine the particular reasons. Because designers seldom leave written statements of the problems they attempted to solve, indirect evidence must be sought in the literature of other fields. In this chapter, insights into the past use of urban environments were obtained from police histories.

Historically, urban populations have been exposed to violence by individuals or small groups against other persons and property; civil rebellion, riots, and commotions in opposition to political leadership or conditions in society; and military attack from outside the society. We are mainly concerned with the first type of violence, although civil rebellion is indirectly of interest because, at times, individual violence became so widespread in cities that it had the characteristics of riots. Military attack is wholly outside our scope, although fortifications built to prevent invasion had secondary uses in maintaining public order.

Building Types

The history of cities from the Middle Ages to the present can be described as a sequence of changing defense perimeters. The comparatively small walled city, with sentries and gatekeepers, protected everyone inside. General descriptions of life in medieval Europe suggest that criminals were driven out of cities whenever possible. They retired to forests and preyed on unprotected travelers. Cities were fortified by walls as much for protection from these domestic "enemies" as from foreign ones. In later years, the larger city contained its own criminal quarters and demanded new forms of protection. The primary environmental units of defense against violence were individual buildings or dwelling units. Even apart from larger structures designed for military or civil defense, there are examples of individual buildings for which safety was obviously the paramount design consideration. Some medieval towers were buildings of this kind.⁴ Many family-owned, slender, prismatic towers were built in Italian cities during the 12th century, some over 300 feet high. More than 200 of them were built in Bologna alone. The ground floors were used only for access to the floor above, reached by retractable ladders. Towers of a similar nature, built before the 12th century,

and found in villages in Scania in the Western Caucasus, where round towers and vendettas were common until the 19th century. Other examples are the Round Towers of Ireland, built by monastic communities between the 10th and 12th centuries both as belltowers and sanctuaries.⁵ These towers were between 70 and 120 feet high. Entrances were about 15 feet above the ground, and were also reached by retractable ladders.

Whether intentional or not, residential buildings providing good defense against violent entry can be cited throughout history. Safety was provided through the architectural forms of the buildings, by such equipment as iron grills and safety chains on doors, and by such management procedures as posting doormen or guards at entrances. Houses of the wealthy Greeks and Romans were arranged around interior courtyards so that most of the door and window openings of the house faced inward.⁶ Walls facing the street were almost completely blank, usually with only one doorway leading inward and very few outward window openings. All major living quarters in the urban palaces of the Italian Renaissance were on the second floor or above. Palaces were arranged around interior courtyards reached by archways from the street. Gateways and other entrances were guarded by heavy doors. First-floor windows were relatively small, often placed high up in the walls, and were protected by iron grills. Even the heavily rusticated stonework of the first-floor walls suggests an obstacle to attack or violent entry. Many older apartment houses in French cities had similar arrangements, with one large gateway leading from the street to an interior courtyard. The front facade of many Georgian townhouses was separated from the sidewalk by an open area about 6 feet wide and 6 feet deep. This area was enclosed by iron railings and bridged by steps leading to the front door. Basement windows were fitted with iron grills, and front doors were heavily constructed and fitted with massive locks.

Early Civilizations

Many early civilizations created organizations to maintain public order and prevent crime in cities.⁷ Jerusalem under the Hebrews was one of the first cities to deploy a police force organized to protect different quarters of the city. Early Chinese cities had a policeman on each important street who kept a register of all inhabitants. Under him were several assistants. Each was responsible for 10 houses to which he had permanent right of entry. In ancient Incan cities, each policeman maintained a night-and-day watch over a group of 10 households. He had permanent rights of entry into these houses, and people were not allowed to lock their doors at any time.

Both Greek and Roman police forces were organized to protect different quarters of each city. Roman police controlled an area extending a number of miles outside Rome. They were assisted by citizens who patrolled their own streets. The organization of French police was strongly influenced by Roman examples. Citizen night watches began in French towns in the 6th century.

Other clues to historical concerns for the protection of people and property can be found in the history of door locks.⁸ The precise origin of locks and keys is not known, but Babylonian cylinder seals dating back to 3000 B.C. carry symbols that have been interpreted as keys. The tumbler lock, made of wood, probably originated in Greece during the 6th century B.C. Iron keys from the Ptolemaic Period (2nd or 3rd century B.C.) have been

found in Egypt. Homer describes Greek keys of bronze with handles of ivory. Although a very old wooden-key type of lock is found in widely distant parts of the world (the Faroe Islands, the Greek Isles, Zanzibar, and all over Asia, for example) lock technology did not advance greatly until medieval times. A great concern for burglar-proof locks, both for doors and safes, was evident in England during the 18th and in America during the 19th centuries. In 1861, Yale invented his pin-tumbler cylinder lock in Philadelphia, and modern lock technology began.

This evidence suggests that from early times municipal administrations were aware that violence and the urban environment were ecologically related, and that the primary environmental unit of defense against violence for the private citizen was the individual dwelling.

Medieval Cities

The medieval cities founded in Europe after the 10th century were a radically new phenomena in the history of urban design and an important part of the great social and cultural change of their period.⁹ Cities declined in importance and some ceased to exist in Europe after the fall of the Roman Empire, but between 1000 A.D. and 1300 A.D. more cities and towns were established in Europe, especially in Germany, Switzerland, and France, than during any subsequent period. From these beginnings, there has been an unbroken line in the evolution of American European cities and urban institutions that can be traced to the present day.

Even after initial development had taken place, the typical 13th-century town was small in population and geographic area when compared with modern cities. The populations of most towns did not exceed a few thousand persons. The largest towns in the Rhine basin had less than 30,000 inhabitants, and Paris in the 12th century had a population of 100,000 persons. Small towns occupied 10 to 25 acres, medium-size towns about 120 acres, and the large Rhine towns occupied less than 250 acres.¹⁰ Medium-sized towns were about one-half mile in diameter. This facilitated communications and enabled every town to have a defensive wall around its perimeter. These walls were up to 30 feet in height and normally had two to four gates.

By the 13th century, most towns had been granted charters of self-government and were in effect city-states under the political control of their citizens—mainly merchants, craftsmen, and artisans. A high degree of social organization existed and municipal institutions were developed to handle every aspect of community life.¹¹ Within the walls, all citizens and visitors were subject to municipal laws which offered considerable protection to persons and property. The Catholic Church also contributed to public safety by offering sanctuary on its properties. Penalties for crime were harsh, and anyone found guilty was banished from the town. The citizens of each town provided for its defense. The gates were closed at night, and the walls and streets were patrolled. The sense of community in these towns, the degree to which citizens protected each other and the citizen's view of his town as an island of peace in a hostile world were remarkable.¹² Violent crime does not appear to have been a major problem in these communities.

Apart from locks in buildings, there is no evidence that design of these

towns was influenced by considerations of defense against violent crime. The fact that the town wall was the major defense perimeter is consistent with the citizens' view of the town as an essentially peaceful place from which undesirable elements of the population were excluded.

These peaceful conditions did not endure indefinitely. By the 15th century, security problems had become serious in many towns.¹³ Large numbers of undesirables were attracted to urban centers. Murders, rapes, and robberies were widespread, and many persons abused the right of sanctuary in churches because ecclesiastical courts were less severe than civil courts.

Colonial Cities

There are many instances in history when cities and towns were designed for the specific purpose of maintaining control over a population or geographic area. In the case of colonial cities, the existence of an environmental entity contributed to the establishment of a new civil order. Although colonial towns were usually built under the aegis of a conquering military force, this feature was more important than military defense or particular details of design.

The Romans built towns of this character. The bastide towns of Southern France were built both by French and English kings during the 12th and 13th centuries.¹⁴ Bastides were built in other parts of Europe as well. Aigues-Mortes (1246) and Monpazier (1284) are two of the best-known examples. Both were geographically regular in layout and had defensive walls. The 17th-century towns of the Ulster Plantation in Ireland are another example. They were an essential part of the first successful attempts of the English kings at long-term territorial control in Ireland. Each town had a fortified area which could be used for defense against civil revolt.

From the 16th century onward, the Spanish colonizers of the Americas founded numerous towns.¹⁵ After 1573, their construction was guided by detailed regulations known as the Laws of the Indies. The design of these towns was intended to impress on the conquered Indians the idea that the Spaniards intended to settle permanently. Knowing this, it was hoped that the Indians would respect the Spaniards and seek their friendship.¹⁶

Paris

The city of Paris is worth examining because its problems of public order developed earlier, were more severe, and are better documented than for most cities. Paris was one of the largest medieval cities, and its physical form—a pattern of narrow irregular streets, few open spaces, and tightly packed houses—is typical of this era.

Henry I instituted a city police force, consisting of a chief and 12 armed men, in 1032.¹⁷ The Force was supplemented by citizen guards who patrolled the streets at regular times during the night. In the reign of Louis IX, a cavalry force of 60 men was added. Apparently these measures were not effective. A report in 1258 states that there were fires, murders, rapes, and robberies all over Paris every night, even under the walls of Louvre Palace.¹⁸ Louis IX was particularly concerned about crime and made a serious attempt to purge vice from the city, but failed.

The Royal Police had been posted historically at one central location in the city. In 1306, new police reforms, introduced by Phillip IV, assigned policemen to a dozen quarters of the city. Extra policemen were assigned to the suburbs outside the city walls in about 1450 A.D. In 1559, the civilian night watch was abolished, and again the number of professional police was increased. However, the police system fell into disrepute because of corruption in the 16th century. During this period, repeated attempts to banish criminals from Paris and to control their movement through the city gates failed while lawlessness increased.

The state of public order and safety in Paris during the late-16th and early-17th centuries continued to deteriorate.¹⁹ There was no street lighting, because householders did not put lights in their front windows, as required by law. The citizen guard no longer patrolled the streets at night. There were whole districts in the city where criminals were so numerous that armed police refused to enter after nightfall. Some criminals even formed guilds, and police were suspected of being in league with the criminals. Ambushes were common in the center of the city. Householders barricaded their doors at night and kept weapons beside them.

In the reign of Louis XIII, the police were again ordered to clear the streets, but failed to do so. Medieval slum districts, known as *cour des miracles*, were completely under the control of criminals and destitutes. The authorities were powerless in these sections of the city. Because the streets were so dangerous, decrees forbidding citizens to carry arms were largely ignored.

The trend of increasing lawlessness was reversed after 1667 by Louis XIV through rigid new legislation, police reform, and the appointment of the very able Gabriel-Nicolas de la Reynie as the new Lieutenant General of Police. He extended the responsibility of the Paris police beyond the prevention of crime and apprehension of criminals to include, among other things, the authority to carry out public works. La Reynie restored order in the next decade. He illuminated the streets with more than 6,000 lanterns by the end of the century and drove out the inhabitants of the most notorious *cour des miracles*, near the Porte Saint-Denis, by razing the entire district. La Reynie also was responsible for the planting of trees on the Champs Elysees and the building of the Pont-Royal. He had a city plan prepared for Paris. There is no indication from the information available, however, that he saw any connection between his activities as an urbanist and his efforts to control crime.

The lieutenant generals who succeeded La Reynie in the 18th century extended his work and made remarkable improvements in the urban environment. Under their direction, the remaining *cours des miracles* were razed, street signs were placed on buildings at corners, the house numbering system was devised, the Corn and Leather Markets were built, street lighting was extended to all the streets of Paris, four whole districts of Paris were paved, the Rue Feydeau was constructed, and the Paris Bourse was founded.²⁰

By the 18th century, public order had generally been restored to Paris. The city was much safer than London, and one writer claimed that a person could walk the streets day or night with purse in hand, without the slightest fear.²¹ These developments occurred during the period of the absolute monarchy in France. During the 17th and 18th centuries, France was the

acknowledged leader in European architecture and urban design.²² Great palaces, gardens, public buildings, parks, and royal squares were constructed. The typically medieval urban form of the center of Paris was changed radically. The glorification of the monarchy was a major influence and motive in this architecture. However, it is notable that the literature of the period contains no discussions of any relationships between the mainstream of urban design and concerns for the problems of public order.

Paris in the mid-19th century was the scene of a rare occurrence in the history of urban design—the extensive planned redevelopment of a large city in which one of the stated design objectives was the maintenance of civil order and the control of riots.²³ There were a number of motives for the demolition and construction in Paris between 1853 and 1869, planned under the direction of Napoleon III, and executed by Baron Haussmann, his Prefect of the Seine. The creation of a beautiful and monumental capital city was probably the paramount objective. Among others were the improvement of traffic circulation and living and health conditions as well as the maintenance of public order.

Major public works included the demolition of numerous slum dwellings, construction of major water supply and sewerage systems on a citywide scale, creation of many small and large public parks, and construction of a complete network of wider new streets and new buildings along them.

In 1850, whole districts of the city, some near the center, consisted of slum dwellings. These were areas of dense population and social unrest. On eight occasions between 1827 and 1849, barricades were erected in the streets in these districts, and some of the insurrections resulted in the overthrow of the government. In 1851, one speaker in the National Assembly pleaded for "anti-riot streets."²⁴ Thereafter, two measures were taken to control riots. Wide, straight streets were constructed through and around working-class districts, and a number of barracks, permanently occupied by troops, were constructed at key locations in these districts. The new streets were intended to provide quick access when trouble began, to allow these parts of the city to be cordoned off easily, to break up large districts into smaller controllable geographic areas, and to make the streets much more difficult to barricade. The usefulness of these measures was never tested, because no insurrections of any consequence occurred in Paris after that time.

London

The prevalence of crime in London in the early-18th century was much greater than in any other part of England.²⁵ London differed from Paris in that England had no tradition of professional police. The first police force was established as a result of Robert Pee's Police Bill of 1829. Mid-18th century London was policed by parish constables, night watchmen, and a few magistrate's officers, who were totally ineffective in combating widespread crime. Conditions of crime and public disorder during this period were similar to those in late 16th-century Paris. Criminals and destitutes occupied whole districts which were completely outside the control of public authorities. To protect themselves and their property, citizens armed themselves, barricaded their doors, and kept off the streets at night. Severe penalties were adopted

law enforcement. The severity of the law can be judged by the fact that there were 223 crimes which were solely punishable by the death penalty.

There were entire populations living in densely settled slum districts of London whose sole means of subsistence was crime.²⁶ Blocks of dwellings were built over alleys, in courts or on other open spaces, creating labyrinths of interior passageways which connected whole districts. Rooms were filled with people living under appalling conditions. There was little if any security for law-abiding citizens who armed themselves and their servants and fortified their houses. Many people kept pistols within reach while they slept.²⁷ Similar conditions existed in other English cities in the late 18th century as towns grew quickly in size and environmental conditions deteriorated during the Industrial Revolution.

Crime in London began to decrease slowly in the late 18th century. After 1829, the new police forces were very successful, and within 30 years violent crime ceased to be a national problem. Beginning in the mid-19th century, serious efforts were made by public authorities to improve the appalling conditions in the slums where crime was most prevalent. The stated purpose of these efforts was to improve health and curb epidemics of cholera and other diseases. There was a strong underlying premise that a better living environment would also enhance the quality of life, but the reduction of crime did not appear to be a specific objective of any of the measures taken.

Utopian Socialism

Utopian socialist movements which originated in France and England during the late 18th and 19th centuries are remarkable for the importance they assigned to the physical environment in proposals for social reform.²⁸ Most of the attempts to found new communities based on these philosophies were carried out in the United States. However, there is no need to discuss the character of the design proposals because the founders were not directly concerned with crime. They philosophically visualized societies in which crime would not be present. One of the most important early city planning studies of the 20th century, for example, was Garnier's Cite Industrielle, a theoretical design for a modern industrial city of 35,000 inhabitants.²⁹ Garnier's social philosophy was directly influenced by utopian socialism. His design included no police stations, prisons, military installations, or churches, because he believed there would be no need for them in a socialist society.³⁰

Conclusions From History

Although there is little uniform historical evidence about relationships between the design and form of the urban environment and violent crime, some generalizations can be made to obtain a perspective on problems in contemporary American cities.

- The level of urban violence has not been the same throughout the history of Western Civilization. During some periods, urban violence was so widespread that protection was exceptionally important in the design and form of the urban environment. During the era when medieval cities were established, urban violence was exceptionally low. During other periods, safety in cities was improved by emergency public justice. Urban

violence was so uncontrolled in some cases that it was the single most important fact of city life.

- The actual or potential targets of urban crime are not apparent from historical evidence. The information available implies that all men were equally potential victims or that a man who could afford to arm himself and fortify his house had something to defend, and hence was the actual or potential victim.

- There is some historical evidence about violent offenders, but the portraits are strangely depersonalized. The clearest picture of the criminal is suggested by the *cours des miracles* in Paris. Pools of criminals lived in the same districts and victimized city residents for more than a century. These areas may have been entirely criminal districts in which all or most of the inhabitants made a living through illegal activities. However, there is no evidence that all Parisian criminals of the time lived in the *cours des miracles*, and many residents of these districts may have simply been impoverished. A number of sources indicate that gangs of brigands were employed as bodyguards by nobles and rich men. Therefore, the implication that razing the *cours des miracles* ended violence in Paris, if only temporarily, is probably untrue.

- Historically, three environmental approaches to crime control can be distinguished:

Arrangement of urban form and activity.— Most people in most societies have opposed violence. The arrangement of urban form and activity historically suggests that when enough people who disapproved of crime were brought together, their presence acted to deter crime. However, the mere presence or visibility of large numbers of people did not always accomplish this. Feud killings in Renaissance Italy were apparently committed in public surroundings, where people either favored the killing, were intimidated into silence by the killers, or were unconcerned.

Use of protective devices.— These included all physical devices for the safety or protection of people and property, such as walls, moats, doors, and particularly door locks and entryway designs. They were widely used to control access to space, that is, to seal off or insulate particular areas from trespass.

Management of the environment.— Control of the environment to prevent crime has been the principal objective of law enforcers throughout history. The razing of the *cours des miracles*, the Chinese block surveillance system, and the Incan police organization are only a few of many examples of environmental management.

CURRENT TRENDS OF URBAN VIOLENCE

Chapters 3 and 5 describe the characteristics of violence in America. Although many questions are unanswered and many refinements are needed in reporting crime and violence, particularly by types of geographic areas, it is important to summarize the earlier findings which are pertinent to the design and form of the urban environment.

Rates of arrest vary considerably by economic status, race, and age of offenders. It is necessary to conclude from the admittedly imperfect data that

rape, robbery, and aggravated assault—are many times higher for poor than for affluent populations, for Negroes than for whites, and for younger age groups (especially those 18 to 24 years old) than for older age groups. The racial difference is particularly relevant to the urban environment. In 1967, the reported Negro arrest rate was about 17 times the white rate for homicide, 11 times the white rate for forcible rape, and 10 times the white arrest rate for robbery and aggravated assault. While there are numerous biases in arrest data—for example, Negroes may be disproportionately arrested on suspicion—the differences cannot be overlooked. Of course, as stated in preceding chapters, correlations of data by race do not reflect differential social, economic, job and educational status and opportunities among and within black and white groupings.

To a considerable extent, the characteristics of persons who commit violent crimes most frequently are features of the same population group which resides in central cities of large metropolitan areas in the United States. Consequently, the combined reported arrest rate for the major violent offenses in 1967 was about 8 times greater in cities with a population of 250,000 or more than in those with a population between 10,000 and 25,000, and 10 times greater than in rural areas. Six cities of more than 1 million population, representing about 12 percent of the population of all reporting areas, contributed about 33 percent of all major violent crimes reported for the nation. Twenty-six cities of 500,000 or more population, whose residents totaled about one-fifth of those in the reporting areas, contributed nearly half of all major violent crimes reported. Suburbs have generally reported lower crime rates except for forcible rape than all but the smallest cities. The same relationships are generally true for nonviolent property crimes.³¹

It was concluded earlier that the true offense rates for homicide, robbery, and aggravated assault have probably increased significantly during recent years in the Nation as a whole. This is particularly true for larger cities.³² In cities with populations of more than 250,000 persons, the reported offense rate for robbery per 100,000 population increased 90 percent between 1963 and 1967. In the same four years, the reported homicide rate increased 51 percent, and the reported aggravated assault rate increased 46 percent.³³ It must also be concluded that the true rates and volumes for the same violent crimes have increased rapidly in suburban areas during recent years, although they started from a much lower level. Thus, while the reported rates for all four violent crimes increased significantly in both central cities and suburban areas, the gaps between the two sets of rates and volumes widened considerably making even greater geographic differences.

The statistical portrait of victims resembles that of offenders. The NORC Crime Commission study showed the probability of being a victim of forcible rape, robbery, and aggravated assault is many times greater for central city residents than for suburban residents, for people 20 to 29 years of age than for people of older ages, for males than for females, for Negroes than for whites, and for poor than for affluent populations.³⁴ A recent survey in Chicago concluded that the chances of physical assault for a Negro ghetto dweller were 1 in 77, while the odds were 1 in 10,000 for an upper middle-class suburbanite.³⁵

When victims were related to offenders in the Task Force 17 city survey,

homicide, forcible rape, and aggravated assault were found to be primarily intraracial crimes, committed mainly by Negroes against Negroes and whites against whites. The only exception was robbery, where over 40 percent of all interactions in our victim-offender survey involved Negro offenders and white victims.³⁶

Thus, while the middle-class white taxpayer often bears a disproportionate share of the cost of crime control and perhaps of robbery, the low-income Negro living in the central city pays disproportionately in the pain caused by other types of violence. And although the rate and volume of crime is increasing in suburban areas, much more violence today is committed in central cities.

EXPLANATIONS OF VIOLENCE RELATED TO THE URBAN ENVIRONMENT

Every major explanation of violence suggests that the urban environment plays some role in creating or preventing crime.³⁷ Some theories make exaggerated claims for the role of the urban environment as a producer or inhibitor of violence, while others view the role of the environment simply as a physical deterrent to crime.

Psychological Explanations

Psychological explanations of aggression suggest several possible roles for the urban environment as a producer or minimizer of violence. The most comprehensive theory is the "frustration-aggression hypothesis," which sees all aggression, including violence, as man's response to frustration arising from and interrupting his attempt to achieve some goal.³⁸ Frustration carries with it an instigation to aggression, which may or may not be inhibited on the basis of learning. Should frustration lead to aggression, aggression itself may lead to catharsis, making further aggression unnecessary until some new frustration intervenes. However, aggression can be redirected and catharsis still produced. An animate or inanimate substitute target for aggression may be found.

This hypothesis, then, suggests that the physical environment can function as an instigation to aggression, an inhibitor of aggression, or a focus for catharsis (i.e., a substitute target for aggression).

The environment may also serve as an instigation to aggression when it is designed in its expectation.³⁹ Thus, barred windows may advertise there is something worth robbing, or armed police may invite attack precisely because they are police and armed. This viewpoint implies that if the environment is designed to prevent crime, crime will increase. It has also been suggested that the urban environment be designed not to resist breakage, but to facilitate repair, thus allowing the environment, rather than people, to serve as an object, outlet, or substitute for aggression.⁴⁰

The nature of the environment may encourage or discourage types of behavior by a psychological "presence" or "mood setting" quality, according to another viewpoint.⁴¹ Many behavioral premises of urban design are based

Anthropological Explanations

Anthropologists relate types of social behavior, such as violence, to the norms and values of an entire culture. They explain violence in America by examining the norms and values of American society which favor violence, as well as the role of violence in the symbol system of society. A symbol system is an organization of meanings, goals, and values of a society which is translated into patterns of "being" or "doing" in everyday life. Symbol systems contain directions for particular types of behavior, and the urban design environment as a symbolic context may call for violent behavior.

If the urban environment has a role in shaping violent behavior, the symbol system of the society may favor violence and the urban environment may express this symbol system. On the other hand, even though the symbol system does not favor violence, the urban environment may be a deviant feature producing many kinds of behavior in conflict with the symbol system. An anthropological theory of the urban environment would suggest, for example, that competition is associated with violence in all cultural symbols. It might also propose that the urban environment has features which encourage competition in a violent manner.

Ethological Explanations

Ethological explanations hold that aggression is a drive innate within man as a biological species, and that man, like some other species, has not evolved innate inhibitors which prevent intraspecies aggression—for example, the killing of other men. Intraspecies aggression often occurs when an animal's "territorial imperative" is violated. A "territorial imperative" is simply that amount of space which an animal of a certain species must possess in order to feel secure. If this territory is violated, he behaves aggressively. However, many animals have controls which allow members of their own species to violate their territories, but prevent killings in intraspecies fights. Using this evidence, ethologists reason that man is overcrowded in the city and his territorial imperative is continually violated, yet he does not possess the controls necessary to prevent his attacking violators. Hence violence occurs primarily in the city.

Yet, there is simply not sufficient evidence to conclude that a "territorial imperative" exists in man.⁴² Although there is suggestive evidence about the effects of residential densities on human beings, most of it shows the ill-effects of undercrowding rather than overcrowding. There is no indication of anything more than an analogous relationship between density-induced neuroses in rats and density-associated, but socially classified, neuroses in human populations. In other words, although rats and humans seem to respond in similar ways to density, there is no evidence to indicate that rats and humans have the same organic neurological structures which respond to overcrowding, or that rats and humans respond to the same deprivations arising from overcrowding.

Similarly, psychological theory does not suggest either that "aggression" is an innate drive separate from other drives, or that aggression as a drive is related to the territorial imperative.

Sociological Explanations

Sociological explanations consider violence as a form of deviant social behavior which can be explained in the same manner as other types of social behavior. If the urban environment does influence social behavior, violence may be one effect. Some sociologists believe there are intervening variables between the environment and social behavior, and it is only by the intervention of these social variables that the urban environment plays a role in producing or preventing violent behavior. Segregation of racial groups and economic classes in the urban environment, for example, is believed to be an intervening variable which can induce violent behavior. Integration brings people closer together and increases understanding, thereby reducing violence. Segregation and social fragmentation of the urban environment lead to a conflict between social groups and increase violence because other more complex forms of social behavior become more difficult. Competition for ownership or possession of the urban environment, another intervening variable, can be an issue of power, and questions of power have historically been resolved by violence.

CURRENT PRACTICES AND THINKING IN CHANGING THE URBAN ENVIRONMENT FOR PROTECTION

Urban environments have always been designed to some extent for protection. Despite historical precedent, professional planners, urban designers, and architects in America have paid little attention to violence. There are some fragmentary references in the professional literature, and there have been practical applications in a few cities. However, there is no well-founded body of information on protection in the design professions today.

There are a number of reasons for this apparent neglect. Comparatively little empirical study has been undertaken to relate physical design to the behavioral sciences. Theories of violent behavior have presented few, if any, practical guidelines for urban design. The philosophy and proposals of the Utopian Socialists who called for and attempted reform during the 19th century had a profound influence on the thinking and work of important 20th century designers such as Le Corbusier and Ebenezer Howard. Much of our physical planning even today reflects the philosophy that if the quality of the urban environment were good enough, crime and violence would disappear. According to the philosophy, because the goal of the design professions is to improve the urban environment, prevention of violence *per se* need not be considered. This tradition explains in part why few design proposals even now deal with a world in which crime and other social pathologies are acknowledged to be problems.

A few writers and designers have considered relationships between design and crime. The increasing number of urban consumers who are seeking to control crime by "hardening targets" have illustrated design possibilities. In addition, some neighborhood groups have adopted techniques of environmental management to make their communities safer.

Modern architectural features such as elevators, enclosed stairways,

enclosed underpasses, and underground parking garages offer seclusion and screening from public view. Hence, they are often the settings for violent behavior. This kind of problem can be overcome. In at least one case, the stairways of a public housing project were built on the exterior of buildings, enclosed in glass, and well illuminated. Crime in these stairways virtually ceased.⁴³

Visibility also has been improved by selecting, locating, and trimming trees and shrubbery, by better street lighting, by using closed-circuit television systems, and by eliminating places of concealment. It has been suggested that the corners of buildings should be rounded to prevent unobserved lurking.

In one California apartment development, the doors to an underground garage can be opened only by an electronic device, provided to each tenant at the cost of a \$48 deposit. Thefts from automobiles were reported to be 94 percent less than in a nearby apartment complex, and only one mugging has been reported during the past three years.⁴⁴

Improved safety devices, including locks, safety chains, and inexpensive alarm devices have recently been developed and are being utilized more and more. A simple alarm buzzer which can be carried easily or attached to handbags, doors, or windows is now available. Electrified fences are being used in suburban neighborhoods to surround and protect residential properties.

Increasing numbers of people are purchasing sophisticated intruder alarm systems, clock devices that turn lights and radios on and off in unoccupied dwellings at set hours, firearms, chemical weapons for personal protection, and watchdogs. Neighbors are more watchful of each other's dwellings, and guards, doormen, attendants, and closed-circuit television systems are becoming increasingly common.

Bricked-in, boarded-up, barred, and shielded windows are observed with increasing frequency in some cities. In some cases, no windows or occupancy at all has been observed on ground floors of buildings. Retail establishments and perhaps residences in the future may find it desirable to use new kinds of glass which require 10 to 25 minutes to break. The cost is at least 4 times that of conventional glass, but insurance premiums are reduced on the contents of display windows and other merchandise.⁴⁵

The New York City Police Department is disseminating information and advice in a campaign called "Operation Safe City." The purpose is to make forcible entries into private properties more difficult by use of safety devices.

One new subdivision under construction outside Washington, D.C., offers maximum security for all residents.⁴⁶ The 67 high-cost residences in this 167-acre project will be guarded individually by electronic alarms and closed-circuit television units. The entire development will be surrounded by two fences, broken for entry at only two points, both with guardhouses. Residents will be telephoned to approve visitors. The two miles of fencing will be surveyed by a closed-circuit television system and fortified by hidden electronic sensors. All residents will carry special credentials for identification.

It has been shown that building construction can affect protection.⁴⁷ "Soft" interior walls and ceiling beams without barriers separating adjoining commercial establishments allow burglars to move easily from one establishment to another. Floors, roofs, skylights, and elevators can be designed to reduce vulnerability.

Address numbers are frequently obscured, especially in suburban areas. It has been shown in one city that police response time can be shortened, with increased apprehension of criminals, simply by uniform placement of address numbers so they are plainly visible to police day and night.⁴⁸

Since 1965, South San Francisco has had a municipal ordinance for crime control requiring the police to submit recommendations on zoning and other land use applications. Local standards for lighting and other features have shown positive results in crime reduction.⁴⁹

Because design and relatively inexpensive equipment can contribute to crime control, it has been suggested that every local police department should consult with architects and property owners on protective features, particularly at the early stages of building design and construction.⁵⁰

The activity patterns of people in any part of the urban environment affect a criminal's opportunities to commit unobserved crime. In one public housing project, for example, a laundry room was included for every 20 families. Initially, only one or two people at a time used these rooms. Crimes were committed so often that residents stopped using them. Fewer laundry rooms, perhaps combined with children's play space, might have prevented this.

Examples of environmental management by citizen groups in the New York City area have been reported recently. Residents of the Castlehill Complex on Seward Avenue formed a volunteer Tenants' Patrol. Members are on duty in the evenings, and carry no guns or nightsticks. Their duties include escorting women and children to apartments, discouraging excessive noise, and keeping the public areas of the buildings free of drug addicts who tended to congregate there. Women representing about 480 families in Marian Gardens (Jersey City) formed a Mothers' Patrol. Members patrol their neighborhood in cars to control vandalism and delinquency among children and adolescents.

More than 3,000 citizen volunteers with limited powers assist the police in New York City, especially during evening hours. One such group, the Electchester Auxiliary Police in Flushing, Queens, patrols its own neighborhood. Each member works 3 or 4 evenings a week. Members check the security of buildings and perform services such as escorting people from bus stops to their homes. Since the Auxiliary began its work last year, the crime rate in Electchester has fallen 35 percent.

Several writers concerned with environmental relationships of crime have pointed out that places where large numbers of people congregate and those which are well lighted and visible from the interiors of surrounding buildings tend to have less crime because of the criminal's fear of apprehension. Concentrations of people in particular places depend on activities people engage in during different times of the day or night, land use patterns, and modes of transportation. One author believes that mixtures of land uses are needed to achieve greater safety and that safe streets are those frequented at all times of the day and night. Such streets have commercial and other activities at the ground level, some of which go on during evening hours, with residences on upper floors.⁵¹ The difficulty in this idea for planning contemporary cities has been illustrated by a study of Oakland, California. Establishments which are open during evening hours occupy only four miles

Another author believes that three kinds of urban areas should be distinguished to explain relationships between personal safety and activity patterns during evening hours when most crimes are committed: (a) areas of solely daytime activity which are safe in the evening because they are virtually deserted and therefore unattractive to criminals, (b) areas which are safe because the intensity of evening activity makes the risk of being seen committing a crime too great, and (c) areas between the extremes which are unsafe.⁵³ To discourage crime, the author proposes that theaters, bars, restaurants, and other establishments open during the evening hours be grouped together in a small number of "evening squares." These "evening squares" would be safe because of the number of people present and because good design would eliminate poorly lit places and those screened from the view of many people. Parking lots, for example, where crimes often take place, should be near the center of these safe areas, not at the periphery. Industrial, commercial, and other daytime activities should be located in areas where there would be no need to enter or pass through them during night time hours. Low-density suburban residential areas, which are relatively free of violent crime, would be linked to other safe areas by automobile corridors which are relatively safe because people driving on expressways or arterial streets are rarely the victims of crime.

FUTURE DEFENSIVE CITIES

There is little doubt that the urban environment of large American cities is currently being fortified against crime. Historically, when political institutions have failed to protect the public, individuals have taken steps to safeguard themselves, their families, and their property. The present period is no different in this respect. The urban environment is being fortified today, not by public decisions, but through the multiplicity of private choices and decisions which individuals make in our decentralized society. The private market is responding to the growing demand for an increasing range of crime control devices developed by modern technology as well as for other means of safety. In some cases, safety has already become a commodity which is explicitly sold or rented with real estate.

It is important to consider how Americans will live in our large cities in the future, because if urban crime continues to increase, it is likely that the design and form of the urban environment will reflect this condition. Five geographic elements of contemporary defensive cities are definable and comprise an abstract model of a modern defensive urban environment based on safety:

- An economically declining central business district in the inner city would be protected by comparatively large numbers of people shopping or working in buildings during daytime hours. During evening and nighttime hours, the central area would be largely deserted and "sealed off" to protect properties and tax base. Anyone on the streets would attract police attention. Modern technology even now would enable surveillance of downtown streets by closed-circuit television units mounted on roofs of buildings. A variety of other crime control devices, combined with methods of environmental management, would protect the interiors of individual buildings.

• High-rise apartment buildings and residential "compounds" of other types would be fortified "cells" for upper-middle- and high-income populations living at prime locations in the inner city, their residents protected by various expensive methods.

• Suburban neighborhoods, geographically removed from the central city, would be "safe areas," protected mainly by racial and economic homogeneity and by distance from population groups with the highest propensities to commit crimes.

• Expressways would be "sanitized corridors" connecting other safe areas, and would be safe themselves because they would permit movement by comparatively high speed automobile transportation. Other modes of transportation would be safe or unsafe in different degrees during day and nighttime hours.

• Other streets and residential neighborhoods in the central city would be safe in differing degrees. At the extreme, some residential neighborhoods would be human jungles. Crime in these areas would be frequent, widespread, and perhaps entirely out of police control, even during the daytime. These neighborhoods would be modern counterparts of the *cours des miracles* in Paris during the 17th century and various districts of London during the 18th century. The subcultures of violence described in Chapters 5, 11, and 14 would be localized in these "cells" of even more homogeneous lower class populations than today.

The model assumes that if violence in our large cities continues to increase, the future urban environment will not be abandoned, but will be lived in defensively as during the violent times in the past. Individual structures and groups of buildings would be the basic units of environmental defense, constructed or altered to resist unauthorized entry. More efforts would be made to increase visibility and eliminate "blind spots" in the environment. People would avoid areas known or believed to be dangerous. A basic strategy, as in the past, would be to exclude those regarded as potential criminals from certain areas of the city. Other areas would be perceived as "no-man's-land" to be avoided by all outsiders except the police.

This model is based on features found today to some extent in almost every large American city. These rudiments can be vastly intensified, enlarged, or extended. It is also based on historical considerations. The belief that "a man's home is his castle" has long been held. A man expects his home and, if possible, his environment to protect him, his family, and his property against violence. The urban environment has always been designed in part for this purpose.

Even considering great technological advances and the vast change in the size of cities, none of the ways the urban environment was designed and used during past centuries has been totally abandoned during the present period. Historically, individual structures were built and equipped to resist intrusion. Streets and other public spaces were lighted to facilitate observation. Police "presence" was used and distributed geographically as a deterrent. Volunteer citizen patrols were organized. There was explicit recognition that certain sections of a city were more likely to harbor criminals than others. Law-abiding citizens lived and worked in other areas and excluded those regarded as potential criminals from the safer sections whenever possible. It is

also noteworthy that many environmental responses to urban violence have not differed greatly under various political systems. The Chinese block surveillance system and the Incan police organization, for example, may be distinguished from contemporary citizens' patrols only by the fact that the earlier schemes were imposed by monarchies or oligarchies, and the latter are voluntary efforts.

No fundamentally new principles of design or use of the urban environment to obtain safety have been discovered. There is no evidence historically of any role for the physical environment in controlling crime which does not use the variables of space and location, distance and access to space, visibility, and scale. These variables would be the basis of future defensive cities.

Although the current uses of the urban environment to obtain safety are not fundamentally different from those of past centuries, the underlying social factors and the economic and social consequences which defensive cities portend for the future in light of the values of our modern society are very different today.

Race and Physical Distance

However sensitive we are to present inequalities and historical injustice, our findings show or support conclusions that: (1) Negro crime rates are higher and in some types of crimes are rising more than white rates, (2) increasingly more Negroes are living in central cities of our large metropolitan areas, (3) the volume of crime committed in central cities is greater and is increasing more than in suburban areas, (4) victimization risks for both whites and Negroes are far greater for central city than suburban residents, (5) violent crime generally diminishes proportionately with physical distance from the inner core of central cities, and (6) physical distance of residential neighborhoods from low-income Negro populations in central cities is a variable in obtaining greater safety.

The historical trends of suburbanization, involving residential movements of whites from central cities to suburbs of large metropolitan areas in the United States, began even before World War II. These trends are likely to continue in the future for many reasons unrelated to crime. Nevertheless, it must be concluded that crime during recent years has been an important factor in suburbanization and a cause of white population losses in central cities. As a consequence, central-city populations have recently diminished in total size.⁵⁴ In this sense, Negro crime has not changed the direction, but simply accelerated the trends of white suburbanization.

The physical distance of suburban neighborhoods from central cities is the principal way that suburban residents are protected against crime. Distance substitutes for and is more effective than other deterrent features in central cities. Single-family houses, typical of most suburban communities today, are more vulnerable structures from the viewpoint of design than multifamily apartment buildings and urban row houses. An apartment building or urban row house has more residents and fewer doors and windows at ground level which can be used for forcible entry. The view from upper floors overlooking fewer entrances allows less concealment and makes it much less practical for criminals to attempt entry.

The purchase of guns by large numbers of white suburbanites in various metropolitan areas during and following Negro riots of the last few years may be explained by a number of factors, including the greater vulnerability of suburban areas. However, this behavior also suggests two additional features. First, many whites overreact to Negro crime and violence, even when not threatened, although the degree of reaction does not change the conclusion that white population movements from central cities to suburban areas have a rational basis. Second, many Negroes perceive urban violence differently than many whites, and this difference probably has other significant implications.

Subcultures of Violence and the "Valve" Theory

Earlier discussions of urban subcultures of violence in America⁵⁵ have major implications for future defensive cities. The subcultures consist of particular population groups with values and attitudes favoring violence. These values and attitudes are separate from the values of the larger society. Violence is accepted as normal behavior, not an illicit activity, by those who share and transmit the subcultures. The values and attitudes need not be shared by everyone living in particular neighborhoods, but they are most prevalent among lower-class Negro males, ranging in age from late adolescence to late middle age, living in central cities. Failure to commit violence "to prove oneself a man," for example, is most likely to result in social ostracism, although all persons belonging to the subcultures do not commit violence in all situations.

Few studies distinguish significant differences among poor Negro or white populations living in large American cities. Nevertheless, there are reasons to believe that both the Negro and white poor form heterogeneous populations in many ways. Evidence suggests that only a small proportion of all Negroes living in large cities and only some of the Negro poor belong to subcultures of violence. These populations have other attitudes and features which differentiate them from the larger white and Negro urban society and from other poor people.

It is likely that the Negro in-migrants to Northern cities from Southern rural areas did not bring the values and attitudes characteristic of the subcultures with them. Instead, the subcultures are an urban phenomenon which has emerged indigenously from those born and raised in large American cities. They have resulted mainly from the increasing numbers of Negroes living in central cities combined with the increasing homogeneity of low income Negro neighborhoods. Bringing together large numbers of Negro poor for a substantial time in segregated neighborhoods of deprivation has bred a modern counterpart of the violent subcultures of past centuries.

It has been said that members of the subcultures are not "professional" criminals who minimize risks, but angry young men who have no stake in society.⁵⁶ They only have others in their own neighborhoods to look up to and commit crime haphazardly and dangerously, victimizing Negroes more than whites. It is likely that criminal activity does pay off for these subcultures. They have the same material aspirations as the larger Negro and white societies, but they have a separate economy of livelihoods and monetary profit made possible by urban living. For these people, the

subcultures offer substitute incentives and values for those of the larger society. Once established, attitudes toward violence are learned from life in the subcultures. In this way, as during past centuries, the subcultures of violence can be self-perpetuating for long periods.

Although there are no statistical measurements, the violent subcultures probably account for most crimes committed in central cities today, and future defensive cities may result, in large part, from their existence and growth.

In turn, the increasing fragmentation of the urban environment and the specialization of geographic "cells" of the future defensive cities would institutionalize and perpetuate the subcultures of violence even more. The traditional "valve" theory of crime shifts asserts that the volume of crime is not reduced by "hardening targets." If one type of crime, such as robbing busses, is "shut off," crime will shift to other targets, such as robbing taxicabs or stores. Applying this theory to defensive cities, those population groups who flee from the central city to suburban areas or who can afford housing in the fortified "cells" within the central city would obtain protection. Crime would be shifted to unprotected neighborhoods inhabited by the poor, who even now are the main victims of crime. Crime would be pushed back and intensified in the same neighborhoods where the subcultures of violence are localized, accentuating the values and attitudes which distinguished them to begin with.

Economic Effects

Crime may have far-reaching consequences for the future economic health and tax base of central cities. It is axiomatic in economic development programs in the United States that private enterprises avoid or move away from areas of crime or violence. For many reasons, commercial and industrial development does not flourish in areas where public safety is not assured. If crime continues to increase, central cities may be depressed economically and become the holes in the donuts of prosperous metropolitan economies. The economy of many cities may function at lower levels of development than today—in volumes and types of economic activity, levels of productivity, and types of occupations and earning levels of central city residents. Growth of employment opportunities and tax base as well as investment of private capital to improve the urban environment of central cities may be greatly impaired.

Fragmentation of the Urban Environment

As metropolitan cities in America have exploded horizontally to cover larger geographic areas, and as metropolitan populations have increased in size, larger geographic cells within them have come to serve increasingly specialized residential functions. From the beginning of this century, large Northern cities functioned as specialized residential places for ethnic minorities in American society. There are two main differences between the present day and the first half of the 20th century. First, Negroes now

comprise the dominant unassimilated minority in American society. Second, the Negro population in central cities is much larger than any other single ethnic minority was in most large Northern cities during past decades. As a consequence, the relative scale of specialization now applies to much larger areas in central cities. Similarly, the economic and social homogeneity of white populations residing in suburban communities and in some central city neighborhoods are features of geographic specialization.

In this way, the urban environment of large American cities has been fragmented socially to an ever-increasing extent since the end of World War II. A concern for protection has probably always been associated to some extent with other more obvious features of increasingly specialized residential functions. However, future defensive cities would create even more fragmentation and have greater social consequences than ever before within comparatively limited geographic areas.

The Kerner Commission warned America of the danger of being split into two separate and unequal societies. It is important to describe the most likely way this can happen in the urban environment of large American cities as a response to crime.

Space and location permit or limit all human behavior, including crime. When these variables are applied to control crime or violent behavior, distance and access to space are used to separate groups of potential victims from potential offenders. This requires an implicit recognition that some social groups have members who are likely to commit criminal acts. Denying access to space usually involves a more explicit recognition of social groups associated with crime on the basis of such obvious or visible human features as race. In both cases, there must be social expectations about what groups are likely to contain criminals and where crimes are likely to be committed.

Except for fugitives from justice, there are no criminals at large in contemporary American society, by legal definition. We do not condone the medieval method of banishment or outlawry. The concept of the criminal has changed as legal rights have been expanded. Consequently, it is not possible now to recognize potential offenders formally or informally as individuals, but only as members of social groups.

Using distance and denying access to space would be essential elements of future defensive cities. Greater safety would be obtained by using these variables to control crime. Yet, as we have seen, the other consequences of modern defensive cities are socially destructive and foreboding—further fragmentation of the urban environment, formation of excessively parochial communities, greater segregation of racial groups and economic classes, imposition of presumptive definitions of criminality on the poor and on racial minorities, increasing chances of vigilantism, and polarization of attitudes on many issues.

The use of urban space in this manner would inevitably limit the freedom of law-abiding citizens of all races and economic classes to move safely through large sections of the urban environment, to enjoy the diversity of urban life, to choose living accommodations among many safe residential neighborhoods, and to understand and communicate directly with other social groups in our pluralistic society.

RELATIONSHIPS BETWEEN VIOLENT BEHAVIOR AND THE URBAN ENVIRONMENT

We must still examine other ideas and comment on the three possible relationships between the design and form of the urban environment and violent behavior presented at the beginning of this chapter. These relationships need to be considered as greater efforts are made to relate the behavioral sciences to city design and to control and reduce crime in our large cities.

Not all crime is committed by strangers. A significant proportion of all murders, assaults, and rapes are committed against friends or intimates.⁵⁷ In these cases, the physical environment is irrelevant, except perhaps in psychological ways.

We do not accept the premise of environmental determinism that there are simple or direct causal relationships between the physical environment and positive or negative forms of behavior. Historical evidence does not support an argument for environmental determinism in causing crime. Cities have differed during past centuries in amounts of violence, but not because some had particular designs or urban forms conducive to violence and others did not. Indeed, it is likely that the physical environment is more a result than a cause of human behavior.

A traditional view among humanists is that the architecture and urban design of any era were the products of the total social and technological milieu in which they were created so they reflect the paramount values of a particular society or culture. This view emphasizes the physical environment as a cultural achievement and a reflection of society, but does not admit that the environment may have a hand in causing human behavior.

Controlling Violence Directly

The discussion of future defensive cities supports the conclusion that the design and form of the urban environment can control violence through the use of distance and by protecting parts of the urban environment. In this relationship, the urban environment operates directly to control crime, a form of negative behavior. However, this does not say that the urban environment can operate directly to create positive forms of behavior. The "valve" theory suggests that defensive cities would not eliminate or attack the roots of crime, but simply determine its types and locations. It has been suggested theoretically that people can be shifted out of crime by creating a totally fortified environment to "shut off" all types of crime in all areas.⁵⁸ In this case, people would shift to positive forms of behavior. This possibility calls for an extremely repressive closed system of the urban environment, one which would be impractical or impossible to create.

The "valve" theory, of course, implies that there is a given quantity of criminal behavior or a propensity to commit crime in particular populations. This view is consistent with the existence of violent subcultures, but raises strong objections from some behavioral scientists who believe it creates a totally false perspective of human behavior.⁵⁹

Encouraging Positive Behavior

The idea that design and form of the urban environment can encourage positive forms and prevent negative forms of behavior has historical roots in the philosophy of the Utopian Socialists during the 18th and 19th centuries in England and America and is accepted today in many ways. The legal powers of local governments to regulate or redevelop the physical environment by zoning or urban renewal, for example, rest on court interpretations of the Fourteenth Amendment, which specify the "... reasonable tendency to protect the public health, safety, morality or general welfare. . . ." Yet, whatever other purposes may have been served, public programs in our large cities during the past two decades have been far from successful in enhancing public safety by controlling or reducing crime.

There are few, if any, documented cases where urban environments have been consciously designed for low-income populations which have responded favorably by changing from negative to positive forms of behavior. To be sure, crime and other social pathologies are associated to a considerable extent with poverty, high residential densities, and deteriorated physical condition of the urban environment. But all the poor living in deteriorated neighborhoods are not criminals. Even our slum environments in major cities have improved vastly since the beginning of this century. Many examples can be cited to show how our affluent society has raised its standards of what poverty is at the same time that we have made vast improvements. Poverty in the physical environment today is a matter of absolute standards, of course, but it must also be concluded that poverty in the urban environment has become a matter of the relative difference between the levels at which the poor and the well-to-do live.

Some recent experience holds promise for the future, but the evidence seems to indicate that violence can continue independently of whatever changes are made in the design, form, density, or quality of the urban environment. Increasing crime in white middle-class suburban areas refutes the hypothesis that the quality of the urban environment associated with affluence is sufficient to prevent crime in all population groups.

The physical environment may simply be a stage on which individuals and social groups act out their lives. The actors and the play may be the thing, not the stage, in creating positive or negative forms of behavior.

None of the social science theories suggests that the urban environment creates positive forms of behavior directly. The various theories assert instead that there are intervening variables between the environment and behavior, that people impute or apply values to the environment which are essentially independent of a particular design or form of the environment, that human behavior can be a response to the environment in terms of an individual's psychological needs, or that rather than operating directly, that social variables in consonance with the physical environment may encourage positive or negative forms of behavior.

Two possibilities are especially worth considering from this perspective. The first is that some means of controlling crime may have other desirable effects on human behavior. Increasing visibility on comparatively small scales of architectural and urban design is one. The design of public housing

of other daytime activity centers may not only control crime but also further social contacts among tenants of the building. Concentrating activities to improve visibility may also encourage social contacts when numbers of people congregate in "evening squares" or along streets with mixtures of land uses. Concern over crime may bring members of a community closer together and result in increased social cohesion.

The second possibility is that people may be motivated to endow the urban environment with social values, and in this process, the urban environment can be used to change behavior patterns. "Homelike" and "communitylike" qualities are general terms which lack precise meaning as definable physical features of the environment. Instead, they are little more than metaphors for values which people impute subjectively to what they like or identify with in the environment. Our present emphasis on different forms of community participation is based on the premise that the entire process of planning, building, and managing the urban environment can be used to create identity between people and physical features, so that individuals and social groups will contribute constructively and attribute positive values to the homes and communities in which they live. The idea that the urban environment should be designed more to facilitate repair rather than to resist breakage⁶⁰ suggests that the particular design of a building or other physical feature may be less important in shaping human behavior than the process in which it is designed and built.

Some professionals believe that mastery, control, and ownership of property are critical features in the use of the urban environment to create positive forms of behavior.⁶¹ The example of a playground designed and built by children in one American city some years ago can be cited. Although no statistics were kept, there appeared to be a decrease in vandalism in the neighborhood as work on the playground progressed and the children increased their mastery over a small part of the environment. The children asked the city to build a chain link fence around the playground to keep balls from going into the streets or nearby buildings. The city constructed the fence, but did not like the crude equipment which the children had built and removed it. The next day the fence was completely destroyed by the children, and it appeared that other vandalism in the neighborhood was resumed.

Various cases of environmental management also have been observed in which gangs of hostile youths who had vandalized a neighborhood and victimized its residents changed their behavior when given the responsibility for protecting the neighborhood. Some members became increasingly eager to help, and did more than simply chase rival gang members from their "turf."

Public programs which enable the poor to own their own homes have a similar premise of endowing the urban environment with positive values.

At present, there are few, if any, behavioral studies and only limited observations which suggest but do not test these principles. Much larger experiments in community participation have been started in various cities, some of which may ultimately show whether or not the process of building the urban environment rather than the particular design or end result of the urban environment can influence social behavior. But it is too early to tell whether these experiments will be successful, and even if they are successful in other ways, whether they will reduce crime.

The third relationship—that the design and form of the urban environment can invite violence—is the opposite of creating positive behavior, covered sufficiently earlier in this chapter.

CONCLUSIONS

If urban crime continues to increase and is not abated by other means, we believe defensive cities will become a reality in America. Contemporary defensive cities would be a retreat to earlier periods in history. The consequences are foreboding and would be socially destructive. However, the urban environment of our major cities is being fortified, and defensive cities may become a reality in the future, not necessarily by public decisions, but through mass choices of urban consumers in our decentralized society. Distance and the ways the urban environment can be changed to control crime are means which individuals will understandably use to protect themselves, their families, and their property. Defensive use of the urban environment will not attack the causes or roots of crime, and may add to them, but it is unclear whether the environment can be used positively to reduce the overall volume of crime. Even if positive uses of the urban environment are found, they are likely to require time, public decisions, large public investments, and the consensus of many people. Decisions by individuals to obtain protection can be made more rapidly. Moreover, criminal behavior, once established, can be expected to change slowly, however the urban environment is changed. The urgency of finding other ways to reduce crime is therefore undeniable.

REFERENCES

1. This chapter was written mainly by Robert Gold, Assistant Director for Social and Economic Research, National Capital Planning Commission. E. Brendon Murphy of Princeton University wrote the historical section. Other preliminary materials were written by James McGregor of Princeton University. The chapter is based on the proceedings of a Seminar on Architectural and Urban Design in the Prevention of Violence, convened on November 16, 1968 under the auspices of the Task Force with the assistance of Robert Gold. The following persons participated: *Chairmen:* Robert Gold, National Capital Planning Commission; and Melvin Tumin, Department of Sociology, Princeton University; *Participants:* Shlomo Angel, Department of City and Regional Planning, University of California at Berkeley; Edward Aronov, Executive Director, National Capital Housing Authority; Saul Barenstein, The Urban Institute; Alfred Blumstein, Institute for Defense National Institute of Mental Health; Robert Emrich, Office of Law Enforcement Assistance Administration, Department of Justice; John Fabbri, Chief of Police, South San Francisco; Roger W. Flood, Management Planning Coordinator, New York City Housing Authority; Virgil Keels, Washington Concentrated Employment Program, United Planning Organization; Gordon Misner, School of Criminology, University of California at Berkeley; Robert B. Mitchell, Department of City and Regional Planning, University of Pennsylvania; Arnold Sagalyn, Senior Associate, Arthur D. Little, Inc.; George Schermer, George Schermer Associates; Robert Shellow, Model Precinct Project, District of Columbia Government; Mayer Spivack, Laboratory of Community Psychiatry, Environment Analysis and Design Unit, Harvard Medical School; Bernard Spring, Director, Center for Urban Studies, School of Architecture, Princeton University; Benjamin Stevens, Department of Regional Science, Wharton School, University of Pennsylvania; George Talbot, Transaction Magazine, Washing-

- University of Pennsylvania; and Williamance, Department of Anthropology, Vanderbilt University; *Staff:* Donald J. Mulvihill, Co-Director, Task Force on Individual Acts of Violence; and Lynn A. Curtis, Assistant Director, Task Force on Individual Acts of Violence.
2. *Report of the National Advisory Commission on Civil Disorders* (New York: Bantam Books, 1968).
 3. Discussions with Francois Bucher, David R. Coffin, and Anthony Vidler, Princeton University, and John W. Repro, Cornell University.
 4. Bernard Rudofsky, *Architecture Without Architects* (New York: The Museum of Modern Art, 1965).
 5. Marcel Le Clerc, *Histoire de la Police* (Paris: Presses Universitaires de France, 1947).
 6. Vitruvius, *The Ten Books of Architecture* (New York: Dover Publications, 1960).
 7. Le Clerc, *op. cit.*
 8. Siegfried Giedion, *Mechanization Takes Command* (New York: Oxford University Press, 1948).
 9. Erwin A. Gutkind, *Urban Development in Central Europe* (Vol. I of *International History of City Development*) (New York: Free Press of Glencoe, 1964).
 10. Henri Pirenne, *Medieval Cities* (New York: Doubleday Anchor Books, 1956).
 11. *Ibid.*
 12. *Ibid.*
 13. Le Clerc, *op. cit.*
 14. Pierre Lavedan, *Les Villes Francaises* (Paris: Editions Vincent, Freal & Cie., 1960).
 15. John W. Reps, *The Making of Urban America* (Princeton: Princeton University Press, 1965).
 16. Pirenne, *op. cit.*
 17. Le Clerc, *op. cit.*
 18. *Ibid.*
 19. Philip J. Stead, *The Police of Paris* (London: Staples Press, 1957).
 20. It is believed that this was done to geographically centralize the financial district so that police protection could be provided more readily.
 21. Stead, *op. cit.*
 22. Nicholas Pevsner, *An Outline of European Architecture* (Baltimore: Penguin Books, 1966); Siegfried Giedion, *Space, Time and Architecture* (Cambridge: Harvard University Press, 1962); and Paul Zucker, *Town and Square from the Agora to the Village Green* (New York: Columbia University Press, 1959).
 23. David H. Pinkney, *Napoleon III and the Rebuilding of Paris* (Princeton: Princeton University Press, 1958).
 24. *Ibid.*
 25. Charles Reith, *The Police Idea* (London: Oxford University Press, 1938).
 26. *Ibid.*
 27. *Ibid.*
 28. Leonardo Benevolo, *The Origins of Modern Town Planning* (Cambridge: The M.I.T. Press, 1967).
 29. Giedion, *op. cit.*
 30. Francoise Choay, *L'Urbanisme Utopies et Realities* (Paris: 1965).
 31. See FBI, Dept. of Justice, *Uniform Crime Reports—1967* (Washington, D.C.: Government Printing Office, 1967), and App. 5, Table 1E.
 32. See Chap. 3 for these conclusions. Although the report rate of forcible rape also increased greatly, we were unable to reach conclusions about the true rate because of many reporting problems.
 33. See App. 4 for detailed data on rates and trends in large American cities.
 34. See Chap. 2 and 3.
 35. Norval Morris and Gordon Hawkins, *The Honest Politician's Guide to Crime Control* (Univ. of Chicago Press, forthcoming, Feb. 1970).
 36. See Chap. 5, which also shows that the percentage of Negroes who robbed other Negroes was almost as great.
 37. See Part II and Chap. 14 of the report for a more complete discussion of the explanations of violence.
 38. J. Dollard et al., *Frustration and Aggression* (New Haven: Yale University Press, 1939).

39. Transcript of Seminar on Architectural and Urban Design in the Prevention of Violence, convened on Nov. 16, 1968, under the auspices of this Task Force, comments of Mayer Spivack.
40. *Ibid.*, Comments of Bernard Spring.
41. *Ibid.*
42. See Chap. 7.
43. Arnold Sagalyn, address given to the National Symposium on Science and Criminal Justice, Washington, D.C., 1966 (Washington, D.C.: Government Printing Office, 1967).
44. Transcript of Seminar, *op. cit.*
45. Small Business Administration Report on Crime Against Small Business, app. D, Architectural Task Force.
46. *Washington Post*, Mar. 16, 1969, p. A8, and *The Wall Street Journal*, June 19, 1969, p. 1.
47. Small Business Administration Report, *Op. Cit.*
48. Transcript of Seminar, *op. cit.*
49. *Ibid.*
50. *Ibid.*
51. Jane Jacobs, *The Death and Life of Great American Cities* (New York: Random House, 1961.)
52. Shlomo Angel, *Discouraging Crime Through City Planning* (Working Paper No. 75, Center for Planning and Development Research, University of California at Berkeley, 1968), p.2.
53. *Ibid.*, pp. 15-19.
54. Recent population changes in central cities are described in: "Statement by Conrad Taeuber, Associate Director, Bureau of the Census, Before the House Committee on Banking and Currency, June 3, 1969."
55. See Chap. 11 and 14.
56. Transcript of Seminar, *op. cit.*, comments of Virgil Keels.
57. See Chap. 5.
58. Transcript of Seminar, *op. cit.*, comments of Virgil Keels.
59. *Ibid.*
60. *Ibid.*, comments of Bernard Spring.
61. *Ibid.*, comments of Mayer Spivak and others.

END