

PERCEPTION OF VISUAL QUALITY IN  
RESIDENTIAL ENVIRONMENTS

by

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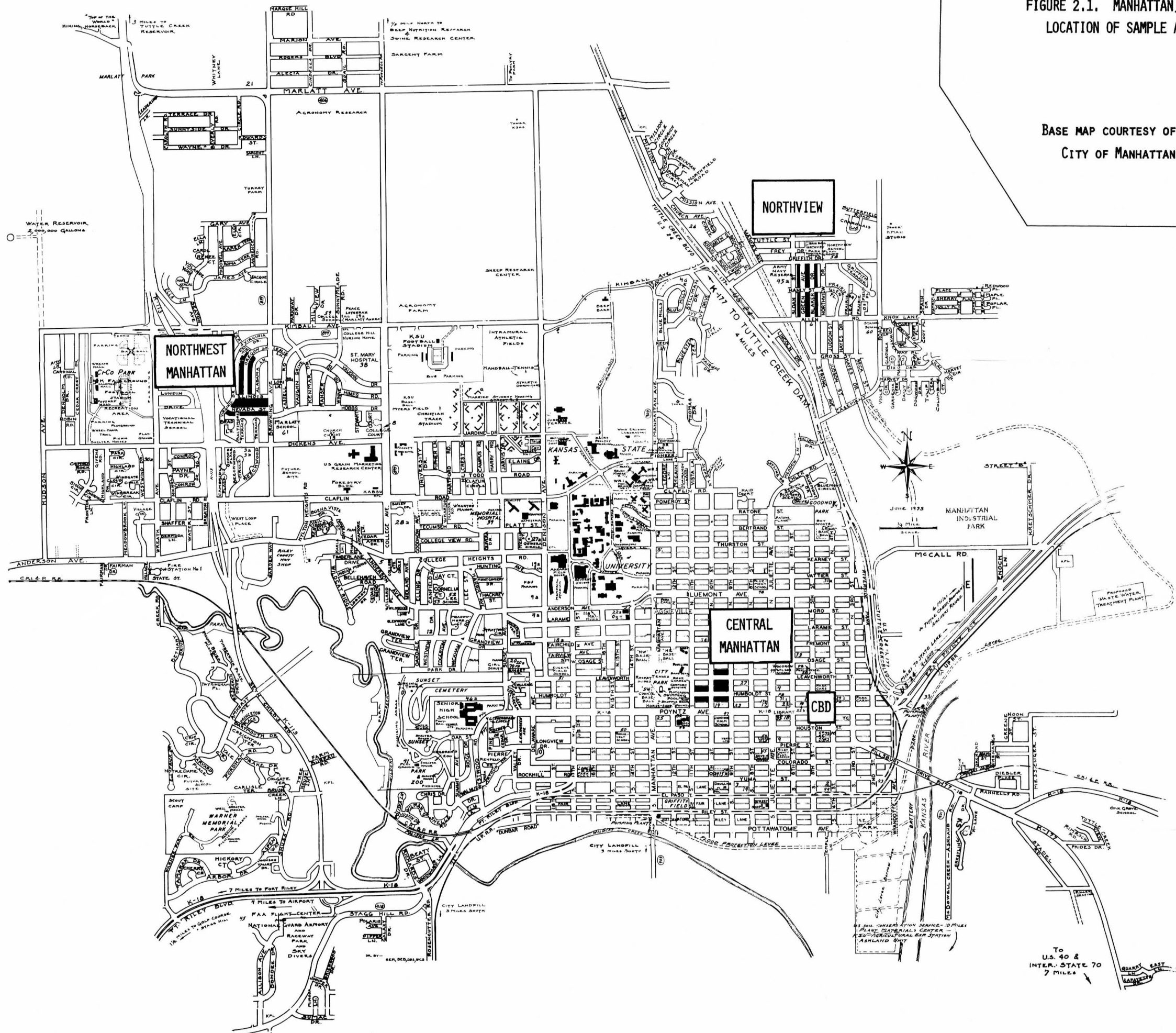
Figure 2.1

Manhattan, Kansas: Location of Sample Areas



FIGURE 2.1. MANHATTAN, KANSAS:  
LOCATION OF SAMPLE AREAS

BASE MAP COURTESY OF THE  
CITY OF MANHATTAN





## Chapter 1

### INTRODUCTION

The concept of an objectively known physical environment and its relationship with human behavior is a popular as well as intellectually attractive avenue of inquiry. This environment is composed of two major components, natural and man-made environments. The natural environment features certain parameters which cannot be completely overcome by human modifications; but, people do alter natural landscapes to suit their needs and desires to a limited extent.<sup>1</sup> Through this alteration a man-made, or built environment is created--an artificial environment--that represents varying cultures, life-styles, and individual values.

Taxonomies of physical environments can be construed in nearly limitless editions depending on how precise the investigator's needs are. For example, man-made environments can be broadly classified as "rural" or "urban" environments. Also, there are man-made environments within these; the urban environment is often classified ecologically

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<sup>1</sup>In this study "landscape" will be used interchangeably with "environment" since its popular usage allows it to carry the same meaning, especially with reference to the separation of country and city, and internal physical attributes within each of these entities. See J. B. Jackson, "The Meanings of Landscape," Kulturgeografi, 16, 88 (1964), 47-50.

based on land use, with each of these land use activities containing various entities such as "office," "historically-preserved," or "shopping" environments.

As can be seen, the term "environment" can describe many different types or scales of man-milieu relationships. At any time and place there are a number of potentially identifiable environments, some overlapping and some independent of each other, but each having a specific relationship with people and each being part of their total physical environment. The problems of establishing a rigid definition are, for the most part, foregone here. Environment will be considered synonymous with terms such as "surroundings," "habitat," or "milieu," all implying a relational meaning with humankind.<sup>2</sup> In the literature reviewed for this study, the physical environment had a special meaning for each surveyor, but all may be applicable to the preceding synonyms. It would be impossible to establish a strict definition when the term "environment" has as many meanings as the number of workers in environmental research.

Human responses to man-made environments take a variety of forms.<sup>3</sup> From a deterministic viewpoint, the envi-

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<sup>2</sup>Kenneth Hewitt and F. Kenneth Hare, Man and Environment: Conceptual Frameworks (Washington: Commission on College Geography Resource Paper No. 20, Association of American Geographers, 1973), p. 2.

<sup>3</sup>See Harold M. Proshansky, William H. Ittelson, and Leanne G. Rivlin, "The Influences of the Physical Environment on Behavior: Some Basic Assumptions," Environmental Psychology: Man and His Physical Setting (New York: Holt, Rinehart and Winston, 1970).

ronment can significantly affect or alter human behavior. Polluted air and waters in metropolitan areas, and rat-infested housing in any highly populated region can affect human physical health. In addition, man-made environments appear to have detrimental effects on mental health because environmental stimulation, a property usually thought of as inherent in the natural environment, must be invented and provided.<sup>4</sup> In the built environment, provision of stimulation is essentially a function of design<sup>5</sup>, affecting large numbers of people and, as Dubos states, being a long-term effect because of human adaptation to environments:

The environment and ways of life determine in fact not only the conditions under which men function, but also the kind of persons their descendants will become. In fact, environmental factors have their most profound and most lasting effects when they impinge on the young organism during the formative phases of its development.<sup>6</sup>

Ultimately, human adaptation to unsatisfactory environments could be disastrous. As McCamy states, ". . . once a society has adopted a way of behavior, it may be impossible to change it."<sup>7</sup>

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<sup>4</sup>Joachim F. Wohlwill, "The Physical Environment: A Problem for a Psychology of Stimulation," Journal of Social Issues, 22, 4 (1966), 29-38.

<sup>5</sup>Hermann H. Field, "Effects of the Physical Environment on Human Behavior," Planning 1970 (Chicago: American Society of Planning Officials, 1970).

<sup>6</sup>Rene Dubos, "Man Adapting: His Limitations and Potentialities," Environment for Man: The Next Fifty Years, ed. William R. Ewald, Jr. (Bloomington: Indiana University Press, 1967), pp. 17-18.

<sup>7</sup>James L. McCamy, The Quality of the Environment (New York: Free Press, 1972), p. 144.

The research presented here focused on a need of all physical environments, visual quality. The scale of environment considered was the urban residential environment. The relationship between people and their visual surroundings was analyzed by their perception, the process by which they obtain information about, and seemingly understand, their immediate surroundings. To provide a basis for the inquiry developed in subsequent chapters, the remainder of this chapter will discuss human need for visual quality in the landscape, past and present attitudes toward environment, the present state of research into visual quality of environments, and how these factors are interrelated.

## VISUAL QUALITY OF ENVIRONMENT

### On the Nature of Beauty

Visual quality of an object or event implies derived sensory pleasure and overall appreciation usually thought of in terms of "beauty."<sup>8</sup> The nature of beauty and human experience with it are among the main concerns of the branch of philosophy called aesthetics.<sup>9</sup> Because of the subjectivity

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<sup>8</sup>The discussion in this section considers all human sensory responses to inputs, but emphasis should be placed on visual perception.

<sup>9</sup>For introductory discussions, definitions, and problems concerning aesthetics and beauty, see Harold Newton Lee, Perception and Aesthetic Value (New York: Prentice-Hall, 1938), p. 6; Max Dessoir, Aesthetics and Theory of Art, trans. Stephen A. Emery (Detroit: Wayne State University Press, 1970), pp. 149-159; and James L. Jarrett, The Quest for Beauty (Englewood Cliffs, N. J.: Prentice-Hall, 1957), pp. 26-37.

of beauty, however, there is little agreement on the structure of aesthetic experience and, more importantly, on the definition or description of beauty. Cultural and personal preferences do not allow for universal agreement on what is beautiful<sup>10</sup>--"beauty is in the eye of the beholder." Aesthetics thrives on this subjectivity and preferential nature as evidenced by the following statement: "How gripping the study of aesthetic enjoyment and beauty can be is shown by the fact that it has been a topic for debate among philosophers and lovers of beauty for over two thousand years."<sup>11</sup>

McCamy justifies the existence of aesthetics:

If there were scientific, objective conclusions about what is beautiful or ugly, what is monotonous, what gives pleasure through the senses, there would be no room for criticism of art, architecture, landscape, and urban design; and the whole field of philosophy which deals with aesthetics would not exist.<sup>12</sup>

Within this preferential framework, however, there is much agreement that beauty is possibly synonymous with or at least associated with uniqueness of objects or events.

Kates, speaking on the physical environment, states that, ". . . if beauty were indeed commonplace we should probably be unconscious of it. Its very scarcity provides value, its

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<sup>10</sup>David Lowenthal, "Not Every Prospect Pleases--What is Our Criterion for Scenic Beauty?" Landscape, 12, 2 (1962-63), 19-23.

<sup>11</sup>C. W. Valentine, The Experimental Psychology of Beauty (London: Methuen, 1962), p. 1.

<sup>12</sup>McCamy, op. cit., p. 129.

rarity gives unique pleasure."<sup>13</sup> Leopold also believes that uniqueness is more significant to society than commonality and has proceeded to construct a quantitative measure of numerous river valleys to ". . . compare the sites factor by factor in order to determine the relative uniqueness of each factor at each site," assuming that her "uniqueness ratio technique" could describe the quality of the recreational experience objectively.<sup>14</sup>

Indeed, if beauty is defined as being so rare, then people relate more often to comfort and pleasantness rather than true aesthetic experience.<sup>15</sup> For this reason, Kates has proposed that the study of aesthetic appeal should begin by measuring ugliness since there is common agreement on what is offensive to the eye.<sup>16</sup> Whatever approach is taken to the study of beauty, it must be recognized that this comfort and pleasantness that is mentioned, whether or not it be beauty, is a requirement for human health and well-being. It is ever as much a necessary component of our environment

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<sup>13</sup>Robert W. Kates, "The Pursuit of Beauty in the Environment," Landscape, 16, 2 (1966-67), 23.

<sup>14</sup>Luna B. Leopold, "Landscape Esthetics--How to Quantify the Scenics of a River Valley," Natural History, 78, 8 (1969), 40. Another similar approach, using a "quantitative cartographic inventory" has been used by David L. Linton, "The Assessment of Scenery as a Natural Resource," Scottish Geographical Magazine, 84 (1968), 219-238. His approach utilizes landforms, land use, and other features that can be mapped.

<sup>15</sup>Kates, "Pursuit," op. cit., p. 23.

<sup>16</sup>Ibid.

as the quality of air we breathe and the quality of food and water we consume.<sup>17</sup>

### Effects of Aesthetic Surroundings

The field of psychology has contributed much literature on the detrimental effects of outside stimuli on human sensory reception.<sup>18</sup> With respect to the effect of visual surroundings on behavior, most interest has pertained to design and decoration of the built environment. Parr has identified two approaches to studying the psychological effects of visual surroundings: (1) psychological study of mental and emotional needs, and (2) behavioral observations of responses to actual environments.<sup>19</sup> Most inquiry has utilized the second approach using small, isolated environments, such as rooms, in laboratory situations.

Mintz exposed undergraduate students to a "beautiful" (B) room and "ugly" (U) room and had them respond to a set

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<sup>17</sup>The term "beauty" will hereafter be used synonymously with comfort and pleasantness for the purposes of this study. The view expressed by Kates on this matter is important when dealing with the definition and identification of beauty per se.

<sup>18</sup>P. Solomon et al. (eds.), Sensory Deprivation (Cambridge: Harvard University Press, 1961); and Duane P. Schultz, Sensory Restriction (New York: Academic Press, 1965).

<sup>19</sup>A. E. Parr, "Psychological Aspects of Urbanology," Journal of Social Issues, 22, 4 (1966), 39-45. Parr is interested more in "visual monotony" but his two approaches can be envisaged as dealing with all inquiry into the effects of the aesthetic environment.



of semantic bipolar scales.<sup>20</sup> He stated his findings as such:

. . . an examiner in the "U" room usually finished testing more quickly than an examiner in the "B" room. Observational notes showed that in the "U" room the examiners had such reactions as monotony, fatigue, headache, sleep, discontent, irritability, hostility, and avoidance of the room; while in the "B" room they had feelings of comfort, pleasure, enjoyment, importance, energy, and a desire to continue their activity. It is concluded that visual-esthetic surroundings can have significant effects upon persons exposed to them.<sup>21</sup>

In a similar experiment, Kasmar, Griffin, and Mauritzen used a beautiful office and an ugly office and had psychiatric patients patronize each of these to determine what effects the visual surroundings had.<sup>22</sup> In this case, the ugly office, although the same size as the beautiful office, was perceived as being smaller, cluttered, poorly organized, and generally having less aesthetic appeal.

Because of the undesirable or unhealthy effect of visually unattractive environments on human behavior, as evidenced by the research discussed above, measurement of beauty and ugliness is needed in the evaluation of visual quality of environments.<sup>23</sup> As of yet only speculative mea-

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<sup>20</sup>Norbett L. Mintz, "Effects of Esthetic Surroundings: Prolonged and Repeated Experience in a 'Beautiful' and an 'Ugly' Room," Journal of Psychology, 41 (1956), 459-466.

<sup>21</sup>Ibid., p. 466.

<sup>22</sup>Joyce V. Kasmar, William V. Griffin, and Joseph H. Mauritzen, "Effect of Environmental Surroundings on Outpatients' Mood and Perception of Psychiatrists," Journal of Consulting and Clinical Psychology, 32, 2 (1968), 223-226.

<sup>23</sup>See, for example, Robert T. Eckenrode, "Behavioral Aspects of Pollution Control," Consulting Engineer, 32, 3 (1969), 168-173.



asures have been discussed, such as Kates measurement of ugliness mentioned earlier, and only a few measures have actually been employed, many of which will be mentioned in subsequent sections of this study. Only with such measures can behavioral and social scientists, environmental designers, and others supposedly guarding society's well-being provide suitable living and working environments for humankind.

#### AMERICAN ATTITUDES TOWARD ENVIRONMENT

Current American interest in the physical environment, both the natural and built environments, has beckoned a discrete awareness of environmental problems caused by inexcusable meddling and tampering with very fragile ecological systems. This is especially evident with regard to the natural environment and the emergence of a concern for land, water, and air pollution.<sup>24</sup> A number of scholars have temporarily traced American value orientations which have ultimately led to the existing environmental conditions, present-day concern for environmental quality, and awareness of needed change in environmental management.<sup>25</sup>

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<sup>24</sup>Excellent discussions of this recent concern are found in Orris C. Herfindahl and Allen V. Kneese, Quality of the Environment: An Economic Approach to Some Problems in Using Land, Water, and Air (Baltimore: Johns Hopkins Press for Resources for the Future, 1965); and Tom Rusk Vickery, Man and His Environment: The Effects of Pollution on Man (Syracuse: Syracuse University Press, 1972).

<sup>25</sup>See, for example, Raymond F. Dasmann, "Man in North America," Future Environments of North America, eds. F. Fraser Darling and John P. Milton (Garden City, N. Y.:

Dasmann attributes Americans' careless exploitation of the environment to "economic determinism," a way of life for American people. He states:

A sense of belonging or attachment to the land has not been characteristic of most Americans. Admittedly, the peasant tradition was carried to America by some groups of farmer-colonists, but over much of the country it has been absent. In its place has been the attitude of the transient explorer who seeks to gain wealth by use of the land or exploitation of its resources, but feels that his true home is elsewhere and hopes to return with his wealth to some urbane and settled place.<sup>26</sup>

This transient nature in American history has allowed for devastation of the natural environment on a grand scale, an attitude which still persists. On this point Dasmann further states:

Americans have always shown a greater willingness to shape the land to suit their enterprise than to adapt their enterprise to the shape of the land. Of all past attitudes this is the one most conspicuously present and active today and has been referred to as our "bulldozer mentality." The engineer, not the ecologist, sets the tone for public debate. We locate our centers of population in arid lands and demand that water be brought to them. We chop out a forest or bulldoze off a hill to locate a suburb, rather than adapt our roads and buildings to the vegetation or topography.<sup>27</sup>

Lowenthal, reviewing the appearances of landscapes to Americans, also supports this notion that common beliefs support landscape destruction if the monetary returns will be great

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Natural History Press, 1966); and Paul Shepard, Man in the Landscape: A Historic View of the Esthetics of Nature (New York: Alfred A. Knopf, 1967).

<sup>26</sup> Dasmann, ibid., p. 328.

<sup>27</sup> Ibid., p. 329. The "bulldozer mentality" is further elaborated on in Gene Marine, America the Raped: The Engineering Mentality and the Devastation of a Continent (New York: Simon and Schuster, 1969).

enough.<sup>28</sup>

The question arises whether disruption of the visual environment may be included and treated in the same "pollution" category that applies to land, water, and air. There appears to be agreement that it can, but perhaps it is found only in America, as suggested by Faltermayer: "Air and water pollution are common to all industrial nations. Only in America does man celebrate progress by polluting the scenery as well."<sup>29</sup> However, lack of visual quality in the environment may not completely be a result of the economic determinism present in other man-environment relationships. Faltermayer asserts that:

. . . others, perhaps because they are numbed by daily exposure to ugliness, accept it as an inevitable manifestation of the exuberant, competitive American spirit that keeps our economy humming. This is nonsense, of course, because ugliness has almost nothing to do with our economic vigor, and within the private environments of our homes the American spirit creates surgical neatness. The public ugliness we see about us is the manifestation of a frontier mentality that has survived even though the frontier has passed into history; it is the result of our contempt for nature and, in the last analysis, our stupidity.<sup>30</sup>

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<sup>28</sup>Lowenthal, "Not Every Prospect," op. cit. Also, for a review of images concerning America through time, see David Lowenthal, "The American Scene," Geographical Review, 58 (1968), 61-88.

<sup>29</sup>Edmund K. Faltermayer, Redoing America: A Nationwide Report on How to Make Our Cities and Suburbs Livable (New York: Collier Books, 1968), p. 151. Hesse also speaks of the scenic environment as being "polluted" in Walter H. Hesse, The Light at the End of the Tunnel: A Study Guide to Pollution Problems (Encino, Calif.: Dickenson Publishing Co., 1972), p. 39.

<sup>30</sup>Faltermayer, ibid., p. 151. Dasmann replaces

Shepard is less reluctant to label American attitudes toward the environment as "contemptable" with respect to visual quality.<sup>31</sup> He alludes to a "Garden of Eden" posture held by Americans which has been realized in landscape painting, establishment of scenic parks and recreation areas, and vacation habits.<sup>32</sup> These expressions, however, do not incorporate the total physical environment. As Lowenthal claims, Americans have only a "side interest" in aesthetics of landscapes.<sup>33</sup> Except for occasional jaunts to scenic countrysides or townscapes and preserved areas, it is agreed that most Americans are largely unaware of the ugliness around them. They accept what they see around them and are insensitive to beauty--"few people really look at the places they live in, work in, or travel through. Anesthetized against their surroundings, they spare themselves

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Faltermayer's term "frontier" with "wilderness" and foresees a probable change in American attitudes not mentioned by Faltermayer. He states that, "today . . . the old wilderness has forever gone and the fragments we have saved are but souvenirs of a past journey. They can bring back memories or create the atmosphere of past days, but they are not the reality. Thus the new generations of Americans are growing up in a tamed land with no wild frontiers. They may well be a different breed from those of the past. It is difficult to foresee their attitudes toward lands or environments," in Dasmann, op. cit., p. 326.

<sup>31</sup> Shepard, op. cit.

<sup>32</sup> See Chapter 3, "The Image of the Garden," ibid.

<sup>33</sup> David Lowenthal, "Assumptions Behind the Public Attitudes," Environmental Quality in a Growing Economy, ed. Henry Jarrett (Baltimore: The Johns Hopkins Press for Resources for the Future, 1966).

pain."<sup>34</sup> In addition to this problem people are also told what is beautiful, therefore not permitting popular taste to be a reliable indicator concerning what is beautiful.<sup>35</sup>

The American public has somewhat unconsciously allowed ugliness to invade landscapes of all types and the trend seems unlikely to change in the near future. The ugliness present in physical environments is, for the most part, man-made. The quintessence of the built environment is the city. The Ehrlichs, two of the most outspoken proponents of concern for environmental disruption, have described the urban situation as such: "The deterioration of the environment, both physically and aesthetically, is most important in our cities."<sup>36</sup> This notion is supported again and again in literature dealing with environmental quality--not only are cities the quintessence of the man-made environment, they are the quintessence of all "pollutions":

. . . one of the most symptomatic nightmares of our contemporary world is the inappropriateness of our man-made environment as a setting for healthy human activity. It is a worse impasse than the one we are creating by

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<sup>34</sup>Lowenthal, "Not Every Prospect," op. cit., p. 22.

<sup>35</sup>McCamy illustrates this fact by the example of the ranch-style home, originally designed for the American Southwest, but existing everywhere. See McCamy, op. cit., p. 143.

<sup>36</sup>Paul R. Ehrlich and Anne H. Ehrlich, Population, Resources, Environment: Issues in Human Ecology (San Francisco: W. H. Freeman and Co., 1970), p. 141.

mindlessly squandering the assets of our natural environment.<sup>37</sup>

### VISUAL QUALITY OF URBAN ENVIRONMENTS

A few American cities have been fortunate enough to have been founded in scenic settings. The impact and burden of local filth and ugliness on the senses can be temporarily lightened in these cases, but it is still ever-present.

Lowenthal provides some familiar examples:

Where urban visual qualities are a matter of pride, Americans are apt to allude to the general setting rather than to anything near at hand. Seattleites daily admire Mount Rainier, fifty miles away, while ignoring the tawdriness under their noses. Above the smog in the Berkeley Hills people enjoy the lights of San Francisco, fifteen miles across the bay. The greatest feature of Jersey City is the New York skyline.<sup>38</sup>

Some very beautiful areas do exist within American metropolitan areas, but ugliness persists in great magnitude. Is there something intrinsically ugly in urban areas? The ugliness does exist, but "nothing inherent in the city forbids its being a beautiful place to live."<sup>39</sup> The city can be a work of art. American tourists flock year-round to European cities and cities in other areas of the world, so perhaps the problem is accentuated only in their own land.<sup>40</sup>

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<sup>37</sup>Field, op. cit., p. 251.

<sup>38</sup>Lowenthal, "American Scene," op. cit., p. 85.

<sup>39</sup>McCamy, op. cit., p. 133.

<sup>40</sup>The European view of the American city's visual character can be quite valuable in examining our creations from someone else's vantage point. See, for example, Jean-Paul Sartre, "American Cities," Literary and Philosophical Essays, trans. Annette Michelson (New York: Criterion, 1955).



Weekends, holidays, and vacations provide opportunities for more affluent Americans to retreat to beauty and nature around metropolitan centers, assuming, of course, that these areas of attraction exist. As Dasmann states:

Today it is easier to pass a wilderness preservation act that affects areas where votes are few than it is to preserve the natural scene in lands near our urban centers where money is to be made and votes are numerous.<sup>41</sup>

Endless urban sprawl in the form of suburban and exurban expansion is mindlessly reducing the potential "retreat space" around American cities in the same manner that urban redevelopment has leveled complete internal regions of cities.<sup>42</sup>

#### Sources of Ugliness in American Cities

The effect of the automobile. Much of the present-day ugliness in America's metropolitan centers has been attributed to the advent of and reliance on the automobile as a convenient mode of transport. Burchard has described the effect of this vehicle in a short, simple statement: "Our motormanias is an enemy to urban beauty. The automobile is ugly when parked and disruptive when moving."<sup>43</sup>

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<sup>41</sup>Dasmann, op. cit., p. 327.

<sup>42</sup>Pleas by professionals to adapt urban expansion to the natural environment rather than squander it are many. See Ian McHarg, Design with Nature (Garden City, N. Y.: Doubleday/Natural History Press, 1969); and Thomas R. Detwyler et al., Urbanization and Environment: The Physical Geography of the City (Belmont, Calif.: Duxbury Press, 1972).

<sup>43</sup>John E. Burchard, "Must Our Cities Be So Ugly?" The Changing Metropolis, eds. Frederick I. Teitze and James E. McKeown (Boston: Houghton Mifflin, 1964), p. 91.

The greatest impact has been on commercial and residential land uses. Arterial streets have become infested with strip-commercial development causing Faltermayer to term them "neon jungles." Hesse has attributed this happening to the heavy traffic found utilizing these streets:

The advent of the automobile ushered in a mushrooming of businesses along principal streets in most cities. The lack of coordination in storefront design and the proliferation of advertising signs, in addition to existing street furniture, created visual chaos.<sup>44</sup>

Billboards and signs at roadside emporia are seldom controlled and are apt to be very aesthetically displeasing.<sup>45</sup> Also, arterials serve as funnels for exposed utility lines and concentrations of street furniture, again creating complexity for the observer's eye.<sup>46</sup> Faltermayer suggests that "roadside renewal" is needed as a beautification device and that sign control, landscaping, removal of ugly buildings, and insistence of more compatible land uses could ease the impact of ugliness on the senses.<sup>47</sup>

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<sup>44</sup>Hesse, op. cit., p. 39.

<sup>45</sup>Mildred Constantine and Egbert Jacobson demonstrate how signs and lettering should be related to environment in Sign Language (New York: Reinhold, 1961). Faltermayer also offers alternatives to present displays including removal of 80 to 90 per cent of billboards and signs, especially those that have no value for tourists such as advertisements for auto dealers and cigarettes, and creation of a substitute system such as ". . . a system of small, standardized signs that would briefly convey the essential information but spare the landscape." See Faltermayer, op. cit., pp. 169-170.

<sup>46</sup>See Harold Lewis Malt, Furnishing the City (New York: McGraw-Hill, 1970).

<sup>47</sup>Faltermayer, op. cit., p. 155.



In addition to strip-commercial development, outlying shopping centers and nodes have been scars on the urban landscape. Concrete and asphalt plains for automobile parking usually surround these developments and very few exhibit any design with nature or attempts to provide greenery to hide or soften the created ugliness.

The automobile has made it possible, and supposedly convenient for urban residents to locate their homes at some distance from their work, shopping, and play areas. The construction of multi-lane, high-speed expressways has facilitated this type of settlement and activity pattern creating, most recently, urban sprawl in the form of suburban residential areas surrounding the older central cities.<sup>48</sup> Ugliness is not necessarily present in suburban residential environments (with the frequent exception of complete devastation of the natural setting), but visual monotony or uniformity is. The suburbs of any American metropolis are often identical in character. Seldom is there any individualistic or distinct character associating a given suburb with the history, culture, or natural environment of its location.

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<sup>48</sup>Some critics feel that freeways and other expressways are detrimental to urban aesthetic experience, such as McCamy, op. cit., p. 136; and Burchard, "Must Our Cities," op. cit., p. 91. However, travel on these roadways can sometimes provide unparalleled panoramas of skylines and cityscapes in general. A recent study has dealt with the aesthetics of urban highways--"the way they look to the driver and his passengers, and what this implies for their design." See Donald Appleyard, Kevin Lynch, and John R. Meyer, "The View from the Road," Environmental Perception and Behavior, ed. David Lowenthal (Chicago: University of Chicago, Department of Geography Research Paper No. 109, 1967).

Industrial settings and central city decay. The use of urban space for industrial purposes has given American industrial cities pockets of visual blight usually found along waterfronts, waterways, railroads, and, more recently, urban highways. Inadequate zoning and lack of long-range planning as well as lenient building and emission standards have caused industrial sites to be eyesores in the urban landscape. The problem appears to be a locational one because it is difficult to make smokestacks or stockyards aesthetically pleasing.

Economically-depressed inner city areas, industrial, commercial, and residential in function, are also common sources of ugliness. Often they are comprised of structures dating back a few decades or may sometimes even be remnants of the original city. Rehabilitation and preservation of these blighted areas is rarely undertaken and when it is it usually involves only a small areal proportion of the city. As McCamy states, "old things have a beauty of their own" simply because they are different from contemporary environments of the same functions.<sup>49</sup>

Modern urban redevelopment programs have thus far proved unable to cope with these areas. They ". . . flatten blocks at a time--blocks that once included a mixture of buildings of different ages and styles--and then replace them with concrete monoliths that lack aesthetic qual-

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<sup>49</sup>McCamy, op. cit., p. 142.

ity."<sup>50</sup> Again, Lowenthal's notion that Americans build for the future (the children) and forget the "fathers" or sometimes even the present is evident.<sup>51</sup> Also, Dasmann states that the effectiveness of urban renewal and preservation programs is limited because of two contrasting social attitudes existing in America: the attitude of social responsibility has created redevelopment programs, but the individualistic tradition in the form of individualistic motives has hindered the potentiality of these programs.<sup>52</sup>

Design in the urban environment. American cities are experiencing an era when uniformity in design is not stimulating the eyes of those people experiencing it. The visual product of current design trends is monotony and boredom instead of diversity. Sanoff asserts that aesthetic sensitivity remains unawakened when the eye is confronted with contemporary urban design:

Urban environments alter their character within a few years. The population increase and mania for speed outweighs consideration of quality and environments are created with very little forethought. With this increasing urban development, there appears to be a loss of aesthetic quality where the environment becomes monotonous, impersonal, and standardized.<sup>53</sup>

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<sup>50</sup>Ehrlich and Ehrlich, op. cit., p. 144.

<sup>51</sup>Lowenthal, "American Scene," op. cit.

<sup>52</sup>Dasmann, op. cit., p. 327.

<sup>53</sup>Henry Sanoff, "Visual Attributes of the Physical Environment," Response to Environment, eds. Gary J. Coates and Kenneth M. Moffett (Raleigh: North Carolina State University, School of Design Student Publication Vol. 18, 1969), p. 38.

The sameness of the appearance of American cities has also been recognized by Nairn, who sees cities as having no urge to be visually independent of each other. He states that:

. . . it seems a commonplace that almost everyone is born with the need for identification with his surroundings and a relationship to them--with the need to be in a recognizable place. . . . there is tremendous local feeling, but it is quite unexpressed in the shape of the place--or only expressed by functional accidents like the grain elevators and the water towers and courthouse squares, grand though all these may be.<sup>54</sup>

We need only look at images of great European cities with their monumental structures, cathedrals, and artifacts of the past to know that place-identity can indeed exist.<sup>55</sup>

The need for diversity in the urban landscape is expressed by Parr:

An important component of the spirit of adventure is a craving for unanticipated experience. When the physical environment ceases to provide the unexpected within reasonable distance of travel, some may succumb to dullness, others may seek compensations in the life of the imagination, and still others may, deliberately or unconsciously, seek to create surprise and suspense by their own irregular and often unpremeditated actions.<sup>56</sup>

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<sup>54</sup>Ian Nairn, The American Landscape: A Critical View (New York: Random House, 1965), p. 6.

<sup>55</sup>Burchard advocates that European cities today could teach American city planners and architects to strive for beauty and identity and stimulate efforts to make the centers of American cities more beautiful. See John E. Burchard, "The Urban Aesthetic," Annals of the American Academy of Political and Social Science, 314 (November 1957), 112-122; and "Must Our Cities," op. cit. The need for monumentality is also expressed by Philip Johnson, "Why We Want Our Cities Ugly," The Fitness of Man's Environment (Washington: Smithsonian Institution Press, 1968); and Constantine and Jacobson, op. cit., p. 19.

<sup>56</sup>Parr, op. cit., p. 43.

Therefore, visual fields should be continued, varied, and patterned, but not too complex for meaningful visual communication. Preserved historical areas, rehabilitated inner-city areas, and contemporary architecture and design can all be combined to give individual cities an identity of their own as well as provide sensory stimulation from aesthetically pleasing and unique environments.

Perhaps the reason this is not done is a lack of communication between the people and those involved in decision-making roles and design professions:

The designed environment reflects the largely untested assumptions about human behavior held by the professional planner. That substantial differences exist between the ways the public and the designer view the same environment has been too often disregarded by the latter, on the basis that the design professional knows both what the public wants and, more important, what is good for the public.<sup>57</sup>

Much criticism has been aimed at current architectural trends, planning practices, and the visual inadequacy of design in general.<sup>58</sup>

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<sup>57</sup>J. Douglas Porteous, "Design with People: The Quality of the Urban Environment," Environment and Behavior, 3 (1971), 157.

<sup>58</sup>See, for example, David A. Crane, "The Public Art of City Building," Annals of the American Academy of Political and Social Science, 352 (1964), 84-94; Robert Goodman, After the Planners (New York: Simon and Schuster, 1971); Field, op. cit.; Barclay Jones, "Prolegomena to a Study of the Aesthetic Effect of Cities," Journal of Aesthetics and Art Criticism, 18 (1960), 419-429; Parr, op. cit.; Morse Peckham, Man's Rage for Chaos: Biology, Behavior, and the Arts (Philadelphia: Chilton Books, 1965); and Boris Pushkarev, "Scale and Design in a New Environment," Who Designs America? ed. Laurence B. Holland (Garden City, N. Y.: Doubleday, 1966).

There also seems to be little flow of information among professions that decide what is to be built and how it is to be constructed. Pushkarev states that architects and engineers have little knowledge of each other's fields and that the built environment is shaped by many people who have had little or no visual training.<sup>59</sup> Popular taste and anesthetization of the senses of the American public, as well as the impotency of the design professions has led to what Pushkarev calls "frontier-camp design," a "disposable environment" composed of buildings with short life-spans, "the tradition of temporary makeshift construction."<sup>60</sup> Prefabricated structures are becoming an American way of life.

It may be inferred from this discussion that the problem of contemporary design practices is a matter of perception. For the most part, designers rely only on their own intuition as a basis for decisions. Little attempt has been made to analyze the perceptions of the users of cities as a rationale for better design, the effects of design on behavior, and retrieval of areas that could be rehabilitated, all of which could make the city beautiful. As well as providing a favorable setting for healthy human activity, designers could contribute to the creation of favorable images of cities. As Parr states:

There is an urgent need for . . . our architects and

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<sup>59</sup>Pushkarev, op. cit., p. 115.

<sup>60</sup>Ibid., p. 111.



urban planners to recognize that what they design in the minds of men is more important than what they create in steel and traffic patterns.<sup>61</sup>

Carr defines and evaluates the "city of the mind:"

Perceiving and representing the environment, acting in it, and reviewing the consequences are the processes by which we create our personal city of the mind--our own "life space," as it has been called. The form of the environment can help to make that space narrow and confined or broad and open, constantly growing. By organizing the environment properly we can make ordinary city-using tasks simpler to accomplish.<sup>62</sup>

A favorable image can increase the meaning and value of the physical environment.

Pleas for further examination of behavioral responses and attitudes toward visual quality of environments and all aspects of environments in general are numerous and involve scholars from many disciplines.<sup>63</sup> Lowenthal offers an excellent statement, in capsule form, on what is needed regarding man-environment exchanges:

To be effective, . . . planning and design should be grounded on intimate knowledge of the ways people think and feel about environment; this calls for a substantial familiarity with social and intellectual history, with psychology and philosophy, with art and anthropology. All these fields contribute to our knowledge of how we

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<sup>61</sup>Parr, op. cit., p. 44.

<sup>62</sup>Stephen Carr, "The City of the Mind," Environment for Man: The Next Fifty Years, ed. William R. Ewald, Jr. (Bloomington: Indiana University Press, 1967), p. 217.

<sup>63</sup>See, for example, Jones, op. cit.; and D. W. Meinig, "Commentary" (paper presented at special session on "Visual Blight in America," 68th Annual Meeting of the Association of American Geographers, April, 1972, Kansas City, Missouri). Many of these have already been cited in this chapter and more will be in the following pages.

see the world we live in, how vision and value affect action, and how action alters institutions.<sup>64</sup>

### DESCRIPTION OF THIS STUDY

This study addressed these issues in a limited sense. It sought to uncover information on how various groups of people view and respond to the visual quality of one aspect of the urban landscape, residential environments. The hypothesis guiding the research was that people in varying types of residential environments perceive differently the visual quality of their respective surroundings.<sup>65</sup> Manhattan, Kansas, was chosen as the site for the research endeavor. Within the city are a number of residential areas that display similar physical and socio-economic characteristics. Residents in selected portions of these areas were sampled. More will be discussed on the area selection and sampling procedure in Chapter Two. Respondents were given the task of answering various questionnaire items focusing on demographic data, social and property activities, and questions

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<sup>64</sup>Lowenthal, "American Scene," op. cit., p. 88.

<sup>65</sup>That perception differs from individual to individual and culture to culture is supported very much by recent literature (some of which has already been cited), therefore providing support for the established hypothesis. For example, Robert Beck states that "it is abundantly clear that different professions, age groups, and sexes approach and use spatial variables in significantly varying ways," in "Spatial Meaning, and the Properties of the Environment," Environmental Perception and Behavior, ed. Lowenthal, op. cit., p. 29; see also Carroll C. Pratt, "The Role of Past Experience in Visual Perception," Journal of Psychology, 30 (1950), 85-107.



evaluating residential block visual quality. In addition, the semantic differential technique of measuring responses to concepts, in this case, visual elements of residential environments, was used to test the stated hypothesis. The data was analyzed descriptively and by the utilization of a nonparametric testing procedure.

Measurement and analysis of perception, such as performed in this study, is a relatively new avenue of study in the discipline of geography. A review of the basic concepts, approaches, and interest areas is therefore warranted.

## PERCEPTION OF ENVIRONMENT

### Approaches to the Study of Perception

Analysis of perception and perceptual processes in general has been dominant in and usually restricted to the field of psychology. Goodey defines perception in general as "the awareness of objects or other data through the medium of the senses," naturally including what is seen by the eye.<sup>66</sup> He also outlines the emphases of psychological research on perception and concludes that what has been done involves experimentation with optical illusions and a wide range of differing subjects, attempts to measure perception, and the formulation of general theories concerning perception and

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<sup>66</sup>B. Goodey, Perception of the Environment: An Introduction to the Literature (Birmingham, Eng.: University of Birmingham, Centre for Urban and Regional Studies Occasional Paper No. 17, 1971), p. 2.

the role of perceptual processes in behavior.<sup>67</sup> The value of these inquiries is somewhat limited, however, because, as Craik implies, they have too long been dealing with laboratory investigation only and not with the "real" world.<sup>68</sup> Studies of perception of the environment by both environmental psychologists and geographers have emerged and are ". . . primarily concerned with aspects of social perception, notably the perception of space and of features of the environment."<sup>69</sup>

Environmental psychology has been broadly defined as the study ". . . of man's relationship to his physical environment, and more particularly to the physical environment that he himself has 'created'."<sup>70</sup> Kasmar has more narrowly defined it as the study of the ". . . effect of the physical environment as it relates to physiological, psychological, and social behavior."<sup>71</sup> Synonymous terms to environmental psychology include "architectural" or "ecological psychology."

The results of investigations by environmental psychologists have some design implications, usually with the

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<sup>67</sup>Goodey, op. cit., p. 3.

<sup>68</sup>Kenneth H. Craik, "The Comprehension of the Everyday Physical Environment," Journal of the American Institute of Planners, 34, 1 (1968), 29-37.

<sup>69</sup>Goodey, op. cit., p. 2.

<sup>70</sup>Proshansky, Ittelson, and Rivlin, op. cit., p. 27.

<sup>71</sup>Kasmar, Griffin, and Mauritzen, op. cit., p. 223.

interiors of structures, but appear to be more interested in the effects of environment on human behavior.<sup>72</sup> Perception of environment studies in geography have centered more on attributes of the physical environment. Beck describes the emphases of the two fields in this manner:

Perception of the environment requires man to interpret the physical and social components of his stimulus field. Such an area of inquiry falls congruently into the disciplines of geography and psychology, which are concerned, respectively, with the physical properties of the stimulus field and with personal attributes arising out of functional and symbolic transactions between man and that field.<sup>73</sup>

Both fields, geography and psychology, as well as recent contributions from environmental designers, have attuned their interests and combined to produce data which has many implications for better design.

#### Perception of Environment Studies in Geography

Prior to the last decade, man-environment studies in geography studied perception ". . . only in broad, general, subjective ways, or in cultures far away in time or distance, or as an incidental part of a larger study, or by inference from resource use patterns."<sup>74</sup> In 1961, however, Lowenthal

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<sup>72</sup>See Harold M. Proshansky, William H. Ittelson, and Leanne G. Rivlin (eds.), Environmental Psychology: Man and His Physical Setting (New York: Holt, Rinehart and Winston, 1970); M. H. Appley and R. Trumbull, Psychological Stress (New York: Appleton-Century-Crofts, 1967); and Michael Edmunds Leary, "Individual Stress in the Urban Environment" (unpublished Master's thesis, Cornell University, 1968).

<sup>73</sup>Beck, op. cit., p. 18.

<sup>74</sup>Thomas F. Saarinen, Perception of Environment

published a seminal paper which has been cited as the bridge between the older and the modern approaches to perception in geography.<sup>75</sup> Soon afterward, the natural hazard perception studies of a number of geographers became the first important contributions to modern perception studies in geography, utilizing behavioral science techniques common to psychology and objectively investigating people to determine their perception of environment.<sup>76</sup> More recently, perception studies

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(Washington: Association of American Geographers, Commission on College Geography Resource Paper No. 5, 1969), p. 2. The older approach was a more descriptive approach in the sub-fields of cultural and historical geography. Broek has stated that studies in environmental perception ". . . have their roots in ideas expressed some fifty years ago by Vidal de la Blache and others of his generation." See Jan O. M. Broek and John W. Webb, A Geography of Mankind (New York: McGraw-Hill, 1968), p. 30. One paper cited the need for a more objective approach; see John K. Wright, "Terrae Incognitae: The Place of Imagination in Geography," Annals of the Association of American Geographers, 37 (1947), 1-15.

<sup>75</sup>David Lowenthal, "Geography, Experience, and Imagination: Towards a Geographical Epistemology," Annals of the Association of American Geographers, 51 (1961), 241-260; and H. C. Brookfield, "On the Environment as Perceived," Progress in Geography, Vol. 1, eds. Christopher Board et al. (London: Edward Arnold, 1969), pp. 57-58.

<sup>76</sup>See Robert W. Kates, Hazard and Choice Perception in Flood Plain Management (Chicago: University of Chicago, Department of Geography Research Paper No. 78, 1964); Ian Burton and Robert W. Kates, "The Perception of Natural Hazards in Resource Management," Natural Resources Journal, 3 (1964), 412-441; Thomas F. Saarinen, Perception of the Drought Hazard on the Great Plains (Chicago: University of Chicago, Department of Geography Research Paper No. 106, 1966); and Robert W. Kates, "The Perception of Storm Hazard on the Shores of Megalopolis," Environmental Perception and Behavior, ed. Lowenthal, op. cit. Thoughtful reviews and extensive bibliographies of perception of environment studies in geography are found in Brookfield, op. cit.; Goodey, op. cit.; James D. Harrison, "An Annotated Bibliography on Environmental Perception with Emphasis on Urban Areas," Council

in geography have branched out into other scales of space and environment.

Brookfield has defined the perceived environment as ". . . the whole monistic 'surface' on which decision is based."<sup>77</sup> Perception of environment must be researched because divergent individual and cultural views can wrongly interpret or even clash on determining how the environment will be used or formed.<sup>78</sup> A blending of the cognized environment, the environment that science knows from all available facts, and the operational environment, the environment as perceived, should enable decision-makers and designers employed in an environmental context to cope with human surroundings in a more appropriate manner.

There have been relatively few perception of environment studies at the urban scale in geography. Most contributions come from the realm of planning and are concerned primarily with urban imagery, focusing on the interrelations between urban forms and human objectives.<sup>79</sup>

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of Planning Librarians Exchange Bibliography No. 93 (1969); Saarinen, Perception of Environment, op. cit.; and L. J. Wood, "Perception Studies in Geography," Transactions, Institute of British Geographers, No. 50 (1970), 129-142.

<sup>77</sup> Brookfield, op. cit., p. 53.

<sup>78</sup> See Gilbert F. White, "Formation and Role of Public Attitudes," Environmental Quality in a Growing Economy, ed. Jarrett, op. cit.

<sup>79</sup> See, for example, Kevin Lynch, The Image of the City (Cambridge: The MIT Press, 1960); Derk de Jonge, "Images of Urban Areas: Their Structure of Psychological Foundations," Journal of the American Institute of Planners, 28 (1962),

Nearly every discipline concerned with spatial and environmental perception, however, has contributed at the neighborhood scale. Many of these endeavors have been residential satisfaction or residential preference surveys, but responses are ultimately based on perception of surroundings.<sup>80</sup> Nearly all of these have employed sampling and interview techniques, and later versions have analyzed place imagery through the medium of mental mapping.<sup>81</sup>

Studies of visual preferences per se at the neighborhood scale are few in number and rather esoteric in nature. A number of investigators have employed the seman-

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266-276; Anselm L. Strauss, Images of the American City (New York: Free Press of Glencoe, 1961); and idem (ed.), The American City: A Sourcebook of Urban Imagery (Chicago: Aldine, 1968).

<sup>80</sup> See, for example, Robert L. Wilson, "Livability of the City: Attitudes and Urban Development," Urban Growth Dynamics in a Regional Cluster of Cities, eds. F. Stuart Chapin and Shirley F. Weiss (New York: Wiley, 1962); Marc Fried and Peggy Gleicher, "Some Sources of Residential Satisfaction in an Urban Slum," Journal of the American Institute of Planners, 27, 4 (1961), 305-315; John B. Lansing and Robert W. Marans, "Evaluation of Neighborhood Quality," Journal of the American Institute of Planners, 35, 3 (1969), 195-199; and Frank E. Horton and David R. Reynolds, "Effects of Urban Spatial Structure on Individual Behavior," Economic Geography, 47 (1971), 36-48.

<sup>81</sup> Peter R. Gould, "On Mental Maps," Man, Space, and Environment, eds. Paul Ward English and Robert C. Mayfield (New York: Oxford University Press, 1972); Terence Lee, "Urban Neighborhood as a Socio-Spatial Schema," Human Relations, 21 (1968), 241-268; John S. Adams, "Directional Bias in Intra-Urban Migration," Economic Geography, 45 (1969), 302-323; R. J. Johnston, "Activity Spaces and Residential Preferences: Some Tests of the Hypothesis of Sectoral Mental Maps," Economic Geography, 48 (1972), 199-211; and idem, "Mental Maps of the City: Suburban Preference Patterns," Environment and Planning, 3 (1971), 63-72.



tic differential technique to be discussed in Chapter Two. Others have approached respondents with photographs of various dwelling environments and have had them choose their personal preferences.<sup>82</sup> Youth is the key descriptor of this area of research. Contributions are few in number and have yet to yield a substantial body of knowledge. This, however, is characteristic of any new area of research. A foundation is being established for a potential wealth of valuable information.

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<sup>82</sup>William Michelson, "An Empirical Analysis of Urban Environmental Preferences," Journal of the American Institute of Planners, 32, 6 (1966), 355-360; and George L. Peterson, "A Model of Preference: Quantitative Analysis of the Perception of the Visual Appearance of Residential Neighborhoods," Journal of Regional Science, 7 (1967), 19-31; or idem, "Measuring Visual Preferences of Residential Neighborhoods," Ekistics, 23, 136 (1967), 169-173. For examples of the use of photographs of environmental visual preferences other than those with urban characteristics, see Joseph Sonnenfeld, "Environmental Perception and Adaptation Level in the Arctic," Environmental Perception and Behavior, ed. Lowenthal, op. cit.; and Robert E. Coughlin and Karen A. Goldstein, "The Extent of Agreement Among Observers on Environmental Attractiveness," Regional Science Research Institute Discussion Paper No. 37 (Philadelphia: Regional Science Research Institute, 1970).



## Chapter 2

### RESEARCH DESIGN AND METHODOLOGY

The preceding chapter sought to construct a conceptual framework displaying the complexity of the physical environment as conventionally comprehended, the deterioration of the visual dimension of the physical environment in contemporary urban America, and a preliminary note on the nature and substance of this study. There were two facets to the investigation: (1) to give some indication or make some judgments on how people view their immediate environment, and (2) to test an instrument designed for measuring perception. This chapter will review the total approach taken in the study.

#### SELECTION OF SAMPLE AREAS AND A SAMPLE POPULATION

In order to test the established hypothesis, portions of three residential environments in Manhattan, Kansas, were chosen as sample areas. They were selected on the basis of their apparent physical and social differences and on the seeming internal homogeneity, both physically and socially, of their appearance and populations. Figure 2.1 (see insert at end of report) exhibits the location of the sample areas within the city.

Certain adjoining blocks in each of the three areas were delimited for survey purposes. At least twenty respondents in each area were interviewed allowing the statistical analyses of data to be meaningful.<sup>1</sup> Respondents residing on property that fronted only on one street were eligible for interviews. This was because they were evaluating only the block they lived on. Corner houses were omitted since responses could conceivably be biased toward a different block than other respondents. Also, care was taken to survey blocks that did not have any outstanding physical features that might influence responses, such as churches or commercial facilities. Since the scale of space being dealt with was the block, as defined by street and alley/easement boundaries, it was desired to obtain as many interviews as possible per block because a common environment was being judged by respondents.

Interviews were obtained on a door-to-door basis. Only persons eighteen years of age or older were interviewed. Males and females were both included as were homeowners and renters. Originally, it was intended to limit the sample to heads of households, but in a few cases children residing with parents were allowed to respond. There was no require-

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<sup>1</sup>The interviews were conducted during June and July, 1973. Entry into each of the sample areas was during daylight hours only, spanning both morning, afternoon, and early evening, and at various days during each week of the interview period. This was done so as to permit contact with residents who were only home during certain hours of the day or certain days of the week. An average interview lasted twenty minutes.

ment concerning length of residence on the block.

Information was obtained in three ways: (1) observation by the researcher, (2) administration of a questionnaire, and (3) administration of a semantic differential, the last of which will be discussed in a subsequent section of this chapter.

### QUESTIONNAIRE DESIGN

The items of observation and the total questionnaire used in the survey are in Appendix A.<sup>2</sup> The observation items required no verbal intercourse with respondents. Item 1 was strictly a locational coding device, items 2 and 3 identified the sex and ethnic origin of each respondent, and items 4 and 5 were subjective evaluations of the physical appearance of properties on each block by the researcher.

These last two observation items were included for two purposes: first of all, they hopefully provide a comparative measure concerning the physical appearance of all the sample areas, and secondly, their analytical potential in relation to responses to questionnaire items necessitated their inclusion. The housing condition classification is rather conventional and each category is defined as such:

NEW--less than five years old and in apparently excellent structural condition.

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<sup>2</sup>The source used for the basic questionnaire design was Charles H. Backstrom and Gerald D. Hursh, Survey Research (Evanston, Ill.: Northwestern University Press, 1963).

SOUND--defined as that structure which has no defects, or only slight defects which are normally corrected during the course of regular maintenance.

DETERIORATING--a structure needing more repair than would be provided in the course of regular maintenance. It has one or more defects of an intermediate nature that must be corrected if the unit is to continue to provide safe and adequate shelter.

DILAPIDATED--a structure that does not provide safe and adequate shelter. It has one or more critical defects; or has a combination of intermediate defects in sufficient number to require extensive repair or rebuilding; or is of inadequate original construction. Critical defects result from continued neglect or indicate serious damage to the structure.<sup>3</sup>

The yard condition evaluation was created for this study as a result of a need to evaluate more than just the physical appearance of structures.<sup>4</sup> The categories are defined as such:

LANDSCAPED--extensive landscaping and/or decoration of property involving the placement of trees, shrubbery, and all other flora, as well as any man-built objects of an ornamental nature such as walkways, fences, or walls.

PLAIN--little or no landscaping, but continual maintenance of yard evident.

DETERIORATING--yard needing immediate attention concerning growth of flora, especially lawn grass. This could include untrimmed grass and shrubbery, uneven growth of grass, or weed infestation.

The subjectivity of these ratings must be understood. There are always decisions to be made with respect to

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<sup>3</sup>Quoted from Wilson and Company, "Manhattan Guide Plan: 1964-1985, The Years Ahead" (1964), p. 33.

<sup>4</sup>Warner has used a rating combining both aspects (structure and yard) of property appearance but failed to elaborate on the categorization he employed. See W. Lloyd Warner, Marchia Meeker, and Kenneth Eells, Social Class in America: The Evaluation of Status (New York: Harper and Brothers, 1960), p. 143.

whether a house or yard, or both, belongs in one category or another. The employment of these classifications does, however, lend some insight into the physical appearance of properties in each of the sample areas.

In addition to observation items 2 and 3, items 1 through 8 on the actual questionnaire comprise the conventional demographic data ascertained in surveys where socioeconomic characteristics are primary variables. The composition of each of these items is structured in a conventional and usable manner.

Items 9 through 14 were designed to display information on the associations that each respondent had with the block. In some manner this may affect responses to later questions and the semantic differential. For example, some respondents may not care for visual quality in their immediate environment and therefore spend little or no time on property appearance and maintenance. The questions were scaled for tabulation purposes.

The final six items, 15 through 20, center on the quintessence of this study, that being the evaluation of visual quality and attitudes toward visual quality as presented by the respondents. Questions 15 and 16 were designed as open-ended responses, hopefully revealing personal constructs residents held concerning the visual attractiveness of their environments. Theoretically (and empirically), each person identifies values or problems central only to themselves. It would have been fruitless to "brainwash"

respondents with concepts they do not ordinarily think of or agree with; therefore, they were thinking only in their own terms and voicing their personal opinions.

At this point in the questionnaire the semantic differential, item 17, was administered. Concepts were then given to the respondents, but only following the freer open-ended questions. The semantic differential will be discussed in detail in the next section of this chapter.

The final three questions were attitudinal in nature, focusing on attitudes toward visual attractiveness held by the sample population and individual proposals as to how the areas could be improved.

### THE SEMANTIC DIFFERENTIAL

Measurement of perception by means of the semantic differential was introduced nearly two decades ago and, since then, it has become a very popular and widely accepted measuring tool in behavioral studies.<sup>5</sup> In general, it is structured around a stimulus-response format. The stimulus is a

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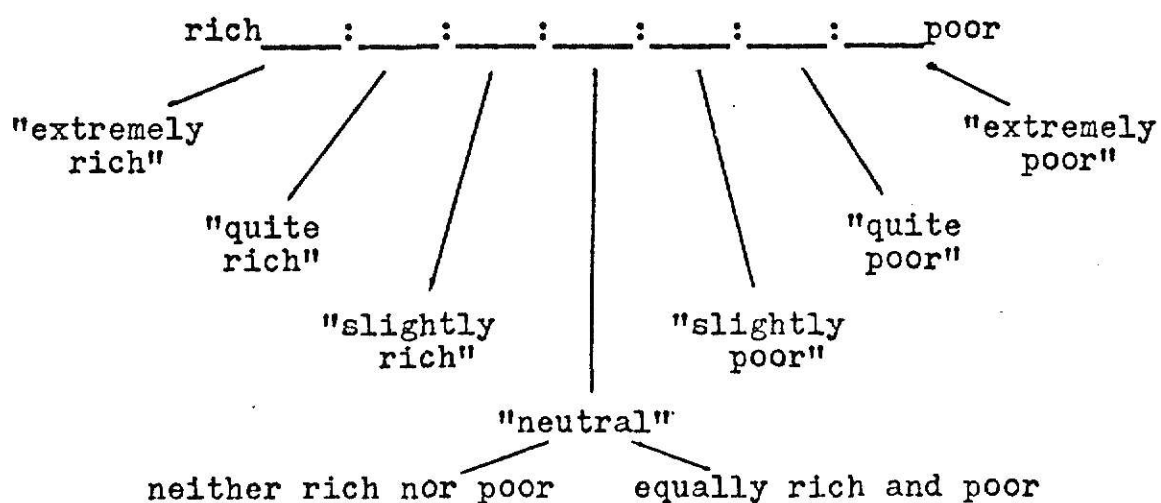
<sup>5</sup>The initial and primary source explaining the nature of the semantic differential technique is Charles E. Osgood, George J. Suci, and Percy H. Tannenbaum, The Measurement of Meaning (Urbana: University of Illinois Press, 1957). For later introductions to its structure and value, see David R. Heise, "Some Methodological Issues in Semantic Differential Research," Psychological Bulletin, 72 (1969), 406-422; Fred N. Kerlinger, Foundations of Behavioral Research (2d ed.; New York: Holt, Rinehart and Winston, 1973), Chapter 33; J. G. Snider and C. E. Osgood (eds.), Semantic Differential Technique: A Sourcebook (Chicago: Aldine, 1969); and Peter B. Warr and Christopher Knapper, The Perception of People and Events (New York: Wiley, 1968).

concept. Subjects respond to this concept by a checking operation on an adjectival bipolar scale, therefore inferring what "meaning" concepts have to individuals and groups. There is nearly always more than one scale associated with a concept. A typical concept and its associated scales might look like this:

#### GEOGRAPHY AS A DISCIPLINE

important\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_unimportant  
 boring\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_interesting  
 theoretical\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_descriptive  
 passive\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_active  
 complex\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_simple  
 relevant\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_irrelevant

Subjects are asked to check the interval that best portrays their opinion. Seven-interval scales are most frequently used because the scale can be divided in this manner:





It is useful to randomly scramble the polarity of the adjectives so that respondents do not get into a pattern of checking down one side or the other of a list of scales based on their initial responses at the top of the page.

The semantic differential technique was chosen for this study because of the ease with which it can be administered and the great amount of data it yields. Several types of analyses are possible with semantic differential data, another reason for its frequent use. Since this study involves inter- and intra-group comparisons of responses to environments, the semantic differential is readily adaptable. As Kerlinger states:

Viewed in variance and set terms, there are three main sources of variance or a three-way cross-partition of the total sample of scores. The sources of variance are: concepts, scales, and subjects . . . . That is, the scores can be analyzed for differences between concepts, between scales, between subjects, or any combination thereof.<sup>6</sup>

Scores are assigned to each step on the bipolar scales for analytical purposes. Descriptive statistics, numerous nonparametric tests, and factor analytical procedures are commonly used in the analysis of semantic differential data.<sup>7</sup> In this study the data will be analyzed descriptively and through the use of the Kolmogorov-Smirnov nonparametric test relating the semantic differential

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<sup>6</sup>Kerlinger, op. cit., p. 573.

<sup>7</sup>There is a debate as to whether parametric analyses can be effectively used. See Warr and Knapper, op. cit., pp. 60-63.

responses and the three sample populations.

### Concepts and Scales Used in This Study

The semantic differential devised for this study was designed in two parts. Respondents responded initially to their "Total Block Environment" and secondly, to various "Block Elements" which included "Housing," "Street," "Yards and Open Space," "Street Furniture," and "Vegetation." The final semantic scales employed are contained in Appendix B.<sup>8</sup> Adjectives chosen for all of the scales had been previously used in similar studies and were felt to be closely related to each concept.

Ten bipolar scales were used to evaluate the first conceptual area, Total Block Environment. These were:

beautiful-ugly	unique-ordinary
colorful-colorless	superior-inferior
undesirable-desirable	imperfect-perfect
fancy-plain	chaos-order
dirty-clean	like-dislike

After instructing respondents on the proper checking procedure for the semantic differential, they were asked, "evalu-

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<sup>8</sup>The first block surveyed served as a pretest for the total questionnaire and semantic differential. Slight revisions were made in the question format, but the size of the original semantic differential was significantly narrowed down because its administration involved far too much time. Responses from this first block were retained as part of the total sample. Responses to scales that were dropped from the semantic differential were, of course, eliminated.

ate the visual appearance of the block, as a whole, on which you live."

Upon completion of the Total Block Environment concept, respondents were given a second page of scales which displayed the various Block Elements. The order of the concepts was designed to let the respondents define the blocks only as they see them on the first set of scales, Total Block Environment, and later give them concepts that are usually applied to residential environments. Respondents may or may not have thought in terms of these Block Elements when responding to their Total Block Environment, but evidence indicates that mental structures concerning urban morphology are similar from person to person.<sup>9</sup>

The first concept under Block Elements was Housing. Six scales were listed. These were:

diverse-uniform	worthless-valuable
disapprove-approve	beautiful-ugly
clean-dirty	fancy-plain

Respondents were told to consider architectural styles, structural condition, and overall satisfaction with the appearances of houses on their block.

The second Block Element to be evaluated was the visual appearance of the Street, defined as "the area between the curbs." The scales presented were:

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<sup>9</sup>See, for example, Kevin Lynch and Malcolm Rivkin, "A Walk Around the Block," Landscape, 8 (1959), 24-34.

clean-dirty

deserted-crowded

The next concept was Yards and Open Space. In no cases were there empty lots or any other type of unoccupied open space, so residents were actually responding to lawns. The semantic scales included:<sup>10</sup>

small-large

plain-fancy

clean-dirty

disorderly-orderly

colorful-colorless

attractive-unattractive

There were two scales for the next concept, Street Furniture. This was defined as "any man-made objects on the block other than buildings, such as utility lines and poles, signs, sidewalks, and so forth." Although a number of physical items were included under this concept, attention leaned toward utility lines. The two scales were:

exposed-hidden

arranged-disarranged

The final Block Element concept was Vegetation, defined as "all trees and shrubbery." Evaluation of four scales was required. These were:

existent-nonexistent

ugly-beautiful

large-small

sufficient-insufficient

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<sup>10</sup>The concepts Housing and Yards and Open Space utilize the largest number of scales because it was thought that these were the most important Block Elements that people recognize. Analysis of questionnaire items later suggested that this was true. See Chapter Three.

This completed the administration of the semantic differential. The checking procedure for the semantic differential seemed to be enjoyed by nearly all of the respondents. Few had difficulty and with a little assistance they soon overcame any problems. The most common procedural difficulty involved a handful of respondents, usually elderly, who took far too much time. When this happened the Block Elements concept list was not administered and, as will be seen later in the analysis of the data, the Total Block Environment sample was larger than the Block Elements sample for this reason.

A few scales gave some people trouble. Under the concept Total Block Environment the superior-inferior scale was one of these problem scales. When confusion was encountered respondents were told to think of these terms in comparison with other types of residential areas in the city. This suggestion almost always led to an immediate checking of a scale interval. Within the Housing framework hesitancy sometimes arose concerning the worthless-valuable scale. People were told to think of "value" in terms of the amount of time and/or money injected into the care and maintenance of house appearance. Other problem scales included deserted-crowded under the conceptual area Street and both scales under Street Furniture. For the deserted-crowded scale respondents were asked to consider parked cars, traffic, childrens' toys, and so forth. And for the Street Furniture scales they were told to think of utilities and associated paraphernalia.

There were not enough cases of misunderstanding of bipolar terms to warrant the exclusion of any of them.

#### Uses of the Semantic Differential Technique in Environmental Research

When examining the literature chronologically, one finds increasing application of semantic differential in disciplines concerned with perception of environment and spatial imagery. Concepts and scales have been presented by themselves in conjunction with actual environments and other experimentation has integrated the semantic differential with displays such as photographs. Various scales of environment have been approached and evaluated.

Two studies in the realm of the natural environment have utilized semantic differential responses for understanding man-environment relationships. The first of these deals with the prolific natural hazard research that has emerged within the discipline of geography.<sup>11</sup> Golant and Burton had a group of subjects evaluate the meaning of twelve hazard situations by using twenty-one identical scales for each concept. They were primarily interested in testing the measuring instrument and found it to be very efficient in portraying the meaning of hazards as well as allowing for a

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<sup>11</sup>Stephen Golant and Ian Burton, "The Meaning of a Hazard--Application of the Semantic Differential," Natural Hazard Research Working Paper No. 7 (Toronto: University of Toronto, Department of Geography, 1969); and "A Semantic Differential Experiment in the Interpretation and Grouping of Environmental Hazards," Geographical Analysis, 2 (1970), 120-134.

classification of hazards. Calvin, Dearing, and Curtin focused their research on the scenic environment and obtained data by having subjects respond to fifteen photographs of various natural scenes taken at different seasons.<sup>12</sup> Interest was centered on environmental preferences and identification of the associated dimensions people use to evaluate scenery.

The semantic differential has often been used as an evaluative and attitudinal measure of perception and cognition of man-made environments. In nearly every instance researchers in this area have suggested measurement of meaning in this sense to have environmental design implications. Downs has attempted to identify personal constructs concerning the structure of shopping environments, hypothesizing that there are nine cognitive components or categories contained in the image of an urban downtown shopping center.<sup>13</sup> He presented these categories as concepts with four scales under each and interviewed women that patronized a common shopping center. His findings supported the hypothesis and his evaluation of the method was favorable.

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<sup>12</sup>James S. Calvin, John A. Dearing, and Mary Ellen Curtin, "An Attempt at Assessing Preferences for Natural Landscapes," Environment and Behavior, 4 (1972), 447-470.

<sup>13</sup>Roger M. Downs, "The Cognitive Structure of an Urban Shopping Center," Environment and Behavior, 2 (1970), 13-39. An example of another inquiry into spatial imagery and consumer behavior using the semantic differential technique is David L. Stallings, "Images of Public Environments: Seattle's Pike Place Market" (unpublished Doctor's dissertation, University of Washington, 1973).



An area geographers have been somewhat reluctant to enter is the study of visual attributes of environmental design.<sup>14</sup> This area has primarily been surveyed by psychologists and environmental designers themselves. Several inquiries have employed semantic differential procedures producing critical public responses to various architectural styles.<sup>15</sup>

A number of studies utilizing semantic differential data have been done with residential environments as stimuli. The visual dimension has especially been emphasized. Craun has used a six-scale structure in which subjects were told to ". . . describe your impression of what constitutes good housing areas."<sup>16</sup> This approach strictly involves imagination as does a study by Pyron which incorporated evaluative

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<sup>14</sup>Lowenthal's essays and experiments are perhaps the nearest. See David Lowenthal, An Analysis of Environmental Perception (New York: American Geographical Society, and Cambridge: Harvard University, for Resources for the Future, 1967); Environmental and Semantic Responses: Comparative Studies in Environmental Perception (New York: American Geographical Society, 1972); and, with Marquita Riel, "The Nature of Perceived and Imagined Environments," Environment and Behavior, 4 (1972), 189-207.

<sup>15</sup>Robert G. Hershberger, "A Study of Meaning and Architecture," EDRA 1, Proceedings of the First Annual Environmental Design Research Association Conference, eds. Henry Sanoff and Sidney Cohn (1970); Joyce A. Vielhauer, "The Development of a Semantic Scale for the Description of the Physical Environment," Dissertation Abstracts, 26, 8 (1966), 4821, or Joyce Vielhauer Kasmar, "The Development of a Usable Lexicon of Environmental Descriptors," Environment and Behavior, 2 (1970), 153-169; and Michael C. Cunningham et al., "Toward a Perceptual Tool in Urban Design: A Street Simulation Pilot Study," Environmental Design Research, Vol. 1, Selected Papers, ed. W. F. E. Preiser (Stroudsburg, Penn.: Dowden, Hutchinson, and Ross, 1973). For a European

semantic responses to twelve experimental environments displayed in the form of scale models.<sup>17</sup> Sanoff, however, has utilized the semantic differential technique on public reactions to actual residential environments.<sup>18</sup>

Few researchers utilizing the semantic differential technique have embarked on studies of responses to residential environments that have sought to have subjects structure or evaluate their own home territory. This study seeks to do just that and will draw comparisons between various types of residential environments. Utilization of the semantic differential is well justified by the reports of others who have used it in similar studies. All of the above-mentioned environmental researchers have used the technique with success and have not noted any outstanding weaknesses in this form of measurement. Nearly all have pleaded for further application of the semantic differential to discover in what other ways it can be used as an effective measure of environmental perception and place imagery.

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example see Sven Hesselgren, Experimental Studies on Architectural Perception (Stockholm: National Swedish Institute for Building Research, 1971).

<sup>16</sup>Raymond M. Craun, Jr., "Visual Determinants of Preference for Dwelling Environs," EDRA 1, op. cit., p. 84.

<sup>17</sup>Bernard Pyron, "Form and Diversity in Human Habitats: Judgmental and Attitude Responses," Environment and Behavior, 4 (1972), 87-120.

<sup>18</sup>Henry Sanoff, "Visual Attributes of the Physical Environment," Response to Environment, eds. Gary J. Coates and Kenneth M. Hoffett (Raleigh: North Carolina State University, School of Design Student Publication Vol. 18, 1969).

## Chapter 3

### QUESTIONNAIRE EVALUATION

The first part of this chapter describes the characteristics of the sample areas based on an integration of factual information about the areas, what the investigator perceived as making each area distinct from the others, and evaluation of the demographic items on the questionnaire. The analysis then proceeds to an evaluation of the subsequent questionnaire items. Comparisons will continually be made among the data obtained for each area.

### DESCRIPTION OF SAMPLE AREAS

#### Central Manhattan

Considering the age of structures, this was the oldest residential environment surveyed. Its location near Manhattan's central business district attests to the fact that this was one of the initial sites of the city's development in the early twentieth century. A variety of house styles are contained, as are placement of structures on individual property lots. Large tree size, aged sidewalks, and dirt alleys lined with garages are also measures of the area's age. Plates 1-4 exhibit various scenes of Central Manhattan.

Three blocks in Central Manhattan were surveyed. A

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Plates 1-4. Views of Central Manhattan



Plate 1



Plate 2

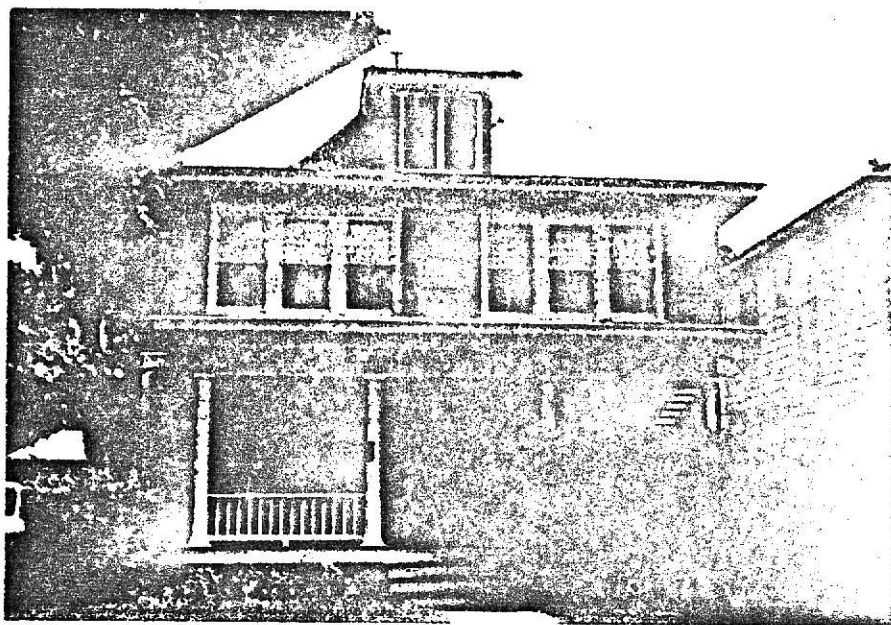


Plate 3



Plate 4



total of 22 interviews were administered.<sup>1</sup> Tables 3.1a and 3.1b display the socio-economic characteristics of the sample populations for each of the three areas based on questionnaire findings.<sup>2</sup> Respondents in Central Manhattan fell primarily into the two extreme age groups, "18-25" and "over 65." Most were married but this area also reported the only widows in the total sample as well as the only persons over 65 years of age. Also, the highest percentage of houses without children was reported in Central Manhattan, probably a result of the bimodal age distribution. All but one person had at least a high school education while 8 of the 22 respondents had completed college.

The occupational structure of Central Manhattan reflected the female bias concerning the sex of respondents (Table 3.1b). Nearly one half of the respondents were housewives. Females were also dominant in the "service workers" category. This area had the lowest mean income of respondents in the total sample. Table 3.1a shows that 13 of the 22 respondents fell in the "under \$5,000" category as a result of the occupational and marital structures being composed of a number of widows, students, and retired persons. Most of the respondents owned their own homes, but a few

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<sup>1</sup>The blocks surveyed and the number of residents interviewed on each block were: 900 Leavenworth--8 respondents, 900 Humboldt--10 respondents, and 1000 Humboldt--4 respondents.

<sup>2</sup>Table 3.1 was divided into two parts, a and b, simply because the occupation data requires a greater amount of space than is available in the Table 3.1a format.



Table 3.1a

Demographic Characteristics of  
Sample Populations<sup>a</sup>

Characteristic	Sample areas			Total sample
	Central Manhattan	Northwest Manhattan	Northview	
Total number of respondents	22	22	24	68
<b>SEX<sup>b</sup></b>				
Males . . . .	4	9	8	21
Females . . . .	18	13	16	47
<b>AGE</b>				
Both sexes				
18-25 . . . .	8	2	7	17
26-35 . . . .	-	5	10	15
36-50 . . . .	3	12	3	18
51-65 . . . .	2	1	4	7
Over 65 . . . .	9	-	-	9
No answer . .	-	2	-	2
Males				
18-25 . . . .	3	1	3	7
26-35 . . . .	-	2	3	5
36-50 . . . .	-	5	2	7
51-65 . . . .	-	-	-	-
Over 65 . . . .	1	-	-	1
No answer . .	-	1	-	1
Females				
18-25 . . . .	5	1	4	10
26-35 . . . .	-	3	7	10
36-50 . . . .	3	7	1	11
51-65 . . . .	2	1	4	7
Over 65 . . . .	8	-	-	8
No answer . .	-	1	-	1

Table 3.1a (continued)

Characteristic	Sample areas			Total sample
	Central Manhattan	Northwest Manhattan	Northview	
MARITAL STATUS				
Both sexes				
Single . . . .	4	3	2	9
Married . . . .	12	19	21	52
Divorced . . . .	1	-	1	2
Separated . . . .	-	-	-	-
Widowed . . . .	5	-	-	5
Males				
Single . . . .	1	1	-	2
Married . . . .	3	8	7	18
Divorced . . . .	-	-	1	1
Separated . . . .	-	-	-	-
Widowed . . . .	-	-	-	-
Females				
Single . . . .	3	2	2	7
Married . . . .	9	11	14	34
Divorced . . . .	1	-	-	1
Separated . . . .	-	-	-	-
Widowed . . . .	5	-	-	5
HOUSEHOLD COMPOSITION (no. of children)				
0 . . . . .	17	4	12	33
1 . . . . .	2	3	9	14
2 . . . . .	1	6	3	10
3 . . . . .	1	4	-	5
4 . . . . .	-	3	-	3
5 or more . . . .	1	2	-	3

Table 3.1a (continued)

Characteristic	Sample areas			Total sample
	Central Manhattan	Northwest Manhattan	Northview	
EDUCATION (years)				
Both sexes				
0-8 . . . . .	-	-	1	1
1-2 high school	1	-	2	3
3-4 high school	9	5	10	24
1-2 college .	4	3	7	14
3-4 college .	7	3	1	11
4 or more college . .	1	11	3	15
Males				
0-8 . . . . .	-	-	-	-
1-2 high school	-	-	1	1
3-4 high school	-	-	4	4
1-2 college .	1	2	1	4
3-4 college .	3	-	1	4
4 or more college . .	-	7	1	8
Females				
0-8 . . . . .	-	-	1	1
1-2 high school	1	-	1	2
3-4 high school	9	5	6	20
1-2 college .	3	1	6	10
3-4 college .	4	3	-	7
4 or more college . .	1	4	2	7
FAMILY INCOME				
Less than \$5000	13	-	4	17
5000-7500 . .	1	-	9	10
7500-10000 . .	4	1	6	11
10000-12500 .	1	-	5	6
\$15000 and over	-	13	-	13
No answer . .	-	2	-	2

Table 3.1a (continued)

Characteristic	Sample areas			Total sample
	Central Manhattan	Northwest Manhattan	Northview	
HOME OWNERSHIP				
Owner . . . .	15	22	15	52
Renter . . . .	7	-	9	16

<sup>a</sup>The table includes data obtained from observation items 2 and 3, and items 1, 2, 3, 4, 6, and 7 on the questionnaire; see Appendix A.

<sup>b</sup>All respondents were American-born whites except for one European-born female.

Table 3.1b

Occupational Structure of  
Sample Populations<sup>a</sup>

Occupation classification	Sample areas <sup>b</sup>			TS <sup>c</sup>
	CM	NW	NO	
BOTH SEXES				
Professional, technical, and kindred workers . . . . .	-	10	1	11
Managers, officials, and proprietors, except farm . . . . .	-	1	-	1
Clerical and kindred workers . . . . .	-	1	3	4
Sales workers . . . . .	-	1	-	1
Craftsmen, foremen, and kindred workers . . . . .	-	-	2	2

Table 3.1b (continued)

Occupation classification	Sample areas			TS
	CM	NW	NO	
Operatives and kindred workers . .	-	-	2	2
Private household workers . . . .	-	-	-	-
Service workers, except private household . . . . .	7	-	2	9
Laborers . . . . .	-	-	-	-
Students . . . . .	3	2	4	9
Housewives . . . . .	10	7	7	24
Retired . . . . .	2	-	1	3
Unemployed . . . . .	-	-	2	2
<b>MALES</b>				
Professional, technical, and kindred workers . . . . .	-	6	1	7
Managers, officials, and proprietors . . . . .	-	1	-	1
Clerical and kindred workers . . .	-	-	-	-
Sales workers . . . . .	-	1	-	1
Craftsmen, foremen, and kindred workers . . . . .	-	-	2	2
Operatives and kindred workers . .	-	-	1	1
Private household workers . . . .	-	-	-	-
Service workers, except private household . . . . .	2	-	-	2
Laborers . . . . .	-	-	-	-
Students . . . . .	1	1	3	5

Table 3.1b (continued)

Occupation classification	Sample areas			TS
	CM	NW	NO	
Retired . . . . .	1	-	-	1
Unemployed . . . . .	-	-	1	1
<b>FEMALES</b>				
Professional, technical, and kindred workers . . . . .	-	4	-	4
Managers, officials, and pro- priators . . . . .	-	-	-	-
Clerical and kindred workers . . .	-	1	3	4
Sales workers . . . . .	-	-	-	-
Craftsmen, foremen, and kindred workers . . . . .	-	-	-	-
Operatives and kindred workers . .	-	-	1	1
Private household workers . . . .	-	-	-	-
Service workers, except private household . . . . .	2	-	-	2
Students . . . . .	2	1	1	4
Housewives . . . . .	10	7	7	24
Retired . . . . .	1	-	-	2
Unemployed . . . . .	-	-	1	1

<sup>a</sup>The classification is based on the Standard Industrial Classification. The table includes data obtained from item 5 on the questionnaire; see Appendix A.

<sup>b</sup>CM = Central Manhattan, NW = Northwest Manhattan, and NO = Northview.

<sup>c</sup>TS = total sample.

structures were divided into rental rooms and apartments, sometimes with the owner living on the same premises.<sup>3</sup>

#### Northwest Manhattan

This was the newest residential environment surveyed. The homes were constructed between 1960 and 1970, for the most part, and the three blocks sampled are all parts of three subdivisions constructed by the same developer.<sup>4</sup> Plates 5-8 display various scenes of Northwest Manhattan. The houses are primarily contemporary ranch-style or split-level. There are no alleys, thus requiring the construction of driveways for each house. In contrast to Central Manhattan, which was located on a floodplain, Northwest Manhattan is somewhat rolling and the streets are not all based on a strict grid pattern. A variety of flora exists including trees, many of which have been planted only recently, and decorative shrubbery around nearly all of the houses.

Twenty-two respondents represent Northwest Manhattan. The most common age group of this area's respondents was the "36-50" category (see Tables 3.1a and 3.1b). Practically all of the respondents were married and the number of children per household spread rather evenly from 0 to 5 or more.

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<sup>3</sup>Results obtained from item 8 on the questionnaire were similar for all three sample areas and did not seem to lend any insight into the "place" backgrounds of respondents. Therefore, the data is not displayed in this study.

<sup>4</sup>The blocks surveyed and the number of residents interviewed on each block were: 2800 Oregon Lane--7 respondents, 2800 Nevada--10 respondents, and 2800 Illinois Lane--5 respondents.



Plates 5-8. Views of Northwest Manhattan

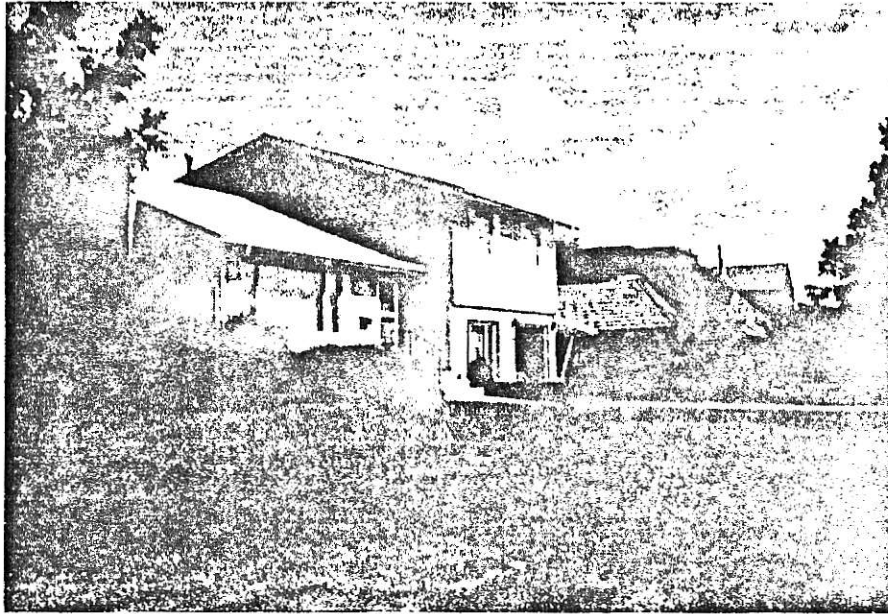


Plate 5



Plate 6

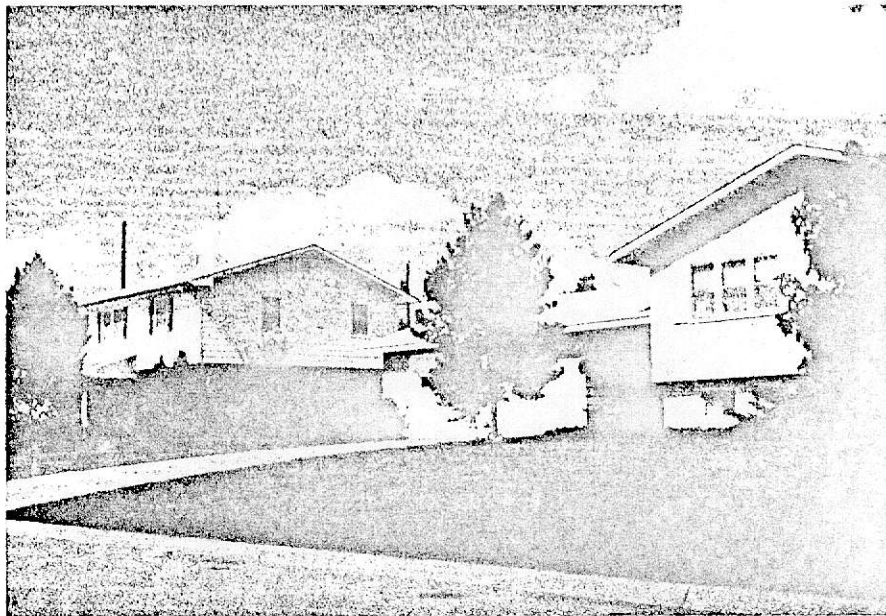


Plate 7

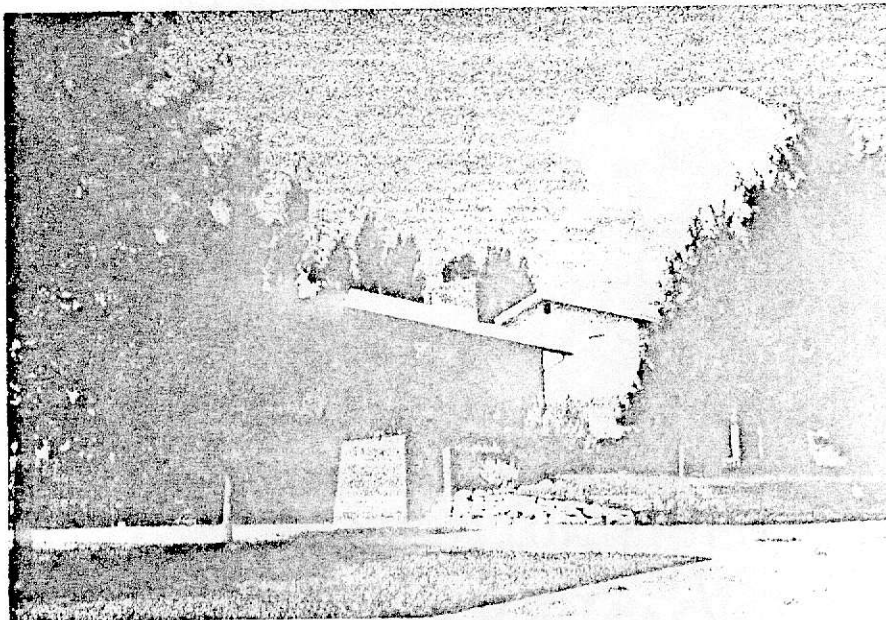


Plate 8

Nearly everyone interviewed in Northwest Manhattan had attended college with one half of the respondents undertaking post-graduate studies at some time. This is reflected in the incomes and occupations of the respondents--more than one half of the families have an income of \$15,000 or more and 10 of the respondents were "professional, technical, and kindred workers," both attributes surpassing the educational and economic levels of respondents in the other sample areas. Everyone in this area owned their own home, a characteristic not as common in either of the other areas.

#### Northview

Plates 9-12 contain scenes of the final sample area. Four blocks were surveyed producing 24 respondents.<sup>5</sup> All of the sample blocks in Northview are part of the Gross subdivision developed in the early 1950's. The original floor plans of all the houses are identical, but some owners have made room and garage additions as well as sometimes creating new facades for the structures. Driveways vary from dirt and sand surfaces to paved surfaces. Houses are placed on the lots in one of two patterns, either the long dimension paralleling or being perpendicular to the street.

Respondents in the Northview area were typically younger than those in the other sample areas, the modal age

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<sup>5</sup>The blocks surveyed and the number of residents interviewed on each block were: 2100 Blaker Drive--6 respondents, 2200 Blaker Drive--7 respondents, 2100 Green Avenue--5 respondents, and 2200 Green Avenue--6 respondents.

## Plates 9-12. Views of Northview

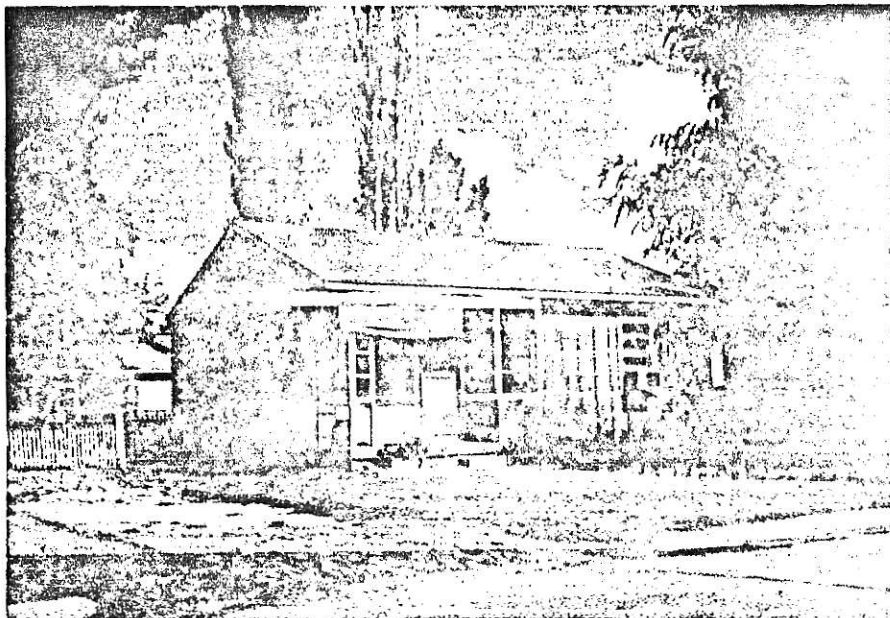


Plate 9

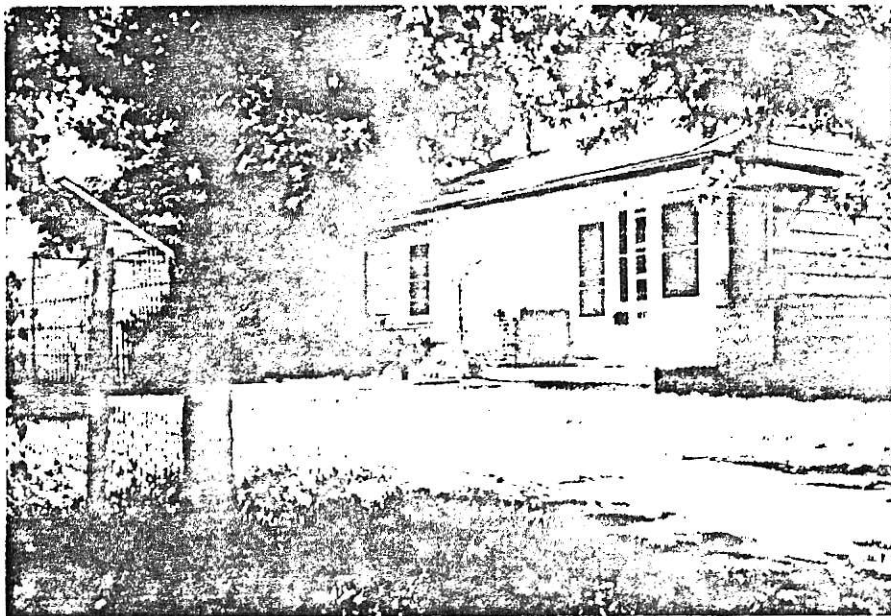


Plate 10

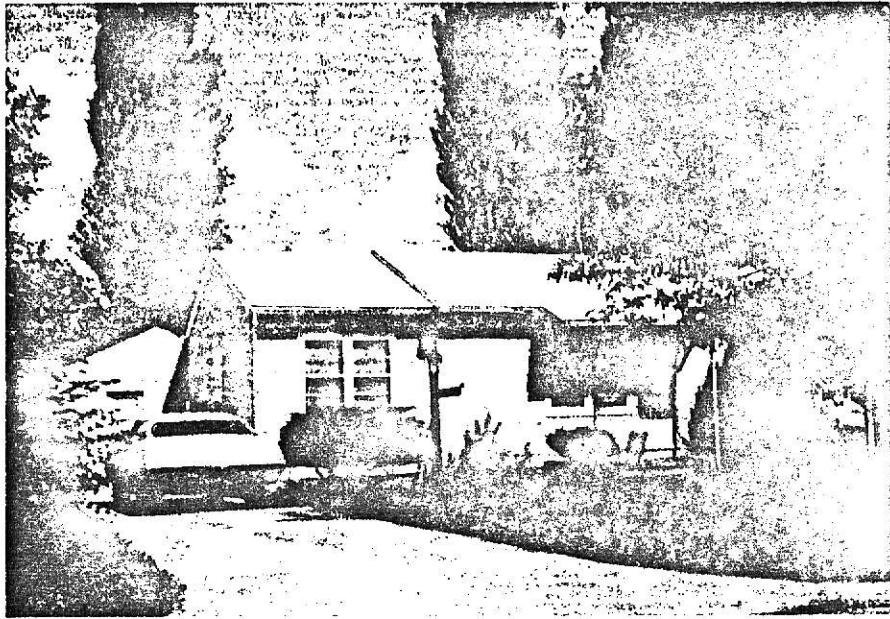


Plate 11

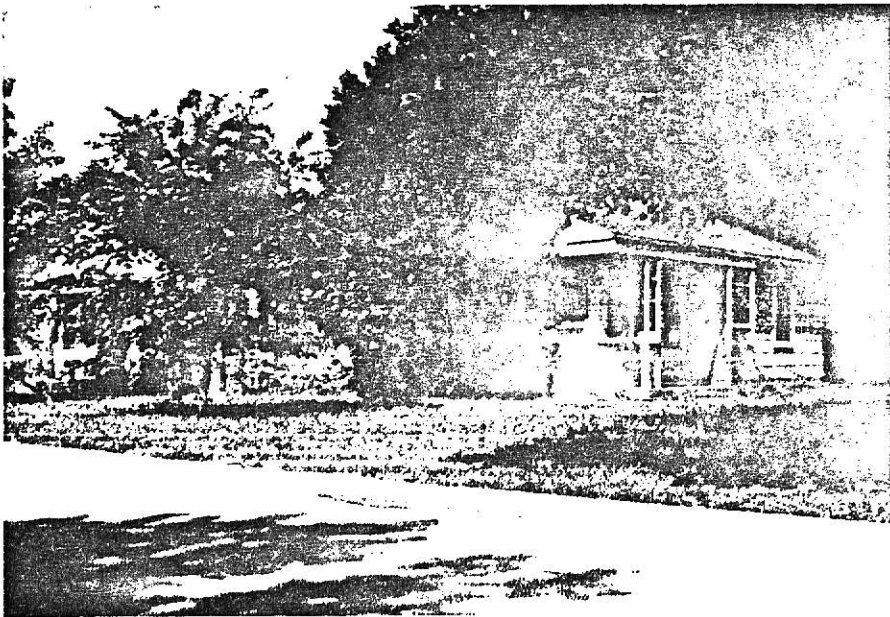


Plate 12



group being "26-35" (see Table 3.1a). Most were married and all respondents had two children or less. The widest ranges in exposure to education were found in Northview with 3 respondents not having finished high school and 3 respondents attempting post-graduate studies. The highest frequency of residents, however, had only a high school education or one to two years of college. The mean family income is approximately located in the upper range of the "\$5,000-7,500" category and no families in the sample made over \$12,500 per annum. The occupational structure of the sample was very diverse (Table 3.1b). Nine of the 24 respondents rented their homes.

#### COMPARATIVE ANALYSIS: BLOCK AND PROPERTY ASSOCIATIONS

Items 9 through 14 on the questionnaire dealt with respondent behavior in their block environments. The questions were designed to find out what activities residents engaged in concerning their own property and their associations with neighbors. The information will hopefully give an indication of how respondents feel about their block as expressed by their activities and acquaintances.

#### Length of Residence on Block

Data concerning length of residence, item 9, reflected the age of the sample areas and the structure of the areas regarding "owner-renter" characteristics (see Table 3.2). Central Manhattan is composed of short-term transients as

Table 3.2

Length of Residence on Block  
of All Respondents

	Sample areas					
	Central Manhattan		Northwest Manhattan		Northview	
	Years	Months	Years	Months	Years	Months
(1)	35	-	11	-	21	-
(2)	32	-	10	-	20	-
(3)	28	-	10	-	20	-
(4)	23	-	10	-	19	-
(5)	22	-	10	-	12	-
(6)	16	-	8	-	11	-
(7)	15	-	8	-	9	6
(8)	13	-	7	-	6	-
(9)	10	-	7	-	4	-
(10)	9	-	7	-	3	-
(11)	7	-	6	-	3	-
(12)	7	-	6	-	2	6
(13)	6	-	5	-	2	-
(14)	4	-	5	-	2	-
(15)	1	-	5	-	1	2
(16)	-	9	4	-	1	-
(17)	-	8	4	-	1	-
(18)	-	7	3	-	-	9
(19)	-	6	2	-	-	4



Table 3.2 (continued)

	Sample areas					
	Central Manhattan		Northwest Manhattan		Northview	
	Years	Months	Years	Months	Years	Months
(20)	-	5	1	3	-	3
(21)	-	3	1	-	-	2
(22)	-	1	1	-	-	2
(23)					-	1
(24)					-	1

well as permanent residents. A number of respondents have lived on the same block for over twenty years and approximately three times as many have resided there for over four years. Eight respondents, nearly all renters, have lived there for one year or less. In Northwest Manhattan, where every respondent is a homeowner, the length of residence distribution has less dispersion because of the area's relatively young age. Like Northwest Manhattan, Northview is also a single-family dwelling area but contains many renters, probably because the cost of housing is much lower than that of Northwest Manhattan. The Northview length of residence distribution is somewhat similar to that of Central Manhattan considering the age of the area.

### Amount of Time Spent at Home

Item 10 failed to produce many noteworthy differences among the sample areas concerning the amount of time spent at home by respondents (see Table 3.3). The most obvious difference is that Central Manhattan appears to have a slightly higher proportion of residents (nearly all females) who spend "most of each day" at home than either of the other sample areas. This is probably due to the notable frequency of elderly persons in this area who are less mobile in terms of employment and recreation than persons of younger ages. Northwest Manhattan and Northview are extremely similar in all of the categories.

When considering the total sample, there is a distinct difference between the sexes concerning time spent at home. Although the male portion of the sample is small in number, it is evident that they are at home much less than the female component. This was expected because all but one male was employed and a large share of the females sampled were housewives. In general, most of the total sample was at home "most of each day" or "part of each day" depending on the sex of the respondent. Very few respondents spent "very little of each day" at home.

### Amount of Time Spent Outdoors

Table 3.4 asserts that Northview respondents, especially females, spend more time outdoors than do residents of the other sample areas (questionnaire item 11). Central Manhattan respondents spend the least time outside, including

Table 3.3

Amount of Time Spent at Home  
by Respondents

Amount of time	Sample areas <sup>a</sup>		
	CM	NW	NO
Total sample			
Most of each day . . . . .	13 (59.15) <sup>b</sup>	8 (36.40)	11 (45.87)
Part of each day . . . . .	6 (27.30)	12 (54.60)	12 (50.04)
Very little of each day .	3 (13.65)	2 ( 9.10)	1 ( 4.17)
Males			
Most of each day . . . . .	1 <sup>c</sup>	1	1
Part of each day . . . . .	2	7	6
Very little of each day .	1	1	1
Females			
Most of each day . . . . .	12 (66.72) <sup>d</sup>	7 (53.83)	10 (62.50)
Part of each day . . . . .	4 (22.24)	5 (38.45)	6 (37.50)
Very little of each day .	2 (11.12)	1 ( 7.69)	-

<sup>a</sup>CM = Central Manhattan, NW = Northwest Manhattan, and NO = Northview.

<sup>b</sup>Numbers in parentheses indicate frequencies expressed as percentages of each area's sample population.

<sup>c</sup>Percentages not computed because of the small number of males sampled.

Table 3.3 (continued)

<sup>d</sup>Percentages are computed from total number of females in each sample area.

Table 3.4

Amount of Time Spent Outdoors  
by Respondents

Hours	Sample areas <sup>a</sup>		
	CM	NW	NO
Total sample			
Less than 1 . . . . .	7 (31.85) <sup>b</sup>	5 (22.75)	2 ( 8.34)
1-2.5 . . . . .	10 (45.50)	15 (68.25)	16 (66.72)
3-4.5 . . . . .	3 (13.65)	2 ( 9.10)	5 (20.85)
5-6.5 . . . . .	2 ( 9.10)	-	-
7 or more . . . . .	-	-	1 ( 4.17)
Males			
Less than 1 . . . . .	2 <sup>c</sup>	3	1
1-2.5 . . . . .	2	5	6
3-4.5 . . . . .	-	1	-
5-6.5 . . . . .	-	-	-
7 or more . . . . .	-	-	1

Table 3.4 (continued)

Hours	Sample areas		
	CM	NW	NO
Females			
Less than 1 . . . . .	<sup>5</sup> (27.80) <sup>d</sup>	<sup>2</sup> (15.38)	<sup>1</sup> ( 6.25)
1-2.5 . . . . .	<sup>8</sup> (44.48)	<sup>10</sup> (76.90)	<sup>10</sup> (62.50)
3-4.5 . . . . .	<sup>3</sup> (16.68)	<sup>1</sup> ( 7.69)	<sup>5</sup> (31.25)
5-6.5 . . . . .	<sup>2</sup> (11.12)	-	-
7 or more . . . . .	-	-	-

a, b, c, <sup>d</sup>See footnotes for Table 3.3, pp. 68-69.

both the total sample population and the female component of that area. (It is difficult to formulate any assumptions about the males surveyed because their few numbers prohibit meaningful evaluation.) The location of outdoor activity, item 12, was relatively the same for all of the areas (see Table 3.5). Most outdoor activity took place in both front and back yards, followed by back yard only, and finally, front yard only.

The dominant outdoor activity of respondents on their own blocks or properties, item 13, is also somewhat similar when comparing the sample areas (see Table 3.6). Yard work tends to be the most frequent outdoor activity for the total sample and each of the sexes. Although Northview respondents

Table 3.5

## Location of Outdoor Activity of Respondents

Location	Sample areas <sup>a</sup>		
	CM	NW	NO
Total sample			
Front yard . . . . .	<sup>4</sup> (18.20) <sup>b</sup>	-	<sup>2</sup> ( 8.34)
Back yard . . . . .	<sup>5</sup> (22.75)	<sup>5</sup> (22.75)	<sup>6</sup> (25.02)
Both front and back . . .	<sup>13</sup> (59.15)	<sup>16</sup> (72.80)	<sup>14</sup> (58.38)
Other property on block .	-	<sup>1</sup> ( 4.55)	<sup>2</sup> ( 8.34)
Males			
Front yard . . . . .	<sup>1</sup> <sup>c</sup>	-	1
Back yard . . . . .	-	2	-
Both front and back . . .	3	6	6
Other property on block .	-	1	1
Females			
Front yard . . . . .	<sup>3</sup> (16.68) <sup>d</sup>	-	<sup>1</sup> ( 6.25)
Back yard . . . . .	<sup>5</sup> (27.80)	<sup>3</sup> (23.07)	<sup>6</sup> (37.50)
Both front and back . . .	<sup>10</sup> (55.60)	<sup>10</sup> (76.90)	<sup>8</sup> (50.00)
Other property on block .	-	-	<sup>1</sup> ( 6.25)

a, b, c, d See footnotes for Table 3.3, pp. 68-69.

Table 3.6

## Dominant Outdoor Activities of Respondents\*

Activity	Sample areas <sup>a</sup>		
	CM	NW	NO
Total sample			
Yard work . . . . .	14 (58.38) <sup>b</sup>	20 (66.60)	16 (51.52)
Recreation . . . . .	2 ( 8.34)	4 (13.32)	7 (22.54)
Sitting or sunbathing . .	6 (25.02)	5 (16.65)	4 (12.88)
"Visiting" . . . . .	1 ( 4.17)	1 ( 3.33)	2 ( 6.44)
"Babysitting" . . . . .	-	-	1 ( 3.22)
"Don't go out" . . . . .	1 ( 4.17)	-	1 ( 3.22)
Males			
Yard work . . . . .	2 <sup>c</sup>	8	7
Recreation . . . . .	-	1	3
Sitting or sunbathing . .	2	2	1
"Visiting" . . . . .	1	-	-
"Don't go out" . . . . .	-	-	1
Females			
Yard work . . . . .	12 (63.12) <sup>d</sup>	12 (63.12)	9 (47.34)
Recreation . . . . .	2 (10.52)	3 (15.78)	4 (21.04)
Sitting or sunbathing . .	4 (21.04)	3 (15.78)	3 (21.04)



Table 3.6 (continued)

Activity	Sample areas		
	CM	NW	NO
"Visiting" . . . . .	-	<sup>1</sup> ( 5.26)	<sup>2</sup> (10.52)
"Babysitting" . . . . .	-	-	<sup>1</sup> ( 5.26)
"Don't go out" . . . . .	<sup>1</sup> ( 5.26)	-	-

\* More than one response per person was allowed; each response is counted separately.

a, b, c, <sup>d</sup>See footnotes for Table 3.3, pp. 68-69.

state that they spend more time outside than respondents in either Central Manhattan or Northwest Manhattan, they tend to give a little less attention to yard work. There does, however, appear to be some noticeable differences between the areas concerning secondary activities such as "recreation" and "sitting or sunbathing." An observable difference in percentages of the total sample engaged in "recreation" exists between Central Manhattan and Northview as well as a significant difference between the same two areas in the "sitting or sunbathing" category. Northview residents are more apt to be involved in recreational activities while Central Manhattan residents desire sitting. Northwest Manhattan is found between the two in both cases. This blends very well with the age structures of each area--young, active people in Northview and more elderly citizens in Central

Manhattan.

### Contact with Neighbors

Item 14 on the questionnaire, focusing on direct interaction between respondents and their neighbors, failed to produce any discernible differences among the sample areas (see Table 3.7). Northwest Manhattan males perhaps have more frequent face-to-face contact with neighbors than males in the other areas, although the male sample is rather small to warrant strong assertions. More than one half of the respondents in each of the areas have at least daily visits with neighbors. It is interesting to note that the second most frequently checked category, in most cases, was the last one, "very little contact."

### COMPARATIVE ANALYSIS: ITEMS ON VISUAL QUALITY

#### Housing and Yard Condition

The physical appearance of the environments was surveyed in observation items 4 and 5. These evaluations were very subjective and included only the street-facing side of all the properties. All of the houses on the residential blocks were observed, including property owned by people other than respondents.

The results of the housing condition survey are displayed in Table 3.8. The most obvious comparative feature is the prominence of "new" houses in Northwest Manhattan. Neither of the other areas contain new structures. Also,

Table 3.7

## Contact with Neighbors by Respondents

Frequency	Sample areas <sup>a</sup>		
	CM	NW	NO
Total sample			
Daily . . . . .	12 (54.60) <sup>b</sup>	12 (54.60)	13 (54.21)
More than once a week . .	3 (13.65)	5 (22.75)	2 ( 8.34)
Once a week . . . . .	2 ( 9.10)	1 ( 4.55)	3 (12.51)
Less than once a week . .	5 (22.75)	4 (18.20)	6 (25.02)
Males			
Daily . . . . .	2 <sup>c</sup>	5	3
More than once a week . .	-	3	-
Once a week . . . . .	1	-	1
Less than once a week . .	1	1	4
Females			
Daily . . . . .	10 (55.60) <sup>d</sup>	7 (53.83)	10 (60.25)
More than once a week . .	3 (16.68)	2 (15.38)	2 (12.50)
Once a week . . . . .	1 ( 5.56)	1 ( 7.69)	2 (12.50)
Less than once a week . .	4 (22.24)	3 (23.07)	2 (12.50)

a, b, c, <sup>d</sup>See footnotes for Table 3.3, pp. 68-69.

related to this is the fact that "deteriorating" and "dilapidated" structures exist only in Central Manhattan and Northview. Housing condition appears to be closely related to the age of the areas--Central Manhattan has the only "dilapidated" house (see Plate 4, page 50) and the highest percentage of "deteriorating" structures; Northview has "sound"

Table 3.8

## Housing Condition

Category <sup>a</sup>	Sample areas		
	CM	NW	NO
(Total number of houses . . . .)	30	42	56)
Number of houses			
New . . . . .	-	41	-
Sound . . . . .	26	1	54
Deteriorating . . . . .	3	-	2
Dilapidated . . . . .	1	-	-
Percentages			
New . . . . .	-	97.62	-
Sound . . . . .	86.67	2.38	96.43
Deteriorating . . . . .	10.00	-	3.57
Dilapidated . . . . .	3.33	-	-

<sup>a</sup>Criteria for categorization are listed on pp. 34-35.

structures, for the most part; and Northwest Manhattan has the only structure which cannot be classified as "new."

Table 3.9  
Yard Condition

Category <sup>a</sup>	Sample areas		
	CM	NW	NO
(Total number of yards . . . . .	30	42	56)
Number of yards			
Landscaped . . . . .	19	40	30
Plain . . . . .	10	2	14
Deteriorating . . . . .	1	-	12
Percentages			
Landscaped . . . . .	63.33	95.24	53.57
Plain . . . . .	33.33	4.76	25.00
Deteriorating . . . . .	3.33	-	21.43

<sup>a</sup>Criteria for categorization are listed on pp. 34-35.

Similar results were not discovered concerning the yard condition rating, observation item 5 (see Table 3.9). More "deteriorating" yards were found in Northview than Central Manhattan and the latter contained a higher percentage of "landscaped" lawns than the former. Age, however, could possibly be an explanation for the differences since yards

require continual maintenance while structures weather through time (Northview properties may actually be on a "deteriorating" trend as evidenced by the condition of yards in comparison with Central Manhattan). Northwest Manhattan yard condition parallels its housing condition, again reflecting the youthful stage of development of the area and the high incomes of its residents.

It is not easy to determine how important physical conditions are as a factor relating to visual quality of buildings and property. Decay or blight of this nature, however, is generally regarded as being offensive to the eye. Some indication of the relative amount of care given to property is unveiled. The higher frequency of "deteriorating" yards in Northview than either of the other sample areas, one of which is much older, is a possible example of property negligence. Northwest Manhattan's physical conditions are primarily a function of age although the high incomes of its residents will probably ensure active property maintenance.

#### Visual Unattractiveness

Table 3.10 ranks the open-ended responses to item 15 by frequency for each of the sample areas. There appears to be strong agreement among respondents within their respective areas on what constitutes ugliness in their residential environments. Because of local differences, however, each area has its own distinctive attributes as described by respondents.

Table 3.10

Elements of Visual Unattractiveness as  
Perceived by Respondents

Rank	Element	Frequency <sup>a</sup>
Central Manhattan		
1	Property not maintained . . . . .	10
2	Alleys--junk cars and associated buildings	7
3	NO RESPONSE . . . . .	6 <sup>b</sup>
4	Old cars in back . . . . .	3
5	Not enough trees . . . . .	1
	Sidewalks . . . . .	1
	Street is dirty . . . . .	1
	"Treestumps" . . . . .	1
Northwest Manhattan		
1	NO RESPONSE . . . . .	18 <sup>c</sup>
2	Parked cars on street . . . . .	4
3	Houses too close together . . . . .	2
	Houses look alike . . . . .	2
4	Trees not mature . . . . .	1
	Poor storm drainage . . . . .	1
Northview		
1	Property not maintained . . . . .	10
2	NO RESPONSE . . . . .	7 <sup>d</sup>
3	Houses "ugly" or look alike . . . . .	5



Table 3.10 (continued)

Rank	Element	Frequency
4	Trash . . . . .	3
5	Not enough trees . . . . .	2
6	Poor storm drainage . . . . .	1
	Parked cars on street . . . . .	1
	Yards "shabby" . . . . .	1
	No lights on street . . . . .	1
	"Not most beautiful part of town" . . . . .	1

<sup>a</sup>More than one answer per respondent was allowed.

<sup>b</sup>27.27 percent of Central Manhattan respondents.

<sup>c</sup>81.81 percent of Northwest Manhattan respondents.

<sup>d</sup>29.17 percent of Northview respondents.

The majority of responses in Central Manhattan were directed toward the lack of property maintenance and the unattractiveness of alleys (a feature not present in the other residential environments). This is the only area that can be viewed from the back as well as the front and the responses indicated such. Northwest Manhattan respondents had the highest frequency of no response. Evidently they perceived their area as having few visual faults, the dominant one being parked cars on the streets. Property maintenance was also the primary concern of Northview residents, followed by criticism of the design of structures. One resident referred to them as "soapboxes." Some Northwest

Manhattan respondents also objected to the uniformity in design of houses. The reason this was not mentioned by Central Manhattan residents is probably because the design of structures preceded contemporary subdivision development procedures.

The less frequently mentioned attributes were usually only of provincial concern. Sidewalks exist only in Central Manhattan so only respondents in that area spoke of them. Poor storm drainage was observed only in Northwest Manhattan and Northview. Various aspects of "trees" were mentioned in all of the residential environments, as were "cars."

A valuable indicator of the "degree" of unattractiveness perhaps lies in the number of respondents that gave no answer to the question. Eighty-two percent of the Northwest Manhattan sample gave no response while only less than one third of the sample in each of the other areas answered likewise. It is suspected that the visual quality of Northwest Manhattan is seen as much better than that of Central Manhattan and Northview because of this indicator. The striking difference cannot be overlooked.

#### Visual Attractiveness

The elements described by respondents that beautified the residential environments, item 16, are ranked in Table 3.11. The most common element mentioned by all respondents was that houses and lawns are kept up. Trees had the second highest frequency of mention. In general, respondents identified similar block characteristics in all of the

Table 3.11  
Elements of Visual Attractiveness as  
Perceived by Respondents

Rank	Element	Frequency <sup>a</sup>
Central Manhattan		
1	Property maintained . . . . .	17
2	Trees . . . . .	5
3	NO RESPONSE . . . . .	3
4	Large, old houses . . . . .	1
	"Alley looks good" . . . . .	1
	Flowers . . . . .	1
Northwest Manhattan		
1	Property maintained . . . . .	20
2	Trees . . . . .	4
3	"Nice part of town" . . . . .	2
4	NO RESPONSE . . . . .	1 <sup>b</sup>
	"Houses don't look alike" . . . . .	1
	Utility poles placed in back . . . . .	1
	Street kept up . . . . .	1
	Distance between houses large . . . . .	1
Northview		
1	Property maintained . . . . .	11
2	Trees . . . . .	7
3	NO RESPONSE . . . . .	4

Table 3.11 (continued)

Rank	Element	Frequency
4	Clean . . . . .	3
	"Nice area" . . . . .	3
5	Gardens and flowers . . . . .	2
6	Small houses . . . . .	1

<sup>a</sup>More than one answer per respondent was allowed.

<sup>b</sup>This respondent listed no elements and seemed to be somewhat indifferent by saying, "it's a place to live."

sample areas and attention was usually directed toward the appearance of houses and nature in the blocks. Very few respondents had no response.

In Northwest Manhattan and Northview a few respondents seemed to base their answers on a comparative scale with other areas. For example, the respondents saw themselves as dwelling in a "nice part of town" and one Northview respondent's answers were, in his words, "compared to the East coast" residential environment he had just come from.

With reference to questionnaire items 15 and 16, it should be noted that respondents in Central Manhattan and Northview readily distinguished between "owner" property and "renter" property. For example, Northview respondents, both owners and renters, associated rental property with poor maintenance and owner property with good or proper maintenance.

nance. Central Manhattan respondents were less apt to specifically single out owners and renters but still described the visual quality of the blocks in terms of "some of the property." This factor played an important role in the perceptions of respondents, especially in Northview.

#### Attitudes toward Block Attractiveness

Respondents were asked to evaluate their neighbors' attitudes toward block attractiveness in questionnaire item 18. No one thought their neighbors were unconcerned (see Table 3.12). A strong similarity exists between Central Manhattan and Northview residents with approximately one half of the respondents in each area viewing their neighbors as "actively concerned" and the remainder of the responses falling in the other two categories. Respondents in North-

Table 3.12

#### Neighbors' Attitudes toward Visual Quality

Attitude	Sample areas <sup>a</sup>		
	CM	NW	NO
Actively concerned . . . . .	12 (54.60) <sup>b</sup>	20 (91.00)	12 (50.04)
Somewhat concerned . . . . .	5 (22.75)	1 ( 4.55)	7 (29.19)
Unconcerned . . . . .	-	-	-
Half concerned, half unconcerned . . . . .	5 (22.75)	1 ( 4.55)	5 (20.85)

<sup>a</sup>, <sup>b</sup>See footnotes for Table 3.3, p. 68.

west Manhattan judged their neighbors as being predominantly "actively concerned" with only two responses located outside of this category.

The striking difference between Northwest Manhattan and the other sample areas is probably due to the fact that all Northwest Manhattan residents are homeowners, therefore, all property is kept up to block standards. Support for this assumption can also be drawn from the previously discussed housing and yard condition ratings (see Tables 3.8 and 3.9). Respondents in Central Manhattan and Northview have a tendency to view tenants (or landlords) as irresponsible to block visual quality as expressed by property maintenance.

There appears to be extreme differences among the three sample areas in response to item 19 which focuses on the respondents' own attitudes toward a visually pleasing environment (see Table 3.13). Central Manhattan respondents view themselves as "concerned, but lacking some resource(s)," or secondly, "actively concerned." When comparing all of the areas, Central Manhattan has the lowest percentage of "actively concerned" individuals. This may be a function of the elderly nature of the age structure of respondents. Eighty-six percent of the Northwest Manhattan respondents thought themselves as being "actively concerned," the possible reasons being the same as those discussed in relation to neighbors' attitudes. Over one half of the Northview respondents were "actively concerned" and the only "unconcerned" response was also in this area.

Table 3.13  
Personal Attitudes toward Visual Quality

Attitude	Sample areas <sup>a</sup>		
	CM	NW	NO
Actively concerned . . . .	8 (36.40) <sup>b</sup>	19 (86.45)	14 (58.38)
Concerned, but lack resources . . . . .	14 (63.70)	3 (13.65)	9 (37.53)
Unconcerned . . . . .	-	-	1 ( 4.17)

a, <sup>b</sup>See footnotes for Table 3.3, p. 68.

#### Proposed Improvement of Block Visual Quality

A wide variety of responses and proposals were obtained for item 20 on the questionnaire. Table 3.14 reveals that the largest portion of Central Manhattan and Northview respondents favored increased property maintenance. The need for more trees was cited in all of the residential environments as was the removal of parked cars from the streets. Northwest Manhattan respondents were the only group to refer to design characteristics; i.e., "lot size too small," "put utilities underground," and "more diversity in architecture," whereas residents in the other areas indicated change for better visual quality rested in clean-up type improvements.



Table 3.14  
Proposed Block Improvements

Rank	Proposed improvement	Frequency <sup>a</sup>
Central Manhattan		
1	Maintain property; clean-up . . . . .	5
2	More trees . . . . .	4
	Sidewalk repair . . . . .	4
	No street parking . . . . .	4
3	NO RESPONSE . . . . .	3
	Trees trimmed . . . . .	3
	Removal of stumps and limbs . . . . .	3
	Removal of dilapidated house . . . . .	3
4	Alley improvement . . . . .	2
	Remove old cars . . . . .	2
5	Need someone to take care of property ("old people can't") . . . . .	1
	"Clutter on porches" . . . . .	1
	Street cleaned . . . . .	1
	More light at night . . . . .	1
Northwest Manhattan		
1	No street parking . . . . .	7
2	Sidewalks needed . . . . .	6
3	NO RESPONSE . . . . .	5
	Trees need to grow . . . . .	5
4	More trees . . . . .	2

Table 3.14 (continued)

Rank	Proposed improvement	Frequency
	Better lawn care . . . . .	2
	Lot size too small . . . . .	2
	Put utilities underground . . . . .	2
5	Different method of trash pick-up . . . . .	1
	More variety in architecture and placing of houses . . . . .	1
	Remove shrubs next to street . . . . .	1
Northview		
1	Fix up property . . . . .	13
2	NO RESPONSE . . . . .	5
3	Fix drainage problem . . . . .	4
4	More trees . . . . .	3
5	Sidewalks needed . . . . .	2
6	Trim trees . . . . .	1
	"General clean-up" . . . . .	1
	Street lights needed . . . . .	1
	More garages . . . . .	1
	No street parking . . . . .	1 <sup>b</sup>
	Storage space for children's bicycles . . . . .	1
	More driveways . . . . .	1

<sup>a</sup>More than one answer per respondent was allowed.

<sup>b</sup>Respondent said, "but that would mean more signs."

## SUMMARY

This chapter dealt with the evaluation and comparison of questionnaire responses. The demographic data obtained for the sample areas was found to be rather diverse among areas. Central Manhattan, physically the oldest area, reported relatively low incomes and few children, both phenomena being a function of the age composition, many elderly and many college-age persons. Northwest Manhattan contained high incomes and highly educated people. Everyone is a homeowner and all have children. Northview respondents were found to be rather young, low to middle income families. Housing in this area features small, repetitive-appearing structures.

Concern with house and yard maintenance was prominent in all of the sample areas. Also, many of the respondents expressed an active attitude toward the visual appearance of their neighbors' and own property. Northwest Manhattan respondents appeared to perceive their surroundings as more visually pleasing than did respondents in Central Manhattan and Northview for their respective areas.

## Chapter 4

### SEMANTIC DIFFERENTIAL ANALYSIS

The previous chapter identified the various physical and social characteristics that make the three sample areas distinct from one another. These attribute differences provide an objective foundation for analyzing responses to the semantic differential. Attention will now be given to whether or not respondents in the sample areas describe their visual surroundings differently, this being the main focus of the investigation. Because of the physical and social differences among the three areas, it was hypothesized in Chapter One that a locational variation would exist concerning the perception of visual quality.

The discussion will begin with a presentation of the data collected in accordance with the semantic differential. Mean and standard deviation scores will be exhibited for each concept and scale. The second part of the discussion converges on interpretation of the semantic differential data utilizing the Kolmogorov-Smirnov nonparametric test for significance. Comparisons among the sample areas will be related to the established hypothesis.

## DESCRIPTION OF THE DATA

The semantic concepts and scales utilized in this study were outlined in Chapter Two and Appendix B. To reiterate, there are six concepts divided into two major units. The first group, Total Block Environment, is a concept in itself. The second group, Block Elements, contains the remainder of the concepts, all of which can be viewed as physical subsystems within the total visual environment. The five elements are Housing, Street, Yards and Open Space, Street Furniture, and Vegetation.

Appendix C contains the distributions of responses for each concept and the associated scales for each sample area. For the most part, responses are distributed somewhat normally given the structural confines of the semantic scales.<sup>1</sup> Bimodal and even distributions are not uncommon, however.

Mean scores and standard deviations were computed for each scale by assigning values from 1 to 7 to each interval in seven-step scale format in this manner:

rich 1 : 2 : 3 : 4 : 5 : 6 : 7 poor

The results are displayed quantitatively in Table 4.1 and pictorially in Figure 4.1.

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<sup>1</sup>The normal distribution is not readily applicable to semantic differential scaling because the midpoint of a scale does not necessarily represent the highest frequency of responses. The scale poles are available for high frequencies because of the "value" orientation of the adjectives.

Table 4.1

Mean and Standard Deviation Scores  
for Semantic Scales

Scale	Mean			Standard deviation		
	CM <sup>a</sup>	NW <sup>b</sup>	NO <sup>c</sup>	CM	NW	NO
Total Block Environment						
beautiful-ugly . . . . .	3.41	2.59	3.50	.72	1.11	.87
colorful-colorless . . . . .	3.05	2.73	3.58	1.06	1.20	1.11
undesirable-desirable . . . .	5.50	6.05	5.21	1.37	1.22	1.35
fancy-plain . . . . .	5.00	3.41	4.75	1.09	.72	.88
dirty-clean . . . . .	5.27	6.27	5.25	1.14	.69	1.01
unique-ordinary . . . . .	5.00	4.18	5.12	1.68	.99	1.01
superior-inferior . . . . .	4.27	2.68	3.92	.86	.97	1.19
imperfect-perfect . . . . .	3.68	4.46	3.75	1.08	.89	1.13
chaos-order . . . . .	4.77	5.64	4.96	1.41	1.40	1.24
like-dislike . . . . .	2.18	2.00	2.75	1.19	1.44	1.30
Mean of means	4.21	4.00	4.28			
Housing						
diverse-uniform . . . . .	3.44	4.19	5.94	1.42	1.62	1.13
disapprove-approve . . . . .	5.00	5.24	3.83	1.05	1.60	1.46
clean-dirty . . . . .	2.78	1.67	3.22	.92	.64	1.27
worthless-valuable . . . . .	4.96	6.10	4.45	1.08	.81	.83
beautiful-ugly . . . . .	3.44	2.90	3.78	.83	1.06	1.20

Table 4.1 (continued)

Scale	Mean			Standard deviation		
	CM	NW	NO	CM	NW	NO
fancy-plain . . . . .	4.44	3.38	5.11	1.17	.99	1.05
Mean of means	4.01	3.91	4.39			
Street						
clean-dirty . . . . .	3.00	1.81	2.28	1.15	.79	1.14
deserted-crowded . . . . .	5.17	4.09	4.28	1.34	1.60	1.40
Mean of means	4.08	2.95	3.28			
Yards and Open Space						
small-large . . . . .	4.28	5.19	2.67	.87	1.10	1.15
clean-dirty . . . . .	2.67	2.19	3.17	.94	.66	1.12
colorful-colorless . . . . .	3.33	2.57	3.44	1.00	.85	1.12
plain-fancy . . . . .	3.28	4.67	3.39	1.10	.94	.75
disorderly-orderly . . . . .	4.83	5.52	4.67	1.34	.90	1.10
attractive-unattractive . .	3.22	2.14	3.05	1.08	.77	.97
Mean of means	3.60	3.71	3.40			
Street Furniture						
exposed-hidden . . . . .	4.28	4.05	3.89	2.13	2.15	2.05
arranged-disarranged . . . .	3.44	3.00	2.89	1.74	1.69	1.15



Table 4.1 (continued)

Scale	Mean			Standard deviation		
	CM	NW	NO	CM	NW	NO
Mean of means	3.86	3.52	3.39			
Vegetation						
existent-nonexistent . . . .	1.83	2.05	2.22	1.30	.84	.97
large-small . . . . .	2.17	3.24	2.89	1.46	1.46	.94
ugly-beautiful . . . . .	5.00	5.24	5.17	1.15	.87	.76
sufficient-insufficient . .	2.44	3.09	2.61	1.80	1.63	1.01
Mean of means	2.86	3.40	3.22			

<sup>a</sup>There were 22 respondents for the first concept, Total Block Environment, and 18 respondents for the Block Elements concepts.

<sup>b</sup>Twenty-two respondents, Total Block Environment, and 21 respondents for Block Elements.

<sup>c</sup>Twenty-four respondents, Total Block Environment, and 18 respondents for Block Elements.

Examination of the means plotted in Figure 4.1 reveals a discernible response trend among the three areas. That is, responses from each area tend to follow similar paths through the semantic scales for all of the concepts as portrayed by the mean scores. More specific trends emerge when scores for individual areas are inspected. For example, Northwest Manhattan respondents lean toward the scale poles,

**THIS BOOK  
CONTAINS  
NUMEROUS PAGES  
WITH DIAGRAMS  
THAT ARE CROOKED  
COMPARED TO THE  
REST OF THE  
INFORMATION ON  
THE PAGE.**

**THIS IS AS  
RECEIVED FROM  
CUSTOMER.**

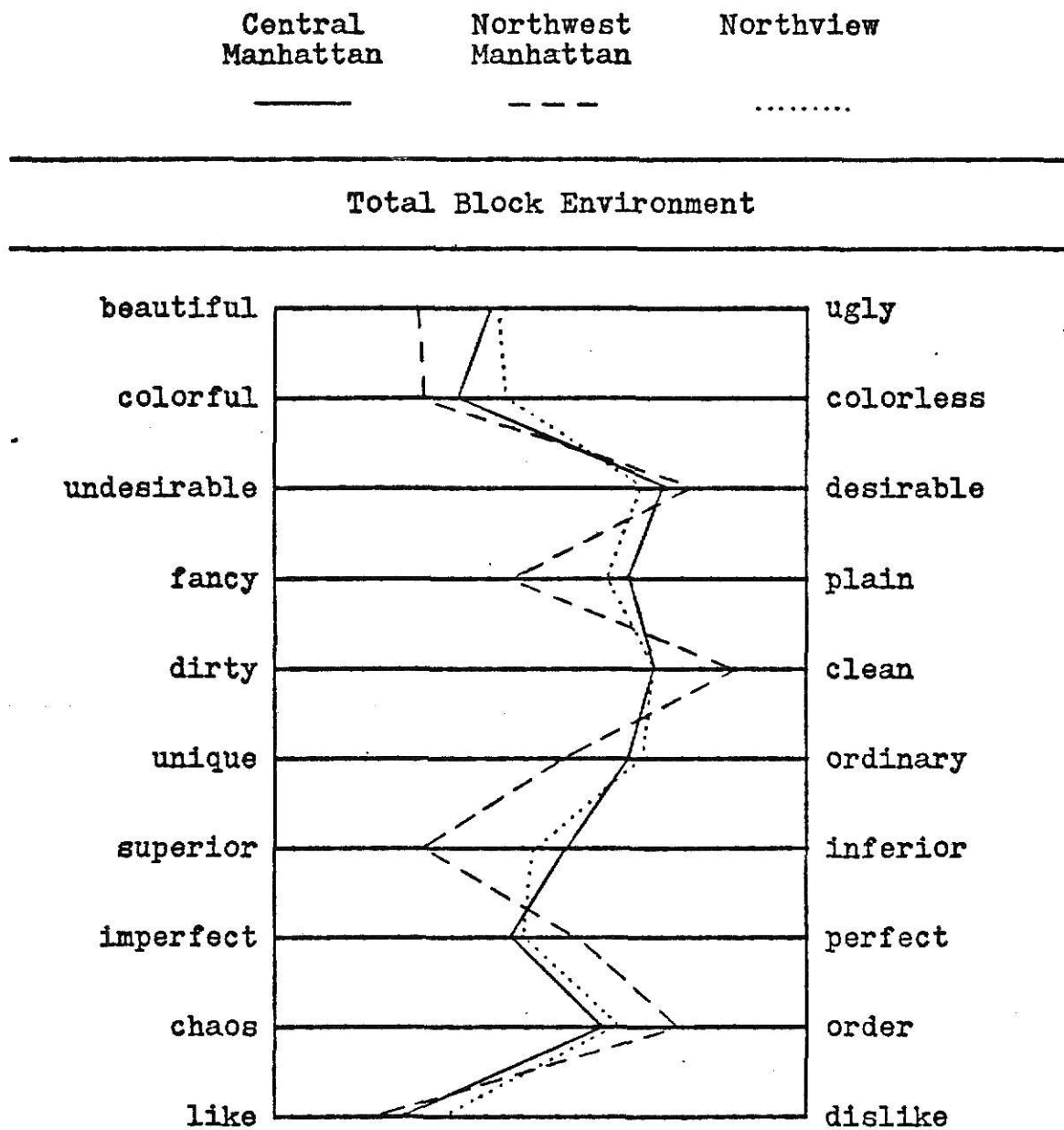


Figure 4.1  
Mean Responses for Semantic Scales

Central  
ManhattanNorthwest  
Manhattan

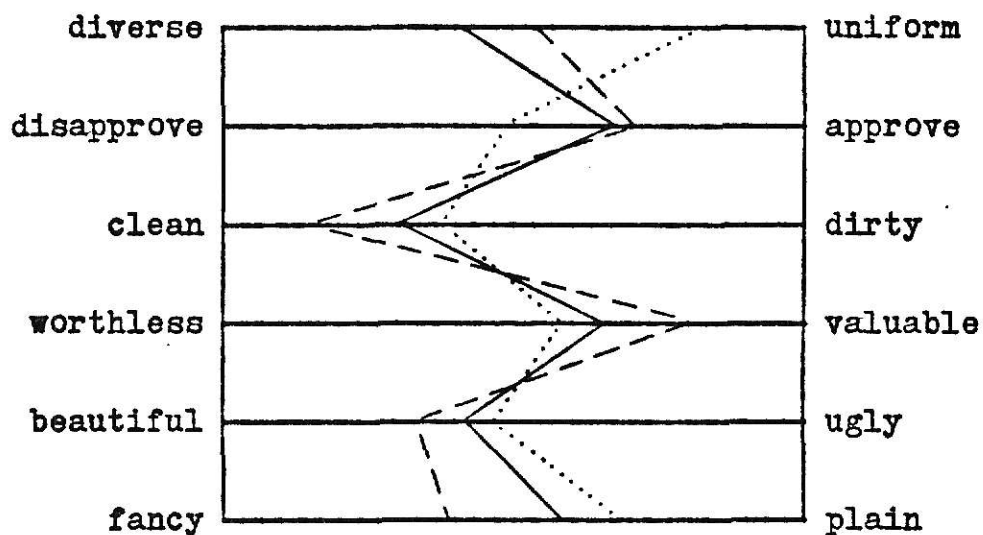
Northview

—

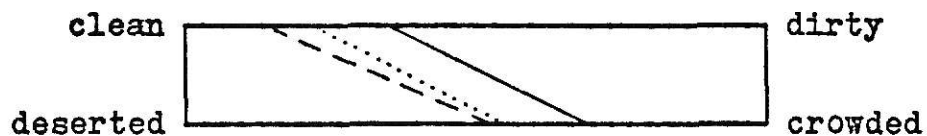
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## Housing



## Street



## Yards and Open Space

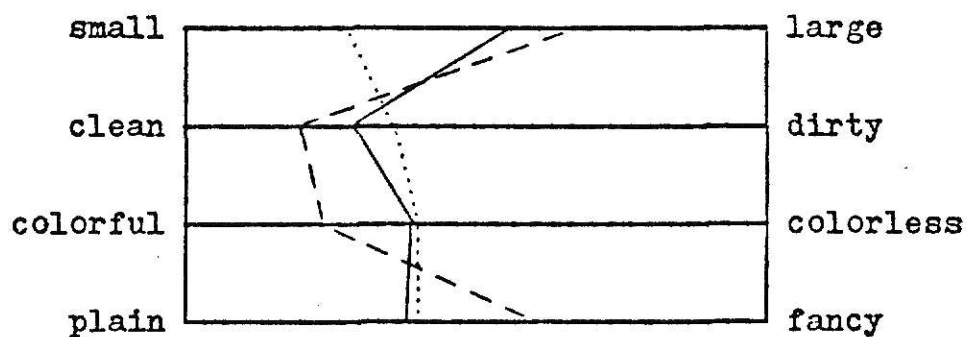


Figure 4.1 (continued)

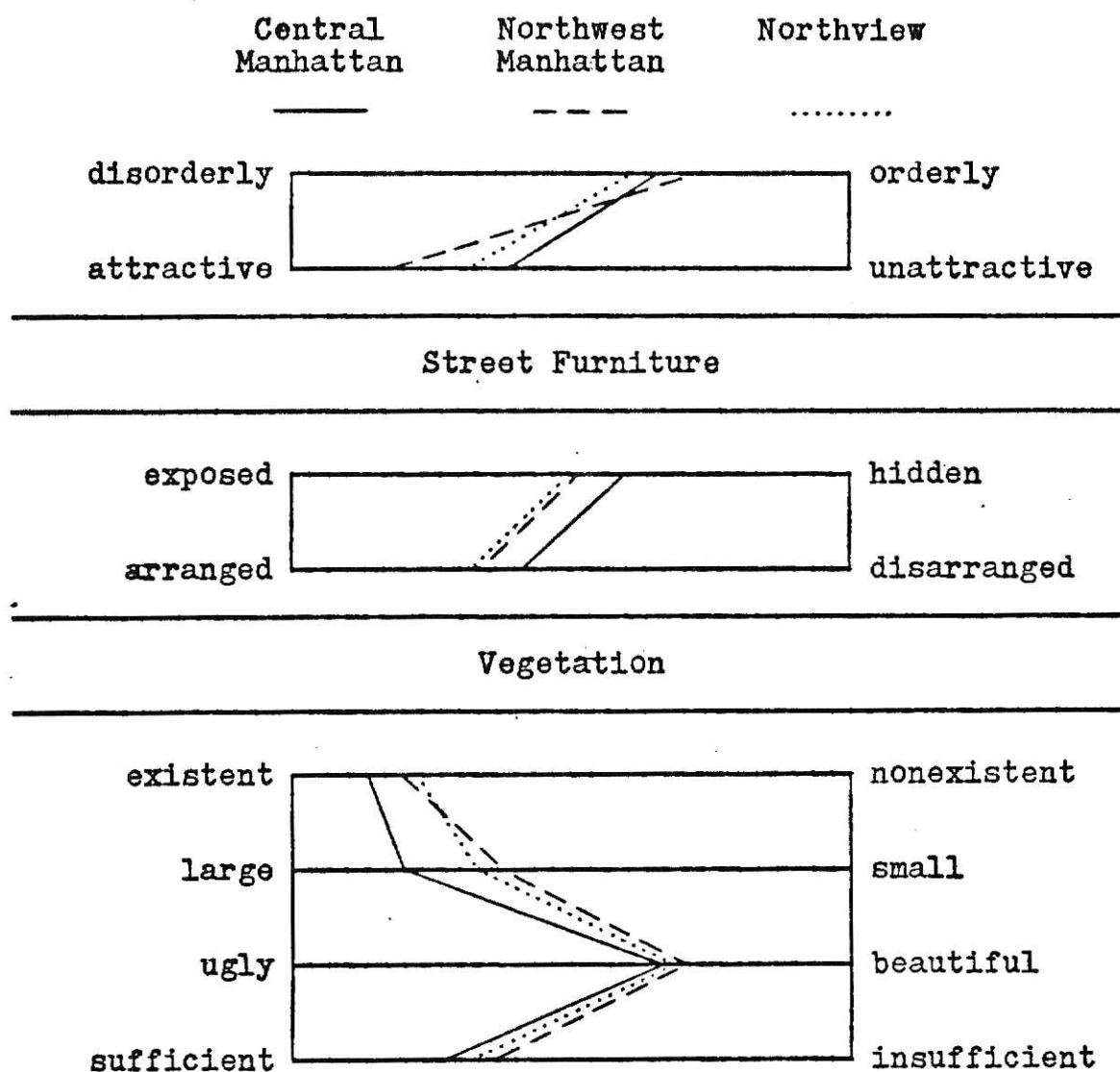


Figure 4.1 (continued)

especially when the adjective has a "positive" connotation (beautiful as opposed to ugly, or superior as opposed to inferior) concerning the concepts Total Block Environment, Housing, and Yards and Open Space. It appears that the respondents in this area view their living environment in a more commendatory manner than residents in Central Manhattan or Northview..

Mean scores are relatively close for Central Manhat-

tan and Northview on the scales under Total Block Environment. Northwest Manhattan scores are more extreme. Under the Blocks Elements concepts Housing, Street, and Yards and Open Space, however, there appears to be more variation between the means for Central Manhattan and Northview as well as scores for Northwest Manhattan, but still following similar paths. Scores for Street Furniture and Vegetation are very close for all three sample areas.

The dispersion of responses around the mean scores also displays a visible pattern. This seems to hold true for nearly all of the semantic scales as evidenced by the computed standard deviations in Table 4.1. If one sample area has a large standard deviation for a particular scale, usually one or both of the other areas also have a large standard deviation for the same scale. A small standard deviation infers close agreement among respondents on the meaning associated with a scale, while large scores may be interpreted as either disagreement among respondents or trouble with the comprehension of the words associated with a concept.

#### MEAN COMPARISONS FOR INDIVIDUAL SCALES

The most valuable use of the mean scores is that descriptive comparisons can be made among the areas concerning perception of environment for each scale. Statistical testing for similarities or differences among the sample areas about the mean is a futile task unless the scale judg-

ments are relatively normal.<sup>2</sup> Nonparametric procedures are recommended and will be taken up in the next section of this chapter. For the moment, consideration will be given to individual scale responses under the heading of each concept.

### Total Block Environment

As remarked earlier, Northwest Manhattan respondents perceive themselves as living in a more beautiful, more colorful, more desirable, fancier, cleaner, more unique, more superior, more perfect, more ordered, and better-liked visual setting than the residents of Central Manhattan and Northview, who perceive the appearance of their blocks very similarly. This is strictly a visual diagnosis of the mean scores plotted for each scale under Total Block Environment in Figure 4.1. Although Northwest Manhattan responses are more extreme toward the "desirable" poles, Central Manhattan and Northview respondents also hold positive images with the exception of the superior-inferior scale where Northview respondents perceive the visual appearance of their area as slightly inferior.

### Block Elements

Interpretation of the spacing of mean scores for the Block Elements portion of the semantic differential is not as explicitly defined as the scores for the Total Block

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<sup>2</sup>Charles E. Osgood, George J. Suci, and Percy H. Tannenbaum, The Measurement of Meaning (Urbana: University of Illinois Press, 1957), pp. 99-100.



Environment. This is perhaps due to the supposition that respondents were judging the total visual scene under Total Block Environment without regard to individual physical objects which may differ widely among the sample areas, thus causing much more variation of responses from scale to scale in each of the concepts under Block Elements. Also affecting this is the fact that many of the Block Elements scales do not have a positive-negative value relationship, that is, neither pole is "better" than the other. Examples of this include the diverse-uniform and fancy-plain scales under Housing, and the small-large scale linked with Yards and Open Space.

Housing. Under this concept Central Manhattan means are located between those of Northwest Manhattan and Northview, with the exception of the first scale (see Figure 4.1).<sup>3</sup> The fact that structures are constructed with various floorplans and heights perhaps explains the digression from the norm on the diverse-uniform scale. Again, Northwest Manhattan respondents perceive their environment in a more positive sense than the other sample areas' respondents. Northview respondents tend toward a negative image more often than Central Manhattan or Northwest Manhattan. This area especially approaches the poles of uniform and plain while Northwest Manhattan respondents are nearer the clean and valuable

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<sup>3</sup>Central Manhattan respondents often remarked that "we are middle of the road" or "just average." This notion may be somewhat supported by these results although the same trend does not necessarily hold true for the other concepts.

poles.

Street. The positioning of mean responses for this concept indicates very similar response patterns for all three areas (see Figure 4.1). All respondents perceive clean and average or slightly crowded streets in their areas.

Yards and Open Space. Once again, Northwest Manhattan mean scores are generally more extreme than the other sample areas toward "good" poles on the continuums associated with this concept (see Figure 4.1). They view their yards as larger, cleaner, more colorful, fancier, more orderly, and more attractive. Northview and Central Manhattan respondents comprehend the visual quality of their respective yards in a similar fashion, with the exception of the first scale, small-large, where respondents in the former area perceive smaller yard space.

Street Furniture. The standard deviations reported in Table 4.1 infer that these two scales do not produce response agreements in all areas, especially for the exposed-hidden continuum. The plotted mean scores in Figure 4.1, however, portray similar patterns among all three areas. In fact, the means for both scales show corresponding perceptions. Respondents had difficulty grasping these adjectives, perhaps explaining the similar response pattern and the central interval tendency ("neutral") of the exposed-hidden scale (which, by far, has the highest standard deviation reported for all scales in the semantic differential).

Vegetation. Mean scores for this concept are also

very similar among areas as shown in Figure 4.1. Responses tend toward the positive poles in every case. This similarity can perhaps be equated with the verbal responses, "more growth" and "more trees," obtained on the questionnaire and reported in the previous chapter. The visual aspect of vegetation appears to be perceived in a similar manner by all respondents.

#### STATISTICAL TESTING FOR SIGNIFICANCE

Although mean and standard deviation scores provide interesting inferences on a scale-to-scale basis, testing for relationships is foregone. The problem of normality of data was mentioned earlier in this chapter. Another problem is that concepts cannot be effectively analyzed by testing each individual scale, neither by parametric or nonparametric tests. For example, if two samples are being tested for similarities or differences concerning a particular concept with several semantic scales, a sound statement could not be made about the concept as a whole if one half of the scales reveal no statistically significant differences (samples drawn from the same population) and the other half of the scales prove the samples to be significantly different (samples drawn from different populations). Scale responses need to be summarized in a usable manner for each concept.

The concepts used in this study are treated as entities by aggregating the responses by scale interval for each scale under each concept. Thus, the polar adjectives are

dismissed from the comparative analysis of responses. There are three frequency distributions for each concept, one for each sample area. These are displayed in Table 4.2

The research hypothesis of differing perception of visual quality among sample areas will be tested by the employment of the Kolmogorov-Smirnov two-sample test.<sup>4</sup> Each sample area will be compared to each of the other areas, one at a time. Therefore, there will be three uses for the test for each concept. The frequency distributions for Central Manhattan in Table 4.2 will first be compared with those of Northwest Manhattan, then Northview, and followed by a comparison of the response distributions of Northwest Manhattan and Northview for each of the six concepts. The null hypothesis ( $H_0$ ) states that there is no significant difference between responses in the sample areas; that is, both are from the same population in statistical terms. The alternate hypothesis ( $H_1$ ) is aligned with the research hypothesis of significant differences in the distribution of responses; in other words, the sample areas are from different populations--there is variance in perception because of one or more intervening variables.

For each sample area, pertaining to one particular concept, the frequency distribution is cumulated using the

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<sup>4</sup>See Sidney Siegel, Nonparametric Statistics for the Behavioral Sciences (New York: McGraw-Hill, 1956), pp. 127-136, for a description of the Kolmogorov-Smirnov two-sample test. The following discussion of the test is based on this reference.

Table 4.2

Frequency Distributions of Summed  
Responses for Each Concept

Sample area	Scale interval							
	1	2	3	4	5	6	7	Total
Total Block Environment								
Central Manhattan . . .	17	11	28	91	28	23	22	220
Northwest Manhattan . .	21	33	37	46	26	31	26	220
Northview . . . . .	7	16	44	74	53	31	15	240
Housing								
Central Manhattan . . .	4	14	15	41	17	12	5	108
Northwest Manhattan . .	13	24	22	15	18	22	12	126
Northview . . . . .	3	4	18	40	23	6	14	108
Street								
Central Manhattan . . .	2	6	3	12	6	3	4	36
Northwest Manhattan . .	10	11	6	6	6	1	2	42
Northview . . . . .	6	9	7	9	3	2	-	36
Yards and Open Space								
Central Manhattan . . .	5	17	27	37	12	9	1	108
Northwest Manhattan . .	11	25	27	18	22	17	6	126
Northview . . . . .	8	13	39	29	15	3	1	108

Table 4.2 (continued)

Sample area	Scale interval							
	1	2	3	4	5	6	7	Total
Street Furniture								
Central Manhattan . . .	6	5	3	10	4	2	6	36
Northwest Manhattan . .	8	8	6	9	2	3	6	42
Northview . . . . .	6	5	9	9	3	-	4	36
Vegetation								
Central Manhattan . . .	27	13	4	13	4	8	3	72
Northwest Manhattan . .	16	23	14	10	11	8	2	84
Northview . . . . .	8	19	16	13	11	4	1	72

semantic scale intervals. Cumulative proportions are then computed from the cumulative frequencies. This step alleviates any discrepancies in n sizes between the two samples. For the two-tailed test, absolute values of the differences between the proportions for the two samples are computed. The test statistic, D, is equivalent to the maximum value obtained in the subtraction operation. This observed D value is compared with a critical value of D representing the known sampling distribution of D at a predetermined significance level.<sup>5</sup> If the observed D is greater than or equal to the

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<sup>5</sup>See Siegel, *op. cit.*, p. 279, for the procedure involved in the determination of the critical value of D.

critical value of  $\underline{D}$ ,  $\underline{H}_0$  is rejected at the stated significance level and  $\underline{H}_1$  is not rejected. If the value is less,  $\underline{H}_0$  is not rejected and  $\underline{H}_1$  is. All testing is at the .05 significance level.

The value of Kolmogorov-Smirnov in semantic differential research, as Siegel states, is that "the two-tailed test is sensitive to any kind of difference in the distributions from which the two samples were drawn--differences in location (central tendency), in dispersion, in skewness, etc."<sup>6</sup> He also indicates that its power is greater than the more common chi-square test.<sup>7</sup> For these reasons (and the ease of its manipulation) Kolmogorov-Smirnov was used in this study.

## TEST RESULTS

### Total Block Environment

Table 4.3 exhibits the observed and critical values of  $\underline{D}$  by comparing the frequency distributions given in Table 4.2 of each sample area with the other areas concerning the Total Block Environment concept. Central Manhattan and Northwest Manhattan are significantly different from each other as are Northwest Manhattan and Northview. Central Manhattan and

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<sup>6</sup>Siegel, op. cit., p. 127.

<sup>7</sup>Ibid., p. 136. The Kolmogorov-Smirnov test has received considerable, but perhaps not enough, attention and praise from geographers; see Bryn Greer-Wootten, A Bibliography of Statistical Applications in Geography (Washington: Association of American Geographers, Commission on College Geography Technical Paper No. 9, 1972), p. 45.



Table 4.3

Observed and Critical Values of  $\underline{D}$  for Total  
Block Environment Concept

Sample areas	Observed value of $\underline{D}$	Critical value of $\underline{D}$	Result <sup>a</sup>
Central Manhattan and Northwest Manhattan	.159	.129	Significant difference
Central Manhattan and Northview	.080	.129	No significant difference
Northwest Manhattan and Northview	.149	.129	Significant difference

<sup>a</sup>All computations at .05 significance level.

Northview, however, are not significantly different. In other words, Central Manhattan and Northview respondents evaluate the visual quality of their areas very similarly (drawn from the same population) while Northwest Manhattan respondent perception is quite different (a differing population than that of the other areas). This is supported by the mean responses in Table 4.1 discussed earlier and by the mean of means calculations reported in the same table. The tendency for Northwest Manhattan respondents to check intervals near the poles may explain the area's independence from the other sample areas.

#### Block Elements

Table 4.4 displays the  $\underline{D}$  values for each of the concepts defined as block elements. For Housing, Central Man-

Table 4.4

Observed and Critical Values of  $\underline{D}$  for  
Block Elements Concepts

Sample areas	Observed value of $\underline{D}$	Critical value of $\underline{D}$	Result <sup>a</sup>
Housing			
Central Manhattan and Northwest Manhattan	.162	.177	No significant difference
Central Manhattan and Northview	.102	.188	No significant difference
Northwest Manhattan and Northview	.237	.177	Significant difference
Street			
Central Manhattan and Northwest Manhattan	.337	.310	Significant difference
Central Manhattan and Northview	.305	.322	No significant difference
Northwest Manhattan and Northview	.083	.310	No significant difference
Yards and Open Space			
Central Manhattan and Northwest Manhattan	.153	.177	No significant difference
Central Manhattan and Northview	.102	.188	No significant difference
Northwest Manhattan and Northview	.181	.177	Significant difference

Table 4.4 (continued)

Sample areas	Observed value of $\underline{D}$	Critical value of $\underline{D}$	Result
Street Furniture			
Central Manhattan and Northwest Manhattan	.135	.310	No significant difference
Central Manhattan and Northview	.167	.322	No significant difference
Northwest Manhattan and Northview	.103	.310	No significant difference
Vegetation			
Central Manhattan and Northwest Manhattan	.185	.219	No significant difference
Central Manhattan and Northview	.264	.227	Significant difference
Northwest Manhattan and Northview	.089	.219	No significant difference

<sup>a</sup>All computations at .05 significance level.

hattan is not significantly different from the other sample areas while there is a significant difference between Northwest Manhattan and Northview. In this case, a continuum can be construed which positions Central Manhattan in the middle with Northwest Manhattan on the left and Northview on the right, based on the means of means in Table 4.1. Not enough variation (distance) in responses exists between Central Manhattan and the other areas to make visual quality evaluation

of houses statistically significantly different, but a sufficiently large distance does exist to make perception in Northwest Manhattan and Northview quite different.

A similar circumstance holds true for the Street concept (see Table 4.4). Only in this case, Northview responses are not significantly different from those of the other areas. Central Manhattan and Northwest Manhattan are significantly different, however. The continuum in this case would place Northview in the middle, surrounded by Northwest Manhattan on the left and Central Manhattan on the right using means of means as indicators. Central Manhattan and Northwest Manhattan respondents perceive different visual qualities for their streets; Northview perception is equivalent to either of these areas, though.

The comparative analyses for Yards and Open Space in Table 4.4 reveal a similar pattern to the one that emerged concerning Housing. No significant difference exists between Central Manhattan and its counterparts, but a significant difference does exist between Northwest Manhattan and Northview. Northview, however, is to the left of Central Manhattan with Northwest Manhattan to the right on the hypothetical continuum. Northview and Northwest Manhattan respondents perceive varying visual quality in their yards and Central Manhattan respondents see visual quality of yards in the same manner as either of the former areas.

Street Furniture comparisons in Table 4.4 reveal no significant differences in perception between any combination

of the areas. Response distributions for all three sample areas are very similar when tested statistically. This implies that the visual quality of this concept is the same for all respondents.

The final comparison of test statistics in Table 4.4, the concept Vegetation, exposes significant differences between Central Manhattan and Northview and no significant difference between Northwest Manhattan and the other areas. Once again a continuum can be utilized finding Northwest Manhattan in the middle. The means of means in Table 4.1, however, are not helpful in the positioning of the other sample areas because these means exhibit a different pattern. It is known, however, that Northview and Central Manhattan respondent perceptions do differ with respect to the visual quality of vegetation.

#### SUMMARY

The semantic differential is analyzed in two ways. First, means for individual scales are compared descriptively. Response patterns appear to be similar for all of the sample areas. Northwest Manhattan respondents, however, lean toward the poles that connote "good" or "favorable" appraisals of visual quality. Central Manhattan and Northview respondents tend to view their visual surroundings as less appealing, but still favorably.

Problems arise when using mean scores. First of all, concepts per se cannot be evaluated as wholes, and

secondly, it is not known whether the spacing of means on a particular scale makes the sample areas' responses entirely different. Therefore, the data were analyzed utilizing the Kolmogorov-Smirnov two-sample nonparametric test. The sample areas are tested against each other to identify any statistically significant differences in perception among them. When respondents are asked to evaluate their visual Total Block Environment, significant differences are found between Northwest Manhattan compared to both of the other areas. No significant is present between Central Manhattan and Northview, however. Evaluation of specific Block Elements, including the concepts of Housing, Street, Yards and Open Space, Street Furniture, and Vegetation, yields no specific patterns in comparative perceptions.

## Chapter 5

### CONCLUSIONS

Two sets of data were collected for the study. The first set focused on the objective compilation of relevant socio-economic data from the three sample areas, couple with measures of the physical characteristics of each area. The tool used for this was the questionnaire. The other data emerged from the application of the semantic differential technique to these same areas. These data sets were not scientifically tested against each other, however. This was because the socio-economic features have been proven to be the basis for most differences in the unique behavior groups within larger society. This differing and identifiable behavior supposedly influences, to a maximum degree, the perceptions and images held by group members. This is the basic assumption of the research presented here. The established hypothesis stated that perception of visual quality would differ among various groups based almost solely on these attributes.

The hypothesis was tested by the semantic differential. This technique permitted perceptions to be quantitatively and pictorially measured, thus providing a means for the test that followed. The results of the test supported the hypothesis. Certain qualifications, however, are in



order. First of all, it was found that visual quality was sometimes perceived the same by respondents in two of the sample areas, while the evaluation of quality varied in the third sample area. A variety of patterns of this nature emerged. This leads to the second qualification--no apparent pattern of area differences was recognized. For example, two of the sample areas might equally judge visual quality for certain concepts, but greatly differ concerning other concepts. No pattern was obvious, however, when analyzing all of the sample areas.

Simple, observable patterns were not expected because of the format of the semantic differential. The Block Elements portion asked respondents to ferret out specific components of their visual fields and evaluate each of these individually. Naturally, such things as vegetational and housing differences do exist among sample areas. For this reason, more weight should perhaps be given to the Total Block Environment concept where respondents evaluated the whole picture, or environment, not various selected features. The statistical testing of this concept revealed that visual quality was perceived the same by Central Manhattan and Northview respondents, while persons in Northwest Manhattan perceived visual quality differently from both of these areas.

This finding supports the central hypothesis of the investigation--Northwest Manhattan respondents appear to see their residential environment as an area of paramount visual quality. Respondents in the other sample areas regard their

areas as having good visual quality, but never to the extremes reported by Northwest Manhattan respondents. Therefore, from the research it may be conjectured that perception of visual quality is related to certain socio-economic attributes of respondents, more specifically, buying power (income and home ownership), family size, education, and occupation. Northwest Manhattan respondents could "buy" the environment they desire, in a sense, much easier than respondents in the other sample areas.

#### NOTES ON THE SEMANTIC DIFFERENTIAL TECHNIQUE

One weakness of the semantic differential is that it does not allow any information to be obtained on what people were thinking while responding to the concepts. Not only are there locational variations in perception, there are certainly a number of different block images held by persons in the same area. Individual images also undoubtedly affected the interpretation of the semantic concepts and scales. To one person, the visual dimension of the block may be characterized mostly by greenery; to another, man-built elements may be dominant. In fact, some of the concepts and scales might have included terms people have never thought of or associated with visual quality or environment.

Respondents may also have based their evaluations on more than just vision. Accessibility to parks, retailing centers, and schools was often mentioned by respondents as making certain residential locations desirable. In other

words, the separation of visual elements in the landscape from all locational attributes was difficult for some respondents. A common non-spatial example of this was satisfaction with the "neighborliness" of an area. The discriminative selection of appropriate adjectival scales was an attempt to keep these effects at a minimum.

Despite these shortcomings, the semantic differential proved to be a valuable tool for the measurement of perception and the evaluation of visual quality in the environment. Increasing refinement and application of the technique to behavior-environmental studies should enlarge knowledge relevant to improvement of the human habitat.

#### SUGGESTIONS FOR FURTHER RESEARCH AND ACTION

Although respondents in all of the sample areas indicated that visual quality rated well, some, or perhaps all, desire something else concerning dwelling environments. Future inquiry could easily be attuned to identifying "ideal" living environments as perceived by urban inhabitants. People could be asked to choose their preferences from among pictures, models, or actual contact with residential environments representative of other time periods and culture areas. Conceivably, the housing market could adapt to human desires and preferences (and needs) by making proper visual settings available. Designers could once again become sensitive to providing masterpiece urban landscapes that feature physical diversity and intricacy, thus releasing suitable

environments for individual well-being and quintessent social relationships. The view of the city as strictly utilitarian could be ammended at last.

Not all that can or has to be done is at the level of the professional. At the neighborhood level, beauty can be instituted through the formation of projects concerned with improvement. This can certainly be done without razing existing landscape features.<sup>1</sup> Also, the cost does not have to be great.

#### A FINAL REMARK

The path to greater appreciation of beauty in the environment, by the dwellers in that environment, perhaps lies in the realms of experience and education. Experience with beauty in the landscape will assuredly create a demand for beauty in the immediate environment. Provision of this experience rests largely in the hands of the educator, the administrator, and the design professional. The educator can also transcend the boundaries of these last two groups and influence their values and creations. This is assuming, of course, that the educator is responsive and sensitive to beauty in the environment. Probably no person is capable of this role more than the geographer, a landscape specialist. During the preparation of this report, a document entitled Visual Blight in America emerged which contains the contri-

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<sup>1</sup>See Louise Bush-Brown, Garden Blocks for Urban America (New York: Charles Scribner's Sons, 1969).

butions of five very distinguished landscape specialists.<sup>2</sup>

The words inside express the feelings and prophecies of educators in all disciplines concerned with human uses of environments. These people have a definite role in articulating their attitudes clearly to those who share visible landscapes with them.

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<sup>2</sup>Pierce F. Lewis, David Lowenthal, and Yi-Fu Tuan, Visual Blight in America (Washington: Association of American Geographers, Commission on College Geography Resource Paper No. 23, 1973). Commentaries by Donald W. Meinig and John B. Jackson are included.

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## APPENDIX A

### Observation Items and Questionnaire

#### Observation Items

1. Respondent identification                 area #                 house #
  
2. Sex                                         M  
                                                F
  
3. Racial or ethnic origin  
                                                American-born, European descent  
                                                recent European immigrant  
                                                Afro-American  
                                                Asian-American  
                                                American Indian  
                                                Mexican- or Latin-American
  
4. Condition of house  
                                                new  
                                                sound  
                                                deteriorating  
                                                dilapidated
  
5. Condition of yard  
                                                landscaped  
                                                plain  
                                                deteriorating

#### Questionnaire

1. Age                                         18-25  
                                                26-35  
                                                36-50  
                                                51-65  
                                                over 65

## 2. Marital status

☐ single  
☐ married  
☐ divorced  
☐ separated  
☐ widowed

## 3. Household composition

☐ number of persons  
☐ number of persons over 21  
☐ number of children

## 4. Education

☐ 0-8 years  
☐ 1-2 years high school  
☐ 3-4 years high school  
☐ 1-2 years college  
☐ 3-4 years college  
☐ 4 years college and over  
☐ other schooling, please specify:

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## 5. Occupation (job title)

☐ professional, technical, and kindred workers  
☐ farmers and farm managers  
☐ managers, officials, and proprietors, except farm  
☐ clerical and kindred workers  
☐ sales workers  
☐ craftsmen, foremen, and kindred workers  
☐ operatives and kindred workers  
☐ private household workers  
☐ service workers, except private household  
☐ farm laborers and foremen  
☐ laborers, except farm and mine  
☐ students  
☐ housewives  
☐ retired, unemployed, and widows

## 6. Family income

☐ under \$5,000  
☐ 5,000-7,500  
☐ 7,500-10,000  
☐ 10,000-12,500  
☐ 12,500-15,000  
☐ \$15,000 and over

## 7. Home ownership

☐ owner  
☐ renter  
☐ other, please specify: \_\_\_\_\_

## 8. Where have you lived before, other than Manhattan?

Place	Years
_____	_____
_____	_____
_____	_____

## 9. Length of residence on this block

☐ years  
☐ months

## 10. How much time do you spend at home on the average?

☐ most of each day (day and night)  
☐ part of each day (after work, e.g.)  
☐ very little of each day (only for sleep  
 or only on weekends)

## 11. On an average day, how many hours do you spend outside on your block?

12. Where? ☐ front yard

☐ back yard  
☐ both front and back  
☐ other property on block, please specify: \_\_\_\_\_

## 13. In your own yard, what is the dominant activity you engage in?

☐ yard work  
☐ recreation  
☐ sitting or sunbathing  
☐ other, please specify: \_\_\_\_\_

14. How often do you have face-to-face contact with your neighbors?

- ☐ daily
- ☐ more than once a week
- ☐ once a week
- ☐ less than once a week

15. What is visually unattractive about your block?

16. What is visually attractive about your block?

17. Application of semantic differential (see Appendix B)

18. How do you view your neighbors' attitudes toward a visually pleasing block as portrayed by their property and conversations with them?

- ☐ actively concerned (keep property at best visual appearance)
- ☐ somewhat concerned (minimal care of property)
- ☐ unconcerned (do not maintain appearance of property)
- ☐ half of residents concerned, other half unconcerned)

19. How do you view your own attitude toward a visually pleasing block?

- ☐ actively concerned
- ☐ concerned, but lack resources (for example, time, desire, money, and so forth)
- ☐ unconcerned

20. How do you propose that your block could be improved with regard to its visual appearance, if indeed it needs improvement?

End of questionnaire

## APPENDIX B

### Concepts and Semantic Scales

#### 1. TOTAL BLOCK ENVIRONMENT

beautiful\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_ugly  
colorful\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_colorless  
undesirable\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_desirable  
fancy\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_plain  
dirty\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_clean  
unique\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_ordinary  
superior\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_inferior  
imperfect\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_perfect  
chaos\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_order  
like\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_dislike

#### 2. BLOCK ELEMENTS

##### Housing

diverse\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_uniform  
disapprove\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_approve  
clean\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_dirty  
worthless\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_valuable  
beautiful\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_ugly  
fancy\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_plain

Street

clean \_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_dirty  
 deserted \_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_crowded

Yards and Open Space

small \_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_large  
 clean \_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_dirty  
 colorful \_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_colorless  
 plain \_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_fancy  
 disorderly \_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_orderly  
 attractive \_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_unattractive

Street Furniture

exposed \_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_hidden  
 arranged \_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_disarranged

Vegetation

existent \_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_nonexistent  
 large \_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_small  
 ugly \_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_beautiful  
 sufficient \_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_insufficient



# APPENDIX C

## Frequency Distributions of Responses to Semantic Scales

Scale and area	Scale interval						
	1	2	3	4	5	6	7
Total Block Environment							
BEAUTIFUL-UGLY							
Central Manhattan . . . .	-	3	7	12	-	-	-
Northwest Manhattan . . .	4	7	6	4	1	-	-
Northview . . . . .	-	3	9	9	3	-	-
COLORFUL-COLORLESS							
Central Manhattan . . . .	3	3	6	10	-	-	-
Northwest Manhattan . . .	4	4	9	4	1	-	-
Northview . . . . .	-	3	10	7	3	-	1
UNDESIRABLE-DESIRABLE							
Central Manhattan . . . .	-	-	2	4	5	3	8
Northwest Manhattan . . .	-	1	-	-	6	4	11
Northview . . . . .	-	1	2	4	5	8	4
FANCY-PLAIN							
Central Manhattan . . . .	-	-	-	10	5	4	3
Northwest Manhattan . . .	-	3	7	12	-	-	-
Northview . . . . .	-	-	2	9	11	1	1
DIRTY-CLEAN							
Central Manhattan . . . .	-	-	11	5	7	5	4
Northwest Manhattan . . .	-	-	-	1	-	13	8
Northview . . . . .	-	-	1	5	7	9	2

## APPENDIX C (continued)

Scale and area	Scale interval						
	1	2	3	4	5	6	7
UNIQUE-ORDINARY							
Central Manhattan . . . .	1	2	-	9	3	3	4
Northwest Manhattan . . . .	-	1	4	10	4	3	-
Northview . . . . .	-	-	-	7	11	2	4
SUPERIOR-INFERIOR							
Central Manhattan . . . .	-	-	2	15	3	1	1
Northwest Manhattan . . . .	3	6	8	5	-	-	-
Northview . . . . .	2	-	4	12	4	2	-
IMPERFECT-PERFECT							
Central Manhattan . . . .	2	1	2	15	1	1	-
Northwest Manhattan . . . .	-	1	1	9	9	2	-
Northview . . . . .	-	2	9	9	2	1	1
CHAOS-ORDER							
Central Manhattan . . . .	1	-	2	7	4	6	2
Northwest Manhattan . . . .	-	2	-	1	4	9	6
Northview . . . . .	-	-	4	5	5	8	2
LIKE-DISLIKE							
Central Manhattan . . . .	10	2	6	4	-	-	-
Northwest Manhattan . . . .	10	8	2	-	1	-	1
Northview . . . . .	5	7	3	7	2	-	-

## Housing

DIVERSE-UNIFORM							
Central Manhattan . . . .	2	4	1	7	3	1	-
Northwest Manhattan . . . .	1	4	1	5	5	4	1
Northview . . . . .	-	-	-	2	6	1	9

## APPENDIX C (continued)

Scale and area	Scale interval						
	1	2	3	4	5	6	7
<b>DISAPPROVE-APPROVE</b>							
Central Manhattan . . . .	1	-	-	5	4	7	1
Northwest Manhattan . . . .	1	1	1	2	4	8	4
Northview . . . . .	2	-	5	6	3	1	1
<b>CLEAN-DIRTY</b>							
Central Manhattan . . . .	1	7	5	5	-	-	-
Northwest Manhattan . . . .	9	10	2	-	-	-	-
Northview . . . . .	1	4	6	6	-	-	1
<b>WORTHLESS-VALUABLE</b>							
Central Manhattan . . . .	-	-	1	6	6	3	2
Northwest Manhattan . . . .	-	-	-	1	3	10	7
Northview . . . . .	-	-	2	8	6	2	-
<b>BEAUTIFUL-UGLY</b>							
Central Manhattan . . . .	-	3	5	9	1	-	-
Northwest Manhattan . . . .	2	5	9	3	2	-	-
Northview . . . . .	-	-	5	12	1	-	-
<b>FANCY-PLAIN</b>							
Central Manhattan . . . .	-	-	3	9	3	1	2
Northwest Manhattan . . . .	-	4	9	4	4	-	-
Northview . . . . .	-	-	-	6	7	2	3
<b>Street</b>							
<b>CLEAN-DIRTY</b>							
Central Manhattan . . . .	2	5	3	7	1	-	-
Northwest Manhattan . . . .	8	10	2	1	-	-	-
Northview . . . . .	5	7	3	2	1	-	-

## APPENDIX C (continued)

Scale and area	Scale interval						
	1	2	3	4	5	6	7
<b>DESERTED-CROWDED</b>							
Central Manhattan . . . . .	-	1	-	5	5	3	4
Northwest Manhattan . . . . .	2	1	4	5	6	1	2
Northview . . . . .	1	2	4	7	2	2	-
<b>Yards and Open Space</b>							
<b>SMALL-LARGE</b>							
Central Manhattan . . . . .	-	-	3	9	4	2	-
Northwest Manhattan . . . . .	-	-	1	5	7	5	3
Northview . . . . .	3	6	4	4	1	-	-
<b>CLEAN-DIRTY</b>							
Central Manhattan . . . . .	2	6	6	4	-	-	-
Northwest Manhattan . . . . .	3	11	7	-	-	-	-
Northview . . . . .	2	2	7	5	2	-	-
<b>COLORFUL-COLORLESS</b>							
Central Manhattan . . . . .	-	4	6	7	-	1	-
Northwest Manhattan . . . . .	3	5	11	2	-	-	-
Northview . . . . .	1	2	7	4	4	-	-
<b>PLAIN-FANCY</b>							
Central Manhattan . . . . .	2	2	4	9	1	-	-
Northwest Manhattan . . . . .	-	1	-	8	8	4	-
Northview . . . . .	-	2	8	7	1	-	-
<b>DISORDERLY-ORDERLY</b>							
Central Manhattan . . . . .	1	-	1	4	6	5	1
Northwest Manhattan . . . . .	-	-	-	3	7	8	3
Northview . . . . .	-	-	3	5	6	3	1

## APPENDIX C (continued)

Scale and area	Scale interval						
	1	2	3	4	5	6	7
<b>ATTRACTIVE-UNATTRACTIVE</b>							
Central Manhattan . . . .	-	5	7	4	1	1	-
Northwest Manhattan . . .	5	8	8	-	-	-	-
Northview . . . . .	2	1	10	4	1	-	-
<b>Street Furniture</b>							
<b>EXPOSED-HIDDEN</b>							
Central Manhattan . . . .	3	2	1	3	3	2	4
Northwest Manhattan . . .	4	2	3	3	2	3	4
Northview . . . . .	3	2	3	4	2	-	4
<b>ARRANGED-DISARRANGED</b>							
Central Manhattan . . . .	3	3	2	7	1	-	2
Northwest Manhattan . . .	4	6	3	6	-	-	2
Northview . . . . .	3	3	6	5	1	-	-
<b>Vegetation</b>							
<b>EXISTENT-NONEXISTENT</b>							
Central Manhattan . . . .	10	5	1	1	-	1	-
Northwest Manhattan . . .	6	9	5	1	-	-	-
Northview . . . . .	5	6	5	2	-	-	-
<b>LARGE-SMALL</b>							
Central Manhattan . . . .	9	3	2	3	-	1	-
Northwest Manhattan . . .	6	9	5	1	-	-	-
Northview . . . . .	1	6	5	6	-	-	-
<b>UGLY-BEAUTIFUL</b>							
Central Manhattan . . . .	-	1	-	6	4	5	2
Northwest Manhattan . . .	-	-	-	4	10	5	2
Northview . . . . .	-	-	-	3	10	4	1

## APPENDIX C (continued)

Scale and area	Scale interval						
	1	2	3	4	5	6	7
SUFFICIENT-INSUFFICIENT							
Central Manhattan . . . .	8	4	1	3	-	1	1
Northwest Manhattan . . .	4	5	4	4	1	3	-
Northview . . . . .	2	7	6	2	1	-	-

PERCEPTION OF VISUAL QUALITY IN  
RESIDENTIAL ENVIRONMENTS

by

JAY BRUFF

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Visual quality is a basic need in the urban environment. Increasingly, critical statements are emerging which attack the lack of visual attractiveness in American cities. The problem has been approached from a variety of disciplinary viewpoints, each of which has identified possible reasons for the problem's persistence, and each offering no immediate or simple solutions. Perception of environment studies in geography and related disciplines are seeking to enhance knowledge related to human cognition of and reactions to various environments. The visual environment is a major topic in these studies.

In the present research, residents of three residential environments of differing physical appearance and socioeconomic characteristics in Manhattan, Kansas, responded to a questionnaire and an application of the semantic differential technique of measuring perception. Questions and semantic concepts focused specifically on perception of visual quality in the residents' immediate "block" environments. The hypothesis formulated for the study asserted that residents in these three environments would perceive visual quality differently. Descriptive analysis of the questionnaire and nonparametric testing of the semantic differential confirmed the hypothesis, but only with certain qualifications. The major finding of the study was that the perceived "degree" of visual quality appears to be related to social and demographic attributes of respondents. The methods employed in the study are recommended for further use and

refinement.