SOCIAL INFERENCES VIA ENVIRONMENTAL CUES

by
DONALD CURTIS ROYSE
B.Arch., University of California
Berkeley

Submitted in Partial Fulfillment of the
Requirements for
the Degree of
Doctor of Philosophy
at the
Massachusetts Institute of Technology

September, 1968, i.e. Feb. 1969

Signature of Author.....
Department of City & Regional
Planning, September 1968

Certified by.....
Thesis Supervisor

Accepted by.
Head, Department of City & Regional
Planning

ABSTRACT

SOCIAL INFERENCES VIA ENVIRONMENTAL CUES by DONALD CURTIS ROYSE

"Submitted to the Department of City and Regional Planning in September, 1968 in partai l fulfillment of the requirement for the degree of Doctor of Philosophy".

It is the intent of this thesis to identify the different ways in which people infer social characteristics from cues that are contained in the everyday physical environment. My contention was that the environment fulfills an important role in the transmission of information obt ained via environmental cues in functioning in their everyday lives, and within each group in the system consistent inferences will be made from these cues.

To gather data in support of the above statement I showed a series of sixteen photographs to a random sample of 150 persons from three defferent social classes and asked them to make inferences regarding the social characteristics of people they would expect to find living in the environments shown. In twelve of the original sixteen photographs three altered versions of the original were made in each of which a single cue was changed from the original. Each respondent saw sixteen photographs, but by using subgroups of the total 150 person sample no one person saw more than one of the cue changes of a specific area, that is, each person saw either the original photograph or one of the three doctored versions of that photograph. By verifying statistically the consistency of responses within a given class group by a "control" photograph in which no cue changes were made, it was possible to attribute any difference in response to the four versions of the same basic photograph to the cue change.

The original environments were selected to be representative of a wide range of socio-economical groups. It was felt that the range would elicit responses from among the three groups that would bring out their differences. Similarly, cues were selected that were felt to have special significance to specific classes and were predicted to elicit differentiating responses from among them.

The basic hypothesis that social attitudes, both positive and negative, could be formed by one group of persons toward another group on the basis of visual, physical attributes alone was supported by this study. There was greater consistency of responses within the three groups than across groups, but subjects from different classes agreed

on the social meaning of a wide range of physical environments and specific cues to a greater degree than was anticipated. The following are the most significant general findings:

1. The middle class group was much more likely to respond to cues with inferences regarding the character or morality of the people assumed to live in the areas shown. Signs of poor maintenance of either the area or buildings elicited strong negative inferences.

2. The lower class group showed much less consistency within the group and was less accurate by objective measure in their inferences. Cues in the environment of the lower income group which were negatively valued by the middle and upper income groups were not noticed by the low income group.

3. The upper income group showed greater skill in understanding a wider range of environments and cues than either of the other groups. They used most restraint in commenting on the character or morality of the people they felt would live in the areas shown. Many cues that were noted by the high income group went unnoticed by the middle, and especially the lower income group.

4. All three groups responded with greater understanding of the environmental cues in environments similar in socio-economical status to their own than to cues in environments distant in status from their own.

Thesis Supervisor: Kevin Lynch
Professor of City Planning

ACKNOWLEDGMENTS

My original interest in the topic of this thesis was supported by the thoughtful and insightful comments of Professor Kevin Lynch. Professor James Beshers made helpful comments regarding the social issues with which the thesis deals. Professors Aaron Fleisher and David Armor were of great assistance in keeping me from making mistakes in the methodology of the study .

Conversations with many friends, among whom William L. Clarke and William L. Porter figure most prominently, contributed not only in sustaining my interest but also in enabling me to look with better understanding into substantive areas. Julian Brown was of great help in giving photographic advice and assistance, but cannot be held responsible for the low aesthetic appeal of the final prints.

Many others were more helpful than they realize by expressing interest in the topic and offering helpful hands in minor crises. Finally, Penelope Strong gave invaluable editorial assistance and made the task of writing easier and more pleasant.

TABLE OF CONTENTS

Table of Contents - continued

Chapter 1: INTRODUCTION

The primary aim of this study is to discover the kind of information people gain from the physical environment which surrounds them; or more specifically, how they identify social characteristics of others in the same social system through the use of attributes or cues from the physical environment. Further, I have attempted to determine what the physical cues are which lead to this identification, what the saliency or criteriality of various physical cues is, and in what ways these cues are differently utilized from one group to another.

To gather data for this study I have shown a series of carefully chosen photographs to a random sample of 150 persons from three different social classes and have asked them to respond to a series of questions about the social characteristics of people they would expect to find living in the areas displayed in the photographs. After much deliberation, 16 photographs which were felt to be representative of the broad range of physical environments that would be found in most major urban areas were selected to be used in gathering data. After still more deliberation the interview instrument was settled on which related specific questions and tasks to be performed to specific photographs.

In twelve of the original sixteen photographs I made three additional slightly altered versions of the original, yielding a total of 52 photographs

used in the study. One cue or physical attribute at a time was changed in each of the three altered versions. For example, with the original photograph of some houses along a street in a solidly middle-class area I made three "doctored" versions, changing or adding a single cue in each of the new ones. In the first doctored photograph I added a high, ornate wooden fence where there was none in the original; in the second I added four white children playing on the sidewalk in front of one of the houses; and in the third I added four Negro children in similar positions on the sidewalk in front of the same house. Different cue changes were made in the other eleven photographs but the procedure of changing only one cue at a time in each altered version of an original photograph was carefully maintained. Each respondent saw sixteen photographs, but by using sub-groups of the total 150 person sample no one person saw more than one photograph of a specific area, that is, each person saw either the original photograph or one of the three doctored versions of that photograph. Any difference in response to the four versions of the same basic photograph within the same social class would hence be attributable to the cue change. (The interview methodology is covered more completely in Chapter III.)

General Background

Before going substantively into the issues, methodology and findings of my study, I feel some comments of a background nature are in order. As people move through their everyday environment, they unavoidably engage in the game of unraveling the complex meanings contained in all the artifacts of man which

surround them. It is clear that many people have a professional interest in developing the ability to play this game of interpreting the environment accurately and perceptively, while others may do so only when they feel unincumbered with other demands. Still others may never do so consciously, or at least they may not deliberately set about to play the game as an intellectual exercise. However, all people, of necessity, develop the skill to some degree. It is part of the larger game of survival in a world filled with stimuli to which we must respond many times each day. If each stimulus upon which we were required to make some response had to be dealt with as a unique and different event we would simply be unable to respond quickly enough to function adequately in a demanding world. To avoid this disfuntionality, stimuli are categorized into manageable, related classes so that a whole class of stimuli or events, even though they are discriminably different, may be responded to as if they were equivalent.

Gordon Allport in discussing the process of categorization states that:

> We spend most of our waking life calling upon preferred categories for this purpose. When the sky darkens and the barometer falls we prejudge that rain will fall. We adjust to this cluster of happenings by taking along an umbrella. When an angry looking dog charges down the street, we categorize him as a 'mad dog' and avoid him. When we go to a physician with an ailment we expect him to behave in a certain way toward us. On these, and countless other occassions, we 'type' a single event, place it within a familiar rubric, and act accordingly. Sometimes we are mistaken: the event does not fit the category. It does not rain: the dog is not mad: the physician behaves unprofessionally. Yet our behavior was rational. It was based on high probability. Though we used the wrong category, we did the best we could.[1]

---

[1]Gordon W. Allport, The Nature of Prejudice, (The Beacon Press, Boston, Massachusetts, 1954) p. 19.

We extract cues to guide our behavior from man-made objects in the environment around us in similar ways. Hence, when we set out to find a restaurant, select a person with whom to start a conversation from among many at a cocktail party, buy a new jacket, choose a gift for a friend, or make a driving decision in heavy traffic, we take with us to the task a host of experiential cues and associations to aid, and sometimes confuse, us in making a decision. We may reject the restaurant because plastic flowers on the tables and formica on the walls cue us from previous experience to expect similarly "artificial" or "sterile" cuisine, or choose that same restaurant for a different set of reasons. We may hesitate to start a conversation with a person at a party because his or her dress or hair or manner suggest to us others with whom we have had a bad experience. A jacket we might otherwise buy may be rejected because we feel it conveys the wrong "image;" it is too Madison Avenue conservative, or too hip, or too conspicuously consumptive. These and similar decisions we all must necessarily make are not less informative about the person making the decision if they are unconsciously made or given little attention. At the least, we know that lack of interest a person shows in choosing clothes he wears, for instance, indicates that his interests lie elsewhere - in social issues, making money, intellectualism or some other area.

Communication, indeed, takes place at many levels. The most overt and explicit mode of communication, language, both spoken and written has been studied in great depth while non-verbal and unconscious communication

which is heavily relied on for the transmission of information has received much less attention. Non-verbal communication takes many forms from simple signs such as arrows or traffic lights which give specific information needed to make a certain decision or guide a particular act, to more diffuse, general information such as might be contained in the materials, colors and arrangement of a shop's facade. We often judge the character or quality of a store, for instance, by just its facade or its window display or the sign advertising it.

Our body movements, gestures, clothing, the house and area we live in, the car we drive, our possessions and the way we care for them, all contain information about ourselves which is communicable to others in our social system. Although this study is not concerned with human attributes such as body movements and gestures, other studies have detailed their powers of communication and how they serve as a basis for forming judgments about people.[2]

---

[2]Edward T. Hall in The Silent Language (Fawcett Premier Book, Greenwich, Conn., 1959) and Erving Goffman in Behavior in Public Places (The Free Press, New York, 1963) are both concerned with communication which is primarily non-verbal. Edward Hall as an anthropologist is most concerned with cross-cultural communication, which he feels Americans are impressively inept at understanding. He says "....formal training in the language, history, government and customs of another nation is only the first step in a comprehensive program. Of equal importance is an introduction to the non-verbal language which exists in every country of the world and among the various groups within each country. Most Americans are only dimly aware of this silent language even though they use it every day. They are not conscious of the elaborate patterning of behavior which prescribes our handling of time, our spatial relationships, our attitudes toward work, play and learning. In addition to what we say with our verbal language

we are constantly communicating our real feelings in our silent language--the language of behavior." (p.10). Erving Goffman, in contrast, is concerned primarily with the behavioral patterns of middle-class, Western society. Much of the information used in his book was taken from research done in the Laboratory of Socio-Environmental Studies of the National Institute of Mental Health. Although much of the data in his book stems from work in a mental hospital, it is relevant to the supposedly more "normal" world. His main focus is on the influence on individual behavior exerted by approval and disapproval of the larger social group.

In short, our world is filled with symbols, physical objects with specific attributes. These symbols convey information to those around us, but the information is not similarly interpreted by all who "read" the symbol. Indeed, in many cases the same symbol is intended to mean different things to different people. Through experience and the process of socialization we learn to interpret these symbols in order to help us make decisions. We group them into like and unlike clusters, develop attitudes of affinity toward some and antipathy toward others. We learn to use them ourselves to tell others things about us that cannot or need not be communicated verbally.

The human need to categorize, however, can become the basis for irrational behavior. When categories are built up from unbiased experiences, when all events belonging to a certain category have the same properties, then they are rational. If however, the categories cannot be backed up by experience or fact and when events, objectively viewed, fail to exhibit the properties ascribed to the category, then these categories are irrational. Racial and ethnic categories are among the top contenders in the field of irrational category formation. Not surprisingly, a racial cue. Negro children playing on a sidewalk, added to one of the photographs in this study elicited one of the strongest measured responses.

It is this human need to categorize that makes possible the research done for this thesis. My basic assumption is that people do form categories concerning different physical enviornments and that one of the major components of these categories is a stereotype of the people they would expect to find living there. The stereotype can be positive or negative and is closely associated with the category. Allport offers a useful

definition of stereotype and differentiates it from category.

> Whether favorable or unfavorable, a stereotype is an exaggerated belief associated with a category. Its function is to justify (rationalize) our conduct in relation to that category...A stereotype is not identical with a category; it is rather a fixed idea that accompanies the category...If I say 'all lawyers are crooked' I am expressing a stereotype generalization about a category. The stereotype is not in itself the core of the concept.[3]

Broadly speaking the assumption that people infer social characteristics from the physical environment was solidly substantiated by my research. Cue changes in the photographs elicited the predicted results: opinions were formed by inference consistent over groups within the sample concerning the residents who would live in the areas depicted in the photographs. They expressed comfort or discomfort in being in certain areas and attributed such characteristics as happiness, friendliness, stability and so forth to these assumed residents.

I doubt that anyone of us has escaped a feeling of discomfort when in surroundings which are foreign to us, surroundings which contain objects or qualities which clearly are sensed as belonging to people different in some way from ourselves and whose meaning or uses are unclear to us. Further cues in such an environment may make us feel threatened and insecure or perhaps make us feel comfortable and curious to explore. Regardless of the specific reaction however, we feel surrounded by objects full of meaning for the people who live there but

---

[3]Allport, op. cit., pp. 191-192.

foreign and strange to us.

Even within a given culture, especially one as polyglot as ours in the United States, there are physical attributes which have meaning for one group and not for another, or the meaning has positive connotations for one group and either neutral or negative connotations for another. A dyed, teased coiffure may be an asset to a young lady aspiring to show business, but a decided liability to a young lady at Radcliffe, hoping to convey the image of a socially aware intellectual, hip to the modern scene. In a similar way the three groups in my sample representing high, middle and low class populations responded quite differently to the cue changes in the photographs. The original version of photographs PA8 (see plate 8), which showed a detail of an old, elegant brick house with a panelled wood door and wood shutters, was judged most attractive by the highest status group with the middle status group ranking it in the middle and the lowest status group judging it least attractive. However, when I added for the first altered version a rather ornate but inexpensive aluminum screen door to cover the original one, then for the second altered version asphalt, imitation shingle siding to cover the original brick and for the third altered version, both the aluminum screen door and the asphalt siding, the judgements by the three groups showed a dramatic reversal. The upper and middle status groups judged the altered versions as progressively less attractive but the

judgement of the lowest status group changed very little. The result was that when both the door and the siding were changed from the original, the low status group judged the house most attractive and the middle status groups least attractive.

In selecting photographs for the study and analyzing the responses gained from them I have tried to avoid aesthetic judgements or judgements of "good" or "bad" architecture or taste. My basic contention is that attitudes toward things visual are guided less by aesthetic criteria than by symbolic content in class and status terms attributed to these symbols by the society. Traffic in symbols is a thriving business, and the group "on top" is constantly looking for new ways to differentiate itself from other groups as technology and mass production make the symbols that were formerly exclusively "theirs" more accesible to the rest of society.

Physical and social aspects of the environment, however, are very much interconnected and to differentiate attitudes toward one from those toward the other would be extremely difficult, if even possible to do. This study has shown, nonetheless, that it is possible for people to make consistent judgements of social characteristics through the use of purely physical cues. This is perhaps as much a proof of their inseparability as of their independence.

People, then, infer social characteristics through attributes in the

physical environment and the criteria they use in making such judgements are derived from their experience and background; from their social status, education, aspirations and psychological structure. Therefore, various social groups would be expected to interpret a series of clearly differentiated environments differently, to use different cues in arriving at their interpretation or to use the same cues and to read different meanings into them. My study was constructed to pick out these differences, to build a profile which would aid in predicting the responses of any given group to an enviro nmental stimulus.

I have been forced by lack of sufficient information (and also time and experience in gathering it) to work in the familar "black box" fashion. That is to say, I know the responses a person from a certain social group made to a specific photographic surrogate of a physical environment, and I know many of his background characteristics and can correlate them with his responses; but I have precious little information about the cognitive processis or psychological processes he used to come to the conclusions he did with respect to that environment.

From the literature of psychology the theoretical formulations which are most relevant to my study are those discussed by Bruner, Goodnow and Austin in their book A Study of Thinking. As I will discuss in the following pages, however, there are many difficulties with using their theories as formulated when dealing with real world environments and

the attendant difficulty of isolating the cues actually used, testing cognitive patterns used, and so forth. Nonetheless, the authors have related their theories to everyday world experiences in many ways. The emphasis of the book is on problems of categorizing and, after making it clear that they have not attempted to extend knowledge of existing theory, they state their aim as follows:

> We have come gradually to the conclusion that what is most needed in the analysis of categorizing phenomena--as represented by studies of concept attainment, generalization and abstraction--is an adequate description of the actual behavior that goes on when a person learns how to use defining cues as a basis for grouping the events of his environment.[4]

Concept attainment is their main focus, or as they put it:

> Much of our concern will be with the "attainment of concepts,' the behavior involved in using the discriminable attributes of objects and events as a basis of anticipating their significant identity.[5]

In the empirical studies which Bruner et al cite the "concepts" with which they deal and the attributes which define them are reasonably "concrete." That is, there are usually a certain number of discriminable attributes which can be positively identified and which uniquely identify the concept for which they are cues. This, however, is far from the case with the concepts my study is concerned with and the attributes which

---

[4]Jerome S. Bruner, Jacqueline J. Goodnow and George A. Austin, A Study of Thinking: (Science Editions, Inc., John Wiley and Sons, New York, 1956), p. 23.

[5]Ibid. p.21.

cue the respondents in the study about the identity of the 'concept' are numerous and impossible to isolate in order to test the strength of each empirically.

In Chapter II, I will discuss more thoroughly the various terms which have been introduced so far as the cognitive theories which are relevant to my study.

Chapter II: THEORETICAL BASIS FOR STUDY

Many terms and theories have been introduced in the opening section which require more detailed discussion and examination as they relate to my study. I will first look at concept attainment and attributes or cues as they have been characterized in research, then discuss category types and selection strategies, and then relate how I have used attribute and cue changes in my study and the issues involved in their use.

Concept Attainment

To start with the most difficult, what is meant by "concept" in the term concept attainment? As Bruner et al use the word, it is a difficult to verbalize phenomenon which is best understood in simple contradistinction between odd and even numbers, a concept, it is difficult to verbalize what has taken place or what one possesses in this understanding, but it is almost impossible to recall a world in which this distinction was unknown, They go on to state:

> It is, if you will, an enigmatic process and often a sudden process. The psychologist's 'aha experience' singles our this suddenness as does the literary man's 'shock of recognition'. Concept attainment seems almost an intrinsically unanalyzable process from an experimental point of view: 'Now I understand the distinction, before there was nothing, and in between was a moment of illumination.[5]

---

[5] Ibid, p. 50.

One can further state that the concept has defining attributes in terms of which its exemplars can be differentiated from other things in the world. In the following discussion of attributes and category types and their component parts more will be said of concepts. In terms of my study the concepts with which I will be dealing can best be defined as the generalized gestalten of each of the areas depicted in the photographs. The photographs contain physical attributes which serve the respondents as cues. These cues identify signigicant features of the area which ~~is~~ are indicative of social classes and from which reconstruction of the remainder of the characteristics of the area can be made. The defining features of most objects and events are, as Bruner points oit, redundant with respect to each other. It is not necessary to have all the attributes at one's view to make a correct identification of the object. This of course also holds true for the identification of the salient characteristics of an environment:

> In coding or categorizing the environment, one builds up an expectancy of all of these features being present together. It is this unitary conception that has the configurational or Gestalt property...Indeed, once a configuration has been established and the object is being identified in terms of configurational attributes, the perceiver will tend to 'rectify' or 'normalize' any of the original defining attributes that deviate from expectancy.[6]

There are studies which demonstrate how missing attributes are

---

[6] Ibid., p. 47.

filled in[7], reversals righted[8], and colors made consistent with expectation.[9]

Attributes and Their Properties

In the preceeding discussion attributes have been described as those qualities of an object by which it is differentiated from other objects in the environment. F.G. Boring describes an attribute in the following way:

> A stone is shape, color, weight and kind of substance in complicated relation. When such descriptive ultimates are general properties which can vary continuously or discretely, when they are, in short, parameters, they may, if one chooses, be called attributes of the object described.[10]

Attributes serve as cues. In my discussions I will use the terms as functional equivalents. The Attributes of an environment also serve as the cues by which the respondent makes judgments about the environment. In Bruner's terminology attributes which serve thus become criterial attributes:

---

[7]J.S. Bruner and L. Minturn, "Perceptual Identification and Preceptual Organization," (Journal of General Psychology, Vol. 53, 1955). pp 21-28.

[8]L. Postman, J. Bruner and R.D. Walk, "The Perception of Error;" (British Journal of Psychology, Vol. 42, 1951) pp. 1-10.

[9]J.S. Bruner, L. Postman and J. Rodrigues, "Expectation and the Preception of Color;" (American Journal of Psychology, Vol. 64, 1951), pp. 216-227.

[10]E.G. Boring, Sensation and Perception in the History of Experimental Psychology: (Appleton-Century, New York, 1942), p.26.

> When some descriminable feature of the environment is used as a bisis for 'going beyond' by inference, it serves as a signal. When such a discriminable feature is used as a means of inferring the identity of something, we speak of it as a criterial attribute.. Let it be clear that any attribute 'varying continuously or discretely' from event to event can be used as a criterial attribute in this sense.[11]

Attributes may vary in many ways. If the attribute is a color, say red, there is a wide range of "colors" and gradations between the two extremes of the range which we label red. Other attributes are discrete and exhibit no such range. For example, a person is or is not married, is or is not a member of such an organization, is dead or alive. There are obviously cases of attributes which do vary discretely but where the distinctions are rather arbitrarily defined. For example, one can be legally declared either sane or insane, to have been driving safely or recklessly, and so forth, depending upon who is interpreting the situation. Regardless of whether the discrete attributes are defined in an "ultimate," objective way or by legal or societal consensus, they are treated together as discretely varying attributes.

Criteriality

For an elaboration of the criteriality, referred to previously as saliency, of a given attribute I turn again to Bruner, Goodnow and Austin:

---

[11] Bruner, Goodnow and Austin, Op. Cit., p. 26.

> A general definition of what is meant by a criterial attribute of a given concept or category is readily stated. Take the category of things call 'apples' by some particular person. We are interested in those attributes that affect the probability of our person calling an object an apple. For simplicity's sake we will give our person only visual access to the objects we will place before him. It is fairly likely that such things as color, size, texture and shape will affect the likelihood of any objects being called an apple. But the matter can be put more precisely than this. In so far as changes in the values of any particular attribute do not produce changes in the probability of the object being called an apple, we call that attribute noncriterial. Any attribute which when changed in value alters the likelihood of an object being categorized in a certain way is therefore, a criterial attribute for the person doing the categorizing. Obviously the extent to which an attribute's values affect the likelihood of categorization is a measure of its degree of criteriality.[12]

It is obvious that the degree of criteriality can be very different from one attribute to another and additionally different from one observer to another. Some attributes point unquestionably to a particular referent, as in medicine the presence of a particular known organism may be a certain indication of a particular infectious disease. Such instances, which are rare or non-existent in the area with which I am concerned, are referred to as "certainty" cases. By far the more common case is termed a "probabilistic" case. When one is making inferences from a certain cue to an associated concept or label, the validity is most likely going to be probabilistic. This is the case with social inferences made from environmental cues as explored in this study.

---

[12]Bruner, Goodnow and Austin, op. cit., p. 31.

Criteriality, then, is the degree to which a person will use the various values of some attributes to infer the identity of some object which possesses those attributes. In addition to the quality of the attribute as an indicator there are other determinants which, once again, I have little knowledge of and little control over. Such things as the motivation of the respondent, whether he is most interested in saving time, conserving energy, being correct or whether he is reluctant to respond without further evidence, all bear on the way he will respond to the task at hand. These objectives of the person's catagorizing decisions may have been significantly different among the various people in my sample but I have no measure of the difference. The time taken to complete the interviews varies from 45 minutes to two hours, with the majority of cases taking about one hour. The interviewers did rank respondent's expressed interest and apparent diligence in searching out cues from high to low in fairly equal numbers. I did not attempt to analyze this information for a number of reasons. First, the interviewers, of course, used their own subjective judgment as to whether a respondent was interested or diligent, even though all the interviewers were of course told the same cues and criteria for determining this. Second, there were many interviews in which this information was missing. And third, there were insufficient controls and measures of possible interviewer affect on respondents, which would be most difficult to assess in questions of interest and observed motivation.

It is known from other studies that if categorization is done under pressure of time or to conserve energy the most immediately available cues will be used more than their validity would warrant. If accuracy is the subject's prime objective cues which are not easily masked and which from prior experience have a high degree of criteriality will more often be used.

Cue Preference

There are other factors which affect the choice of cue used in making inferences to identify objects and attributes in the environment. One of the most important of these is an innate or developed preference for some cues as compared to others. Cue preference, as it is generally referred to in psychology, has been shown experimentally to be common to much of the animal and human world. In a well known study[13] of cue utilization of facial characteristics as they relate to intelligence, Brunewik and Reiter systematicallly varied height of brow, length of nose and size of chin and respondents to rate the faces in terms of intelligence. It was found that height of brow was given more weight by subjects in judging which face was most intelligent.

Goodnow,[14] in a similar study, demonstrated the strength of a

---

[13]This study is cited in Bruner, Goodnow and Austin, op. cit., p. 203; from E. Brunswil and L. Reiter, "Eindruckscharakters schematisierter Gestchter;" (Z. Psychology, Vol. 142, 1938) pp. 67-134.

[14]Bruner, Goodnow and Austin, op. cit., p. 203

preferred cue to be decisive inspite of weak or conflicting evidence. Using the same three facial characteristics as Brunswik and Reiter, he described a Type X face to his subjects and then had them decide whether various faces they were shown were Type X or not. It was found that:

> Brow-height cues were eventually treated as if they were virtually certain cues whether their validity was 100:0 or 67:33. Length of nose, even when it was 100:0 value, was finally used as a basis for making the objectively proper inference only 80% of the time, somewhat less still when it was a 67:33 cue.

This is a clear example of the power of cue preference. My study lacked the clarity of the laboratory simplicity of these experiments as it involved photographs of everyday environments with their multiple cues. There is, however, support for the belief that cue preference operates in a significant way in making the type of judgements my subjects were asked to make, From Bruner again:

> It is apparent... that preferences or impressiveness serves drastically to alter the effects produced by the objective validity of cues. We would venture to propose that the more one moves toward 'real-life' categorizations involving forms of grouping that touch upon everyday adjustment, the more will such 'non-rational' effects operate. Such effects are, indeed, the stuff of which stereotypes are made: conceptions of relationship and identity that take insufficiently into account the actual state of nature. The kind of 'prejudiced categorizing' to which Allport (1954) refers in his book on prejudice is in large measure an example of overdependence upon preferred but highly unreliable cues for the achievment of overdetermined ends. [15]

---

[15] Bruner, Goodnow and Austin, op. cit., pp. 203-204.

Cue Conflicts

The results of my study show strong preferences toward some cues, which were apparently given validity far beyond what would be expected from objective measures. This probably was the outcome of categorizing problems which arose when compound cues in the photographs offered cue conflicts. When faced with a cue conflict the subject has to make some choice in order to respond at all. Cue preference again becomes an important factor, usually determing how the conflict will be resolved.

In studies where conflicting cues were intentionally given subjects have reacted by stating that something seemed "funny" of "odd" about the stimulus pattern. Even if they could not verbalize what was unusual about it, their confidence in cues which they were told had 100 percent validity was undetermined and there was a slowing down of reaction decision time, which usually accompanies lack of confidence. Therefore, studies utilizing cue changes which are not intended to be detected must pay attention to possible conflicts they introduce so as not to raise the suspicions of the subjects and thereby affect their responses.

As I have stated several times, there are multiple cues available to the subjects in each of the photographs in my study, and establishing a causal relationship between a given judgement and any single cue or descrete "set" of cues is impossible. Some of the cue changes made in the photographs gave evidence which would be in conflict with everyday experience. This was not glaringly obvious, as an examination of the

photographs I used will show, but there are in many of them combinations of cues which one would have difficulty finding in everyday experience. These conflicts served to test the criteriality of the cues involved.

Selection Strategies

Much of Bruner, Goodnow and Austin's book deals with experiments in which there were a certain number of discriminable attributes which infallibly led to the identification of a particular object, class or concept. All one had to do was to learn to distinguish what the necessary attributes were for membership in a certain class and which were not. With the circumstances thus limited and defined it is possible to map out idealized strategies to solve a problem of concept attainment. It is important to understand these idealized strategies if for no other reason than to see how differently one must proceed in a world not so limited and defined.

The investigators identified four different strategies used to discover organizing concepts. Before describing these it will be useful to understand their categories of organizing concepts. (Refer to Figure 1 for examples of their materials which are mentioned.) The organizing concepts in their tasks each belong to one of three catagories which are labeled Conjunctive, Disjunctive and Relational. In a Conjunctive category the organizing concept calls for the interaction of characteristics. In the universe of Figure 1, for example, there are three exemplars of the conjunctive concept: two figures,

blackness and crosses. In a Disjunctive category the organizing concept calls for all examples which display any of the characteristics of a given example. For instance, those cards which possess two black crosses or any constituent thereof; i.e., two figures, crosses, black figures, black crosses or two crosses. There are 57 cards which meet these criteria. This is a difficult category and little used experimentally as there often seems to be a arbitrary relationship among the attributes which are used in definging the category. A Relational category is one defined by a specifiable relationship between defining attributes. Referring again to Figure 1 an example could be all those cards having the same number of figures as borders.

To return to strategies used in concept attainment prossesses, Bruner et al have labled the four strategies they identified as follows:

1. Simultaneous - scanning strategy
2. Successive - scanning strategy
3. Conservative - focusing strategy
4. Focus - gambling strategy

Simultaneous - scanning, in their words:

> ...consists in essence of the person using each instance encountered as an occasion for deducing which hypotheses are tenable and which have been eliminated. This is a highly exacting strategy for the subject must deal with many independent hypotheses and carry these is memory. Moreover, the deductive process is exacting.[16]

They also point out that there is no practical way of regulating the riskiness of one's next choice. The task this strategy was used for involved grouping cards which contained three values of three attributes into conjunctive groups. (See Figure 1 again for examples).

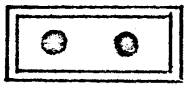
---

[16]Bruner, Goodnow and Austin, op. cit., p. 83.

Successive scanning is a strategy which consists of testing a single hypothesis at a time, As Bruner et al describe the process:

> The subject has the hypothesis that red is the feature common to all correct cards, and chooses instances containing red in order to test whether they are positive instances. He goes on testing hypotheses until he hits the correct concept. The typical successive scanner then limits his choice to those instances that provide a direct test of his hypothesis.[17]

This strategy reduces cognitive strain as only one concept is kept in mind at a time as it is tested. It will likely result in one's choosing again cards which have logically been eliminated by some other test, that is it produces redundant judgements.

Conservative - focusing strategy starts by finding a positive instance of the concept which is used as a focus. Then a sequence of other examples are chosen which alter only one attribute of the focus card at a time. A test is made with each new choice to see whether the change yields a positive or a negative instance. Those attribute values which yield a negative result ARE part of the concept; those which yield a positive value ARE NOT. For example, if the focus card contains three red circles and two borders  , and if the concept is red circles (which the subject would not know of course) and if the first new choice contained two red circles and two borders  , thus testing the concept of three figures, the subject discovers three figures is NOT a relevant attribute value, but the example chosen is in the concept set. This technique is guaranteed to give the user information with each new choice for it is designed to do

---

[17]Bruner, Goodnow and Austin, op. cit., p. 85.

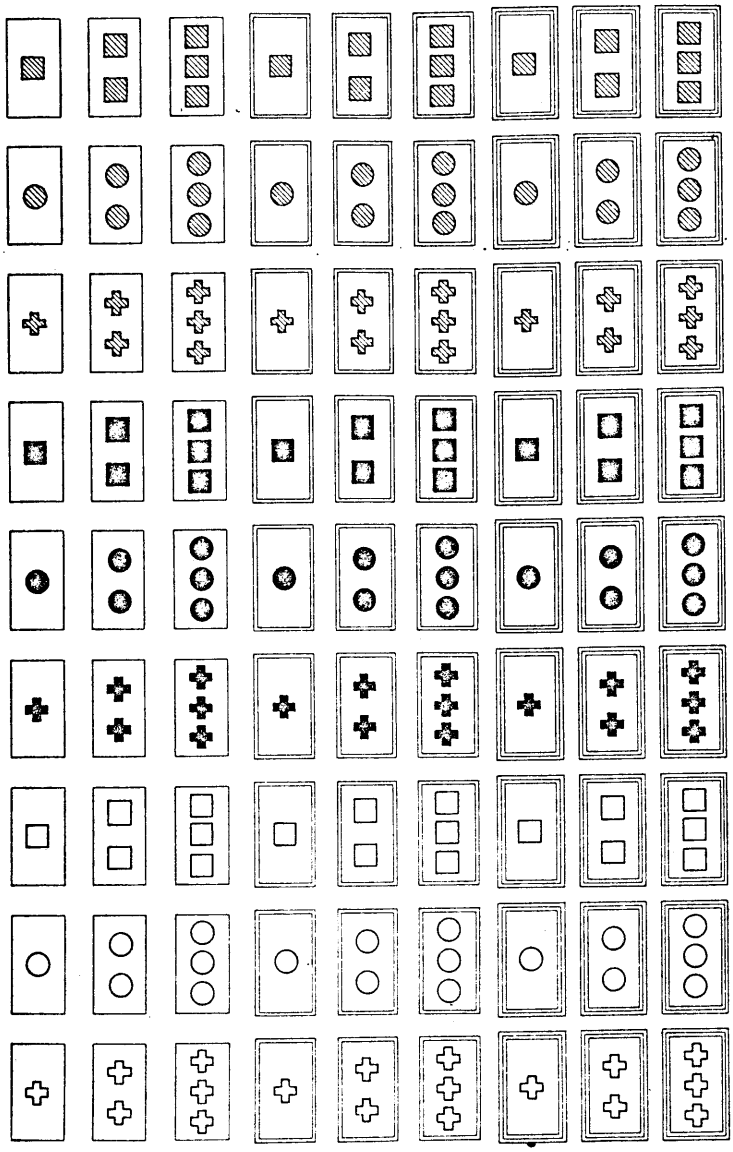
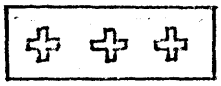


FIGURE 1. This figure is an array of cards showing four attributes: crosses, squares, circles and borders; each having three values. The plain figures in the experiments discussed are green, solid figures are black and striped figures are red. The usual procedure in concept attainment would be for the experimenter to establish a "concept," say three red figures: The subject would select instances through one of the strategies discussed on the following pages and be told by the experimenter whether his selection was a positive or negative instance until the concept was discovered.

just that. It also is low on cognitive strain as there is not a multitude of hypotheses that he must keep in mind. Risk is low because each choice guarantees information, albeit not the maximum possible.

The last strategy, Focus Gambling, is quite similar to conservative focussing except that the subject after choosing a positive instance as a focus, changes more than one value at a time. The value of this strategy is that solution may be gained with many fewer choices, but the risk is that is may also take a greater number of choices to reach a solution -- hence the label gambling. If, for example, the subject chose three red circles and two borders as the positive focus  , then on the first choice he might change, if he were a true gambler, three attributes at once and select as a test, say, three green crosses and one border  . If this should yield a positive instance again then the concept would have to be the only attribute value shared by the two instances, namely three figures. Hence, it is possible to reach a solution in a single choice.

The four strategies discussed above are idealized and involve the categorization of abstract attributes such as color, forms and borders. These attributes are not laden with meaning and therefore do not tempt the subject to draw on the principles of verisimilitude -- to imbue the material being judged with meaning from past experiences. The preferred strategy is successive scanning, the technique used in testing a single hypothesis

at a time. When thematic content is introduced into the task subjects tend to develop hypotheses of what the meaning behind the subject matter is and test these hypotheses one by one -- i.e. successive scanning. He also remembers more easily what hypotheses have been tested than he was able to do when using abstract material so the strain of remembering what had and had not been tested in the strategy of simultaneous scanning is reduced to a point that this method can be employed. One might therefore, expect a combination of the two scanning strategies when dealing with meaningful material.

To compare strategies used in dealing with abstract and meaningful material Bruner et al carried out two parallel experiments in concept attainment, one with six abstract attributes and two values each and one with six thematic attributes of two values each. The six attributes, three each for a large and small figure being tested in the Abstract Group were the following: (The two values of each attribute are shown in parentheses.)

LARGE FIGURE		SMALL FIGURE	
1.	Shape (rectangle or triangle)	4.	Shape (rectangle or triangle
2.	Color (Yellow or black)	5.	Color (yellow or black)
3.	Border (present or absent)	6.	Border (Present or absent)

The six attributes, three each for an adult and a child figure, being tested in the Thematic Group were the following: (again the two values of each attribute are shown in parentheses.)

	ADULT FIGURE		CHILD FIGURE
1.	Sex (male or female	4.	Sex (boy or girl)
2.	Dress (Night or day dress)	5.	Dress (night or day dress)
3.	Posture (smiling and giving or frowning with arms clasped.	6.	Posture (smiling and receiving or looking down with arms clasped)

As suggested earlier, subjects given tasks involving the Thematic Group used a successive scanning strategy seemingly utilizing hypotheses already tested to evaluate new instances. Those subjects present with the Abstract Group used primarily a conservative - focussing strategy. Further, those dealing with the Abstract Group were relatively indifferent about attributes while those dealing with the Thematic Group showed a decided preference for the sex clue. That is, in the testing of hypotheses sex was the attribute most often held constant while the other attributes were changed and tested.

The experimenters summarized the study by saying:

> to attain concepts with materials that are meaningful and amenable to familiar forms of grouping leads to several difficulties. In the first place, the problem--solver is likely to fall back upon reasonable and familiar hypotheses about the possible groupings. In doing so, he may be lead into a modified form of successive scanning: the strategy par excellence for going through a list of hypotheses. In the second place, the thematic material will more readily than abstract material, lead certain attributes to have nonrational criteriality: the subject will 'hang on' to these and will formulate hypotheses around them.[18]

The use of meaningful materials in the still quite simple and controlled problem described above gives an indication of the difficulties one would expect from even more complex stimuli such as everyday residential environments. The other important difference between experiments such as

---

[18]Bruner, Goodnow and Austin, op. cit., p. 111.

described above and my study is that in the above experiments there is always the existence of a unique concept and once the concept is attained the subject can infer with certainty the objects which have the requiste defining properties and hence belong to that concept.

Categorizing with Probabilistic Cues

With most cases in the everyday world, and with my study, one can never be certain of inferences from defining attributes to categorial identity. Such cases have been characterized as categorizing with probabilistic cues. In simple terms this means that there is only a probability that there is a positive link between cues in the environment and a given category. For example, if one sees a poorly maintained house in a "slum" area with a two or three year old Cadillac sitting in front of it, what is the probability that the stereotype which suggests that a Negro family lives there will be an accurate one? What could one infer from ornate aluminum screen doors, replete with birds and initials, or from the presence or absence of vegetation, or from good or bad maintenance of buildings and grounds?

Once again, Bruner sums up well the problem of inferring from cues with uncertain probability:

> We often may know what to look for as a basis of categorizing, thanks to some prior guidance and learning, but we do not yet know how much reliance to place in what we see. As I mentioned earlier, Egon Brunswik..has suggested that much of the cognitive activity of everyday life is of a probabilistic order. Most of

> our judgments as to whether objects are near or far, for example rely upon combinations of partially valid cues. These are cues which are not only partially valid but which may also be absent or indetermined on any given occasion when a categorization must be made. Indeed, as we remarked in an earlier chapter when discussing partially valid attributes, much if not most of the socially relevant categorizations one must make--particularly in 'placing' people--are of this order. Is a man intelligent or not, liberal in his political views or not, sympathetic or not? The cues are only partially valid and often only partially present.[19]

In A Study of Thinking five factors have been suggested as those which bear most directly on categorizing with probabilistic cues. They are:

1. The estimated probability that the events will belong to one or another class;
2. The presence of potentially criterial cues and their validity;
3. The payoff matrix governing the categorizing situation;
4. The person's conception of the task;
5. The opportunity for validation.

While it seems probable that all these affected the responses my subjects made, some are of greater interest to me than others.

The first mentioned factor, the estimated probability that the events will belong to one or another class is of particular interest. A number of experiments have shown that a subject will adjust his prediction of the probability of a certain event occuring to the actual frequency of its occurance. This method of determing the category to which a given event belongs is called event matching. Although the stimuli in these experiments were abstract ones, like flashing lights, when considering

---

[19] Bruner, Goodnow and Austin, op. cit., pp. 195-196.

events in the everyday world, they provide a rational base with which to start.

I would expect then, that when dealing with a real environment, event matching would be used, that is cues would be used in accordance with one's past experience of their likelihood of predicting a certain event. In addition, cue conflicts and cue preference both would affect the way cues were used. Seemingly, ones ability to accurately interpret cues in various environments would be related to his experience with various environments, greater experience leading to increased accuracy.

The second factor concerning categorizing with probabilistic cues, the presence of potentially criterial cues and their validity, is also relevant to my study and is related to number 1, the frequency with which events are found to belong to one or another category. Especially when cues are sparse, it has been shown that relative frequency is almost entirely relied upon. In such situations there is a search for cues to guide categorizing behavior. Of great interest is the extent to which the cues then used are objectively accurate, i.e. the correspondence between cue criteriality and cue validity. If the two do not match, and with my subjects this was often the case, then we should be able to get useful information from the mismatches. For example, the cue of Negro children previously mentioned proved to be a cue of great salience and overrode other environmental cues such as size, type and maintenance of houses which objectively viewed would have lead to different judgments.

Two of the last three factors listed above, the payoff matrix and the conception of the task, are of less interest here, partially because they are less relevant to the aims of the study and partially because I do not have information which could be used to explore them. With respect to the opportunity for validation, however, many of the subjects expressed the desire to know whether they had made the "right" response, indicating an apparant need to know how they were performing. Other researchers have shown that a lack of opportunity for validation affects subtantially one's responses. My interviewers were instructed to give non-commital answers to reinforcement queries which hopefully would neither dampen the subject's interest in the task nor offer reinforcement to a certain pattern of response. It will be obvious when I discuss specific questions asked in the interview that for many of them there were no absolute answers. For others, such as questions on factual or demographic information about individuals living in the areas shown, answers do exist but I do not have them.

A combination of this lack of a chance to validate responses and the lack of a "payoff" involving any sort of personal gain for excellent performance has undoubtedly affected performance. I can only speculate on what this affect might have been, or accept the perhaps better informed speculations of others:

> Reductions of opportunity to validate serves, we predict, to diminish problem-solving activity. We are using the term

> 'problem-solving activity' in the sense of an attempt to eliminate error, or at least to decrease the percentage of error in one's predictions. We would further predict that such reduction in problem-solving activity would lead the person to adopt all-and-none behavior, to make his choice always one of the more probable alternatives. If one is enabled by reduced opportunity to become more casual toward error, then all-and-none categorizing should become more attractive and a certain margin of error will come to be accepted as inevitable. If one cannot keep score of the outcome of past events and if one is also unable to test one's hypotheses, then problem-solving efforts should likewise decrease. Moreover, the inability to keep score may lead the person to adopt a form of behavior which has at least the advantage of keeping error within predictable limits. The adoption of all-and-none behavior performs this service uniquely. On all these grounds, we would predict that when the opportunity for validation is reduced behavior will approximate all-and-none categorization.[20]

Summary of Theoritical Basis

Although I have relied heavily on A Study of Thinking as a theoretical basis, I am in no way replicating any of the work of its authors. However, more than anyone else, their formulations concerning the cognitive processes involved in categorizing decisions have been most influential in making up the interview instrument, choosing attributes or cues to manipulate and in analyzing the data collected.

In summary, the relevant theoretical formulations and how they relate to this study are as follows: First, the process of concept attainment I believe most accurately describes the cognitive activity utilized by the subjects in responding to the interview they were given. The concept which it was their task to attain was a gestalt-like

---

[20]Bruner, Goodnow and Austin, op. cit., p. 210.

conception of the social character of the residential areas depicted in the photographs. They arrived at their conceptions by making inferences from physical attributes shown in the photographs. Some cues (attributes) in the photographs have greater criteriality or saliency than others. That is, certain cues will provide more useful and reliable information from which to make inferences than other cues. As none of these attributes, however, can be used to predict with 100 percent validity the social characteristics (gestalt-like concept) of residents assumed to live in the area, they are probabilistic in nature. Further, cue preference will be exhibited by subjects causing them to weigh certain cues more heavily than objectively justifiable. Cue preference will be particularly strongly demonstrated when there are cue conflicts. As the subjects are asked specific questions about the photographs each question will be treated as a hypotheses to be checked and cue searching for salient attributes will be undertaken by a successive scanning strategy, i.e. scanning the photograph as each hypothesis is checked to glean information from salient attributes. To some extent the judgments made by subjects will approximate event matching. That is, a cue will be used to the extent that in past experience it has accurately predicted the occurance of a certain "event." However, as there is no opportunity for validity testing and there are no penalties for error, the subjects may lean toward an all-and-none method of prediction. That is to say, even though a given attribute is known not to be particularly reliable as a predictor, its presence is enough to cause the subjects to place the event for which

that attribute is a cue into a particular category 100 percent of the time.

In Chapter III I will discuss the basic aims of my study and the problems of selecting the sample to study, the attributes to test and the most effective method of displaying an environmental stimulus from which to gather data.

Chapter III, AIMS AND METHODS OF THE STUDY

As stated in the introduction the basic aim of my study is to determine the ways in which physical cues lead to the identification of a particular social group by other social groups in a social system, what the attributes or cues are that lead to this identification and what the attitudes of each group toward the other groups so perceived are. I am concerned with determining the physical cues which lead to the formation of social perceptions and attitudes and not with measuring actual behavior as it would relate to social perceptions.

We have a sense, through the work of Kevin Lynch[21] and others, of the way users of a city form mental images of it; of how people identify and structure the city's parts in order to function adequately in their daily use of it. Not surprisingly, Professor Lynch found that there are several identifiable modes of structuring a mental image of the city. Some of the differences in modes can be accounted for by occupational affiliations. A taxi driver could be expected to use a different mode in perceiving the city than that used by an elevator operator. However, the sample on which they Lynch study was based was not random and there was no attempt to test the effect of such variables as occupation.

Whether a person structures the city in his mind as a static map image, or as a dynamic, unfolding and interconnected one, the process

---

[21]Kevin Lynch, The Image of the City: (The Technology Press and Harvard University Press, Cambridge, Massachusetts, 1960.)

through which this image is formed is similar and important to this study. The most central common process used is category formation, which was discussed in Chapter I. Lynch's interviews showed that differentiation of the city into districts containing some common set of attributes was one of the important ways of structuring the city. The creation of districts is a type of category formation and is crucial in structuring images of the city.

Ross is a study done in Boston in 1962 investigated the relevance of districts in the city as structuring elements and drew the following conclusions:

> The research reported here supports the proposition, contained in the local community model of the metropolis, that the city is perceived by its residents as containing names areas, bounded by such barriers to travel as parks, rivers and large streets... The names of areas apart from the one of residence were found to be well-diffused in this study. Furthermore, these names were shown to have class and ethnic connotations that were in harmony with indices derived from the census...It further suggests that named areas have a status-ascriptive function.[22]

Many of the free responses to the photographs in my study indicate this tendency to identify districts and ascribe classifications to them. For example, the following comments are common: "It looks like an old neighborhood where different nationalities would stay together." (Said of Photo FR-4 by Chelsea Subject 02); or "It reminds me of Beacon Hill," (said of Photo FR-6 by Watertown Subject 00); or "Restored, upper class section - Yankee," (said of Photo FR-6 by Newton Subject 01). In almost all of the photographs some subjects said they were reminded of a particular named area.

---

[22]H. Lawrence Ross, "The Local Community: A Survey Approach"; American Sociological Review, Volume 27, 1962, p. 83-84.

The logical next step was to investigate to what extent social attitudes are formed toward the people assumed to live in these districts of the city. The general hypotheses I began my study with were the following:

A. Social attitudes, positive and negative, can be formed by one group of persons toward another group on the basis of visual physical attributes (cues) alone.

B. Positive social attitudes towards an area formed on the basis of physical cues correlate with feelings that the area is attractive, and negative social attitudes correlate with feelings that the area is unattractive.

C. Certain physical attributes (cues) have greater saliency than others, hence their presence in an environmental display will "override" other conflicting attributes (cues).

D. Different groups use different cues from an environmental display to identify social groups, though different groups may also use the same cues to arrive at different judgments.

Other more specific hypotheses were developed as I worked on the theory, interview instrument, selection of sample and analytical techniques to be used in interpreting the data. These will be discussed in Chapters IV and V.

Selection of the Sample

The first goals in the selection of groups to study was to choose a small number of reasonably clearly differentiable groups among whom quite differing perceptions of the physical environment would be expected. The major reason for selecting groups among which one would expect wide differences was pragmatic at base. I wanted to choose variables for the first stratification of the sample that would have a strong differentiating effect,

because of the difficulty in measuring responses of a social nature to a photograph with a large number of variables influencing responses that cannot be controlled. Those variables include things like personality of the respondent, influences from the mass media, age and life style differences and so forth.

There are, however, many ways to group the population of a major metropolitan area which would fulfill the goal of maximizing expected differences in perception of social characteristics from physical cues. I emphasized expected differences as the data to verify such expectations are minimal and one has to rely on interpolations from other studies and informed intuition. For instance, although studies of preference of house type across different groups in the population suggests that the physical environment is being perceived differently as it relates to the social structure of the population at large, only indirect inferences can be made from these studies as to the specific relationships between any physical cue and the associated social characteristics. That is to say, if we know that a certain person would prefer to live in a detached Cape Cod colonial house with red shutters we know only that fact and not that he interprets these as symbolic of any social class, ethnic group, occupational group, or as symbolic of any other thing. He may prefer the Cape Cod house because to him it represents a class or group to which he aspires but does not belong; or he may prefer it because he grew up in such a house and he is comfortably familiar with it and what in his experience it represents in the social system; or he may prefer it for any number of other reasons.

With most preference studies we simply do not know the real reason for a choice, we can only guess from our own experience.

I therefore wanted first to select groups which could be differentiated in some non-arbitrary way and among which I would expect to find measurable differences in response to my survey instrument. Particularly I was interested in selecting groups according to their experience with, interest in and use of the physical environment. Since the public records upon which I had to rely to select my sample do not delineate these aspects of a possible sample, I felt occupational affiliation was the best available alternative. It seemed intuitively obvious to me that groups as broadly different as, say taxi drivers, elevator operators, real estate brokers and architects would see and interpret the environment differently.

While I still feel that stratification of the sample by occupation would be desirable from a theoretical point of view, for practical reasons I could not use it in my study. The greatest difficulty came in attempting to select a 'universe' from which to draw a random sample. It was not possible to define all members in each of a number of occupational groupings within the metropolitan Boston area so that a random sample could be drawn from each of the groups. For many occupational groups reasonably complete membership records do exist, such as a roster of licensed taxi drivers or licensed architects, but for others where licensing or other formal recognition of the group is not required records do not exist. In addition, the dispersion over a wide geographic area of groups related in this way would have increased interviewing time and expense. For these

reasons I abandoned occupational affiliation as a basis of stratification.

Place of residence was chosen as the best alternative for the first stratification for several reasons. If carefully chosen, place of residence gives one much more information than simply one's geographic location in a metropolitan area. As Shevky-Bell demonstrated in the research for their book Social Area Analysis,[23] metropolitan areas can be typed according to three basic factors into social units which explain social differentiation and stratification in the society. The three factors (indexes) that they used were social rank, urbanization and segregation. The Social Rank Index was derived from occupation, education and rent: the Urbanization Index from fertility ratio, women in the labor forces and ratio of single-family dwelling units; and the Segregation Index was simply a measure of the relative isolation of racial and national groups. Hence, the choice of place of residence to create strata in my sample promised to yield good results.

The first of these three scales, social rank is the one which I felt would be most useful to me in the selection of a sample, as occupation is one of the components which makes up the scale. As Shevky and Bell state:

> The construction of social rank is specified from the changing distribution of skills in the development of modern society as a significant differentiating factor among individuals and subpopulations in modern society at one point in time. Individuals and groups are seen at this point in time as being significantly differentiated with respect to one of the long-term trends which has been important

---

[23] Eshref Shevky and Wendell Bell, Social Area Analysis: (Stanford University Press, Stanford, California, 1955).

[24] Shevky and Bell, ibid., p. 17.

> in the development of the character of modern society. .. We select measures of occupation, education and rent to compose an index of social rank from among the possible measures because of their greater central importance in the changes in distribution of skills. Occupation, of course, is the key variable.[24]

They further emphasized the role of occupation in the following comment:

> Only in the modern period has occupation come to have a determing influence upon status and rank; today, no other single characteristic tells us so much about the individual and his position in society.[25]

In many other studies the high positive correlation of occupation with income, education and prestige has been documented, such that one can feel with a great deal of certainty that in using mainly occupation as a basis of stratification one is in fact also stratifying along many other variables.

The social Rank Index used by Shevky and Bell is similar to the Index of Status Characteristics developed by Lloyd Warner.[26]

---

[24]Shevky and Bell, ibid., p. 17.

[25]Shevky and Bell, ibid., p. 7.

[26]W. Lloyd Warner, Marchia Meeker and Kenneth Eells, Social Class in America: (Harper and Row, New York, 1960) (originally published by Science Research Assoc., Chicago, 1949) Warner based his indexes on extensive empirical studies of Newburyport, Mass., the town which was the subject of his book, Yankee City. The index was derived from the evaluations people in Yankee City made of the components of the index: occupation, source of income, house type and dwelling area: i.e. the relative worth or salience of each of these in dtermining the social position of persons in the Yankee City social system. As Warner states it, "It is not the house, or the job, or the income, or the neighborhood that is being measured so much as the evaluations that are in the backs of all our heads--evaluations placed there by our cultural traditions and our society". p.40

Warner's index contains occupations, educational and dwelling components as did Shevky-Bell's, but Warner also added house type to his index.

Fortunately for me, Frank Sweetzer did an extensive study of the Boston Metropolitan area in which he mapped indexes made up of several individual characteristics.[27] One of the indexes which he used was the Social Rank Index taken from the Shevky-Bell model. I was able to draw on Sweetzer's study for census tracts which contained the desirable characteristics and which fell at desired places on the Social Rank Index.

The first step then in selecting the sample to use in my study was to find all those census tracts which were approximately the same distance from downtown Boston and which also fell at three unique levels on the Social Rank Index; one at the extreme high and one on the median and one at the extreme low end. The reason for attempting to find census tracts equidistant from the center of Boston was to minimize the effect location in the metropolitan area might have on any of the responses. There were a few questions in the interview relating to the use of downtown Boston and several more had been contemplated when I was selecting the census tracts. I felt that distance from downtown was a variable which might effect responses and which, if it did not create other difficulties could be kept more or less constant.

The three census tracts which were used are SC-4 in Chelsea representing the low end of the Social Rank Index, MC-108 in Watertown which falls on the median and MC-117 in Newton. The individual census

---

[27]Frank L. Sweetzer, The Social Ecology of Metropolitan Boston, 1960 and Patterns of Change in the Social Ecology of Metropolitan Boston 1950-1960: (Division of Mental Health, Massachusetts Department of Mental Health, 1962.)

tracts are shown in Figure 4. In figure 5 there is a tabulation of the variables which I used in making the selection of tracts.

Having chosen the appropriate tracts for the sample, the next step was to specify the universe. In sampling terminology a "universe" can be defined as the total number of elements which meet specific criteria and are thus subject to sampling or testing. The universe I decided to use in my study was all employed males over 21 years of age in each of the three census tracts.

Employed males over 21 was decided on for both pragmatic and theoretical reasons. First, the voting lists which by law must be kept for all towns and cities in Massachusetts offer the easiest means for compiling a roster of residents in a census tract, but only those people over 21 years of age are included. Hence, I used 21 as the lower age limit for the sample. For theoretical reasons I was interested in the occupational affiliation of the members of my sample and as the occupation of individuals on the voting lists was indicated, including unemployed or retired, I could easily select a universe of only those males who were employed. I did not include employed females as I was not, prepared to tackle the problems of difference in perception of the environment as it relates to sex, and rather than confound the results of the study by including them along with male respondents I decided to eliminate females from the universe of possible subjects.

Although the universefrom which my sample was drawn consisted

FIGURE 3: Metropolitan Boston with Census Tracts Used Indicated

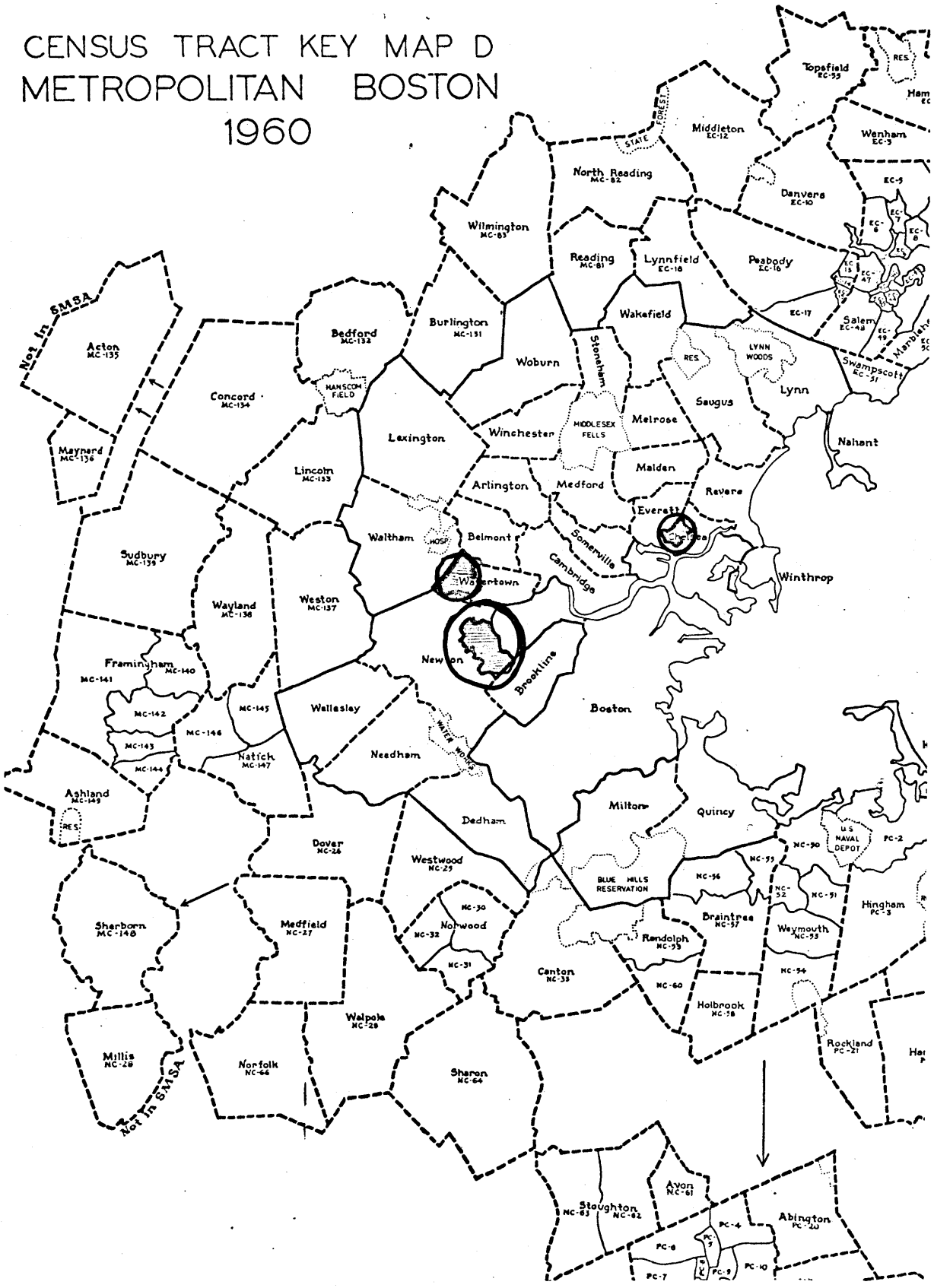


FIGURE 4: Census Tract Designations of Areas Used in Study

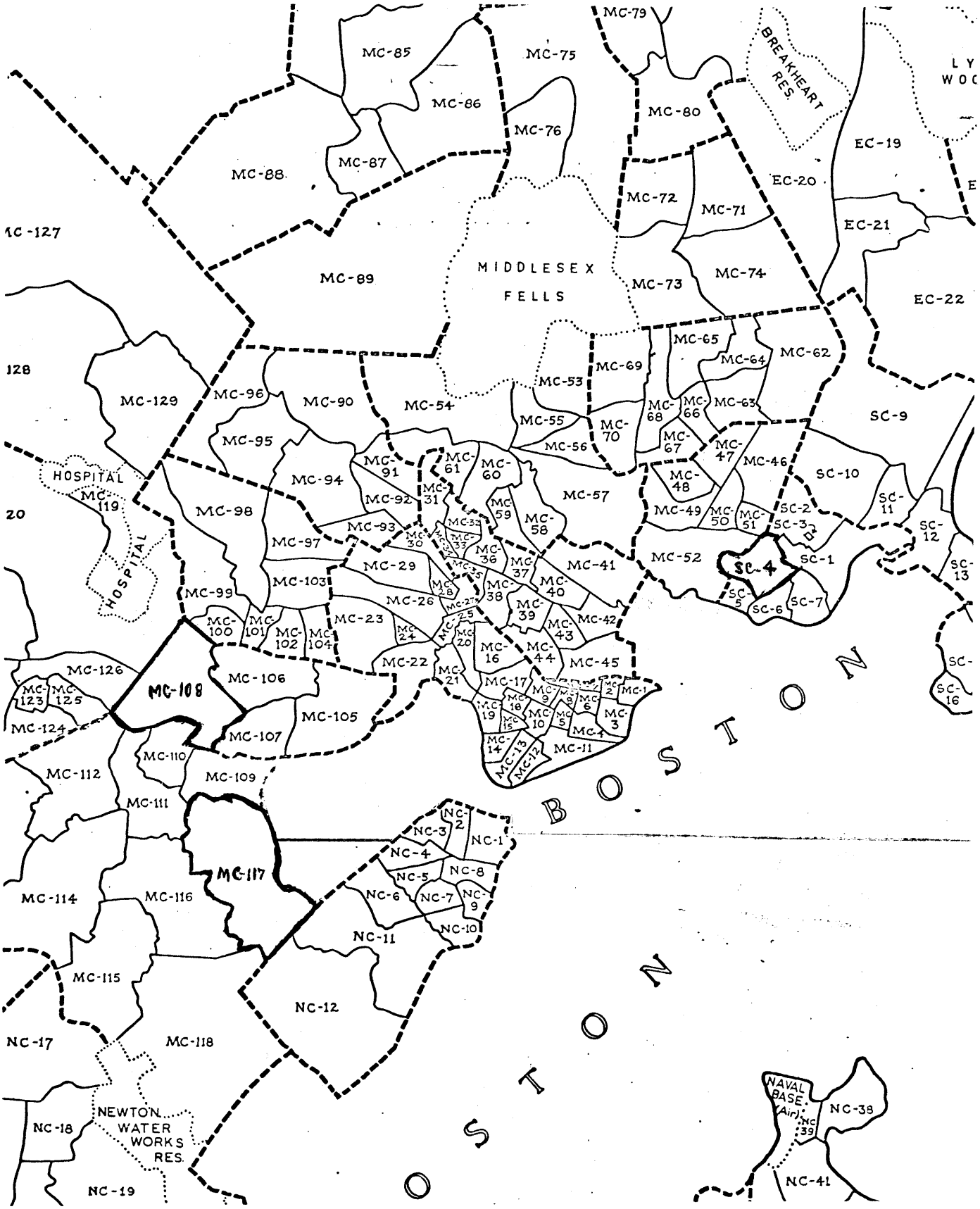


FIGURE 5. Variables Used in Making Selection of Census Tracts

TRACT	% of Housing Units Constructed 50-60	Prewar	Crowded rooms	Index* of Housing Quality	FAMILY INCOME - '59 Median	%Under 3,000	% Over 10,000	
MC 117	10.1	79.3	.5	1.0	14,378	4.9	68.5	- Newton
MC 108	24.2	59.8	8.8	41.1	6,866	6.8	18.4	- Watertown
SC 4	.9	98.9	10.4	85.0	4.520	26.4	6.2	- Chelsea

TRACT	% EMPLOYED MALES Prof. Mgr	Clk Sales	Blue Collar	Index** of Social Rank	EDUCATIONAL ATTAINMENT Median Sch Yrs	% Adults H.S.	College	
MC 117	66.1	22.6	11.3	95	13.4	80.2	33.5	- Newton
MC 108	27.5	22.0	50.5	62	12.1	53.5	12.2	- Watertown
SC 4	12.6	21.6	65.8	29	8.4	20.5	2.0	- Chelsea

NO. of EMPLOYED MALES OVER 20 Years of Age		
MC 117	2,158	- Newton
MC 108	3,947	- Watertown
SC 4	1,410	- Chelsea

* Lower number indicates higher quality

** Higher number indicates higher Social Rank

of only employed males over 21 years of age from three census tracts in the Boston Metropolitan area, and although inferences from the findings of the study can thus be made back only to that universe, I of course think that they are, in fact, more generally relevant to a larger population.

METHODOLOGY OF SAMPLE SELECTION

The method of sampling used in this study was stratified disproportionate, simple random sampling without replacement.[28] In random sampling the probability that any one member of the universe will be selected is the same as it would be for any other member of that universe. More specifically, a simple random sample is one of n elements such that every other combination of n elements has the same chance or probability of being drawn. The strata from the total population within the three census tracts used was employed males over 21 years of age. There were 2, 158 persons in this stratum in Newton, 3,947 persons in Watertown, and 1,410 in Chelsea. The sampling was disproportionate because 50 persons were selected from each of the three census tracts rather than a number proportionate to the relative size of each.

---

[28] Two good references on sampling methods and experiment design are D.R. Cox's Planning of Experiments, (New York, Wiley, 1958) which is relatively non-technical and non-mathematical and hence widely comprehensible; and Morris H. Hansen's Sample Survey Methods and Theory, Vol. 1, New York, Wiley, 1953) which is a more technical treatise. Another invaluable book of inspired common sense to help one avoid pitfalls in making up questions for a survey instrument is Stanley L. Payne's The Art of Asking Questions, (Princeton, New Jersey, University Press, 1951) now unfortunately out of print.

With the advice of Professor David Armor of Harvard's Department of Social Relations, it was decided that no compensation was necessary in the statistical computations to correct for this disproportionality.

The sample was simple because there was only one stage of random selection; for example there could have been a random selection of cities at a second stage, and finally individuals from within those census tracts at the third and final stage, all randomly chosen.

The sample was without replacement as I did not renumber all the the individuals on the voting lists when it was necessary to resample due to refusals and inability to make contact with those drawn on the first sample. If the same individual's name was drawn a second time it was discarded.

To choose the subjects, it was first necessary to determine how many persons within each of the census tracts were male and employed- if they were on the voting list they were by definition over 21. I went down the list and every time I found a person who met the criteria I would put a number by his name, starting at one and going consecutively through all the names within each of the three census tracts.

Next, to assure randomness in the selection of individuals chosen, a table of random units was utilized. To conform to the mystique or orthodox sampling procedure and assure a random start, numbers from 1 to 3, representing the number of pages in the table of random units, were put in a hat and one drawn out to determine on which page to start. Then by pointing randomly at that page with closed eyes the unit to start was

selected. After the proper random start any consistent pattern for selecting units can be followed. For example, all consecutive units by row or column, or any diagonal, or every fifth unit by either row or column, and so forth may be used. As frequently happens, there were more digits in the table of random units than in the numbers I had assigned persons in my universe. The table used five digits while there were only four digits in the number of persons in each of the census tracts from which I was drawing a sample (2,158 in Newton, 3,947 in Watertown and 1,410 in Chelsea). Any consistent selection of four of the five digits in the table of random units can be used. Any number which is equal to or smaller than the number of persons in the universe of the sample may be drawn. Any person whose number is drawn by following the pattern selected becomes part of the sample.

Fifty-five persons from each of the three census tracts were chosen on the first try by the method outlines above. All persons selected were then sent a letter which introduced the study and said they would be contacted by telephone to set up a mutually agreeable time for an interview. (See letter in Appendix). Letters were sent to prospective subjects, to be followed by telephone contact because I felt there would be less hesitence to take part in the experiment if it were "legitimized" by these prefatory steps. I am no longer convinced that the refusal rate is affected much by these sorts of introductions. One of the interviewers for this study called the prospective subjects before letters were sent and seemed to be getting about the same refusal rate as for those who had received letters. Professor Armor feels that the refusal rate is likely to be lower

if the prospective subject is approached in person rather than by telephone, as it is harder to say no to a person when facing him than it is via the impersonality of the telephone. Professor Armor was conducting a research project on the relative rates of refusal for the different approaches discussed above. From preliminary returns it would seem that the lowest refusal rate is obtained by a combination of an identifying letter followed by a face to face visit.

Although the voting lists from which I compiled my universe of names were reasonably up to date, some problems were encountered with the Chelsea list. In both Watertown and Newton the stability of the population was such that relatively few persons who were drawn as part of the sample were no longer living in the same place. In Chelsea, however, from the first list of 55 persons less than half were still at the address they had been listed at one the previous year's voting list. After repeated resampling to get the 50 persons needed from that town I was still short 13 persons and these last few were selected by the quota sampling method, i.e. taking the first 13 people living within the census tract who would agree to do the interview. In Watertown and Newton simple random sampling was maintained throughout.

Probably because I did not emphasize it strongly enough, the interviewers did not keep complete records on why a person was chosen to be part of the sample did not complete the interview. Therefore, it is impossible for me to say exactly what the refusal rate was, or how many

people did not do the interview because they could not be reached by telephone or had moved away. As the interviews were being conducted in the summertime many people were away on vacation. This was partially assumed because their telephone was in service but there was no answer on repeated tries, and partially a known fact relayed on several occasions by live-in maids in the Newton sample.

Although the record concerning the reasons people on the original sampling list were not interviewed was not accurately kept, for the total sample there were approximately five names drawn for every two interviews completed. For one reason or another, we were unable to contact 30% of all those names which were drawn for sampling. The records I have indicate that approximately half of the failure to get an interview was due to moves or to inability to make contact and the other half were refusals. Hence, this gives an acceptance rate for all those people who were actually contacted of approximately 57%.

SELECTING THE ENVIRONMENTAL DISPLAY

Deciding on the form in which to present various environments to subjects so that their reactions to different cues could be measured was problematic. Each media considered had its strenghts and weaknesses. Direct and free exploration of the real world environment, for instance, presents to the subject the entire gamut of stimuli and engages all his senses: visual, auditory, olfactory and kinesthetic. He is free to inspect the environment

from all angles and to react to and interact with other persons and objects. But it is this richness of the real world that makes its use in experiments such as this one so difficult. It is extremely hard to trace any given response to a stimulus or cluster of stimuli with an acceptable degree of accuracy. The mechanics of such research are also cumbersome: getting people to the environment under study and keeping other conditions such as time of day, weather and amount of pedestrian and vehicular traffic from unduly affecting the subject's responses.

Movie sequences are several levels less complex than real life environment, since their content can be more carefully edited and controlled. Auditory, olfactory and kinesthetic cues can be largely eliminated, and the direction of view can be strictly controlled. Depending on the length and angles of view of the movie the stimuli can be either quite complex or relatively limited. However, there is still the problem of measuring the effect of individual cues which I felt were salient in determining responses to a certain environment. Changing one cue within a given environmental context in order to measure its impact on the viewer would be impossible in the movie media without elaborate equipment which was not available. Further, it would be difficult to assemble the subject at a central location to view the movie.

The next logical step to lessen the complexity of the stimuli is to use a series of photographs to the environment. As with movies there is still a wide range of complexity possible. A photograph can be a close-up detail including only a single cue, such as a door knob, or it can be so

complex as a panorama of an urban scene with a multitude of cues.

Another advantage in using photographs is that while there is a high degree of verisimilitude between the real environment and its photographic surrogate, it is possible in a photograph to control to a great degree the number of stimuli presented at one time to a subject. A further significant advantage of photographs is the ease with which individual cues in the photographs can be changed by manually cutting parts out or adding to them in order to get the desired combination of cues and environmental context. Thus it is possible to change a single cue within an environmental context and measure the change in response that results.

Photographic "doctoring" if it is to produce the desired effect of verisimilitude must be carefully done. If the subject detects the change his response will unquestionably be altered. Although the question of suspected doctoring of the photographs could hardly be asked of the subject, there were only two persons out of the 150 interviewed who wondered out loud if something had been added to the photographs--a different photograph in each case and only one photograph out of the sixteen that each of them saw.

Once photographs had been settled on as the display media, the next question concerned their election and character. How wide a range of environments should they include? Should they be details or panoramas or both? How many photographs should be included in the

interview? At what time of the year should they be taken? Taking the first issue raised, the range of environments to include, my first objective was to include photographs from areas very similar in physical features, such as building type, age and density, and in social characteristics, such as income, education and occupation, to the three census tracts from which the sample was drawn.

For each of the three census tracts used in drawing the sample I selected a matching census tract whose population and housing characteristics were very similar. In these matching census tracts I took photographs which could then be used in the interview: photographs which were not likely to be recognized by the subjects but which were close in physical and social terms to the areas they lived in. I wanted to get responses from the subjects about the areas they lived in, but I felt that if the photographs were in fact taken in their own neighborhoods they would be likely to recognize them. (Some might and others might not, which is even more of a problem). Responses to an area which they knew so intimately would be difficult to compare with responses made to areas with which they were totally unfamiliar in actual experience.

Five of the sixteen photographs used in the study were taken in these 'matched' census tracts. The remaining eleven photographs were taken in a wide range of environments from the lowest socioeconomic census tracts to the highest. They were taken in the Boston Metropolitan area, and in the cities of Providence, and Philadelphia. Figure 6 on the following page indicates where the pictures were taken and given census

data similar to that given in Figure 5 for the census tracts from which the sample was drawn. I should emphasize at this point, however, that I have placed little emphasis on objective measures of socio-economic characterisitics of the areas shown in the photographs which I used in this study. I am more interested in the comparative evaluations made by the subjects and the cues they used in making these evaluations. Validation with respect to some objective reality was not given to the subjects, and is of less interest than the differences in perception exhibited among the groups and subgroups in the study.

The sixteen photographs and their variations are shown in Plates 1 through 16 following this page. They are divided into two groups and each has a letter designation FR or PA and a number 1 to 8. The letters are taken from the initials of key 'tasks' subjects were asked to do with them. With the first group of eight the subjects were just asked for Free Response. Thus they are disignated as the FR group. The task with the second group of eight was to rank them on a Paired Adjective scale. So the second group was designated as the PA group. More will be said of the nature of these tasks in the section on Response Format Analytic Techniques.

Further, each photograph has a PhotoSet number 1,2,3, or 4. Although there were 52 photographs in all, sixteen originals, twelve of which had three doctored versions, each subject saw only one version of each on a total of sixteen pictures. The group of sixteen photographs which were viewed together are called Photo Sets.
(Note: The subjects saw the photographs in prints which were 6" by 8" each.)

The eight basic photographs in the FR group (shown in Plates 1 through

Plate 1
FR 1

Plate 2

FR 2

Set 1

Set 2

Set 3

Set 4

Plate 3

FR 3

Set 1

Set 2

Set 3

Set 4

Plate 4

FR 4

Plate 5

FR 5

Set 1

Set 2

Set 3

Set 4

Plate 6

FR 6

Set 1

Set 2

Set 3

Set 4

Plate 7

FR 7

Set 1

Set 2

Set 3

Set 4

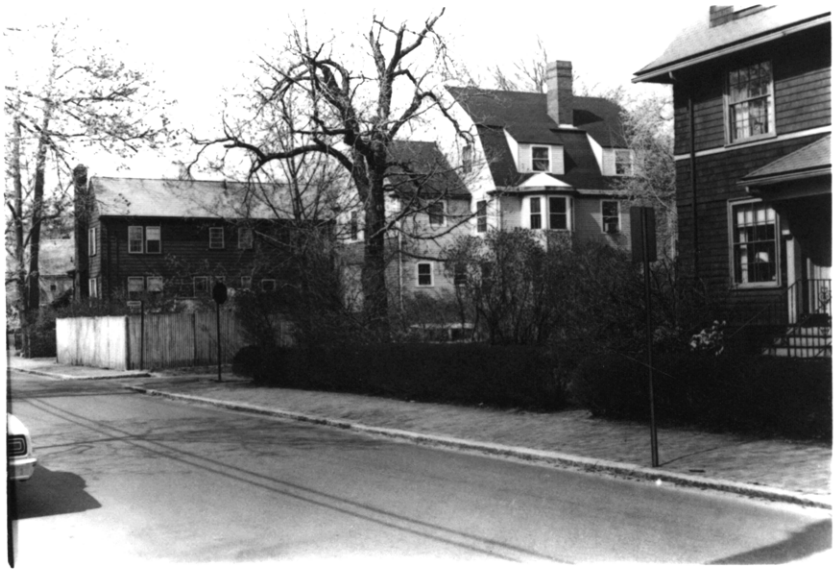
Plate 8

FR 8

Plate 9

PA 1

Set 1



Set 2

Set 3

Set 4

Plate 10

PA 2

Set 1

Set 2

Set 3

Set 4

Plate 11

PA 3

Set 1

Set 2

Set 3

Set 4

Plate 12

PA 4

Set 1

Set 2

Set 3

Set 4

Plate 13

PA 5

Set 1

Set 2

Set 3

Set 4

Plate 14

PA 6

Set 1

Set 2

Set 3

Set 4

Plate 15

PA 7

Set 1

Set 2

Plate 16

PA 8

Set 3

Set 4

8) were chosen to represent a wider and more complete range of socio-economic groups than the PA group was.

The prime value of the free responses in the qualitative nature of the comments. Free response questions are not good for making comparisons among groups as the responses do not fall consistently in the same categories. One person, for example, may comment on class when shown a photograph while another person comments on how neat or messy that same area is. It is obviously difficult to make any sort of comparison between these two responses without imposing some outside value systems. Further, I felt that with the free responses to these photographs, it would be best to maximize possible differences in the socio-economic status between any given subject and the set of photographs, in order to stimulate as broad a range of responses as possible. If all the photographs had been taken in middle class areas there would be no difference between the class position of the Watertown sample (a solid middle class one) and the areas shown in the photographs; and the maximum class difference between the lower-working class Chelsea sample or the upper class Newton sample and the areas in the photographs would be only half as great as the potentially possible. Much less would be revealed about the subjects "social classifications based on environment". Further, since free responses would be sensitive to differences in perception caused by the cue changes because any given subject was in no way directed towards the changed cues, as broad a range of environments as possible seemed desirable.

The eight basic photographs in the PA group (shown in Plates 9 through 16) were taken in areas which were nearer the middle on a class

or socio-economic scale from high to low. Whereas the response sought to the first, FR group were open ended, the responses to the second, PA group of photographs was a seven step scale with polar opposites at the two ends. (See Appendix A--Interview Instrument: pages D through H). For example, when shown a photograph in the PA group the subjects were also shown a scale with seven divisions relating to class. At one end high class was indicated, at the other low class, and in the center, middle class. The subjects were given the following instructions and asked to make a check somewhere along that scale. "Would you tell me now what class you think people in these areas belong to, that is whether they belong somewhere in the lower class, somewhere in the middle class, or somewhere in the upper class?" A similar seven step scale was used for a series of Paired Adjectives which had opposite characteristics at either end; for example, Very friendly at one end and Very Unfriendly at the other end. Subjects were again asked to place a check mark at the point on the scale which they felt would best describe the people they felt would live in the areas shown in the photographs.

Since the measurement scales just described for the PA group were constantly more sensitive that for the FR group, I felt it would be better to start from a more "Neutral" base, i.e., photographs taken in areas were neither extremely high nor extremely low on the socio-economic scale. It seemed to me that if all stimuli were at a central point differences caused

BLANK PG.

by cue changes as they were evaluated by the different social groups would be measurable and would have latitude to move up or down the measurement scale.

ATTRIBUTES AND CUE CHANGES IN THE PHOTOGRAPHS

After the specifications had been established for the two sets of photographs the next consideration was a careful look at the attributes in the environment to test and what cues to change. In this study I have been dealing with a very broad range of attributes of the physical environment. For purposes of clarification these many attributes can be divided into two groups. In the first group are all those attributes which are in the original undoctored photographs, in the second group are those attributes which were added, removed or in some way changed in the process of 'doctoring' the originals. In order to simplify the discussion of attributes in the sections which follow I have decided to refer to those physical elements in the original photographs which make up the environmental context, as contextual attributes or just attributes, and those physical elements which were added, subtracted or otherwise manipulated whose saliency is being tested, as cues. This differentiation of physical elements into contextual attributes and cues is somewhat artificial as both are important in determining the subject's responses, but it simplifies discussion of the study. The cues are given greater significance within the larger context of the study because they act as signals differentiation the original photograph from the doctored versions, and are the bases for measuring differences in responses.

Figure 7 is a listing of all sixteen photographs and the cue changes that were made in the three altered versions. Figure 8 is a list of the cue categories and the photographs in which they were used. The list also includes the photographs in which the cue categories were "significantly" represented in the attributes of the original environment. I have placed significantly in quotes because most of the cue categories are present to some degree in the environmental context of all of the photographs. For example, vegetation was added to the original photographs in FR-3, FR-7 and PA-4, but in all the other photographs vegetation either was or was not present. As vegetation added to the three photographs mentioned caused considerable differences in responses., it is certain that in all the other photographs the presence of vegetation contributed to judgements given even though there was no attempt to measure the contribution.

The relationship between a given cue which I was manipulating and its environmental context is an issue which I did not analyse. I know, for example, from the results of the study that the addition of Negro children in two different environmental contexts, (FR-3, PA-1), elicited measurable responses of a particular sort, but I don't know what the changes in response would have been if the same children had been added to other environments. Similarly vegetation was added to three different photographs, (FR-3, FR-7, PA-4), but in all three cases the environmental context was by objective measures lower or middle class. The buildings in these photographs were not well maintained, the architecture was institutional or utilitarian in nature. Although for these three photographs the addition of vegetation had a decided positive effect on responses, I

FIGURE 7: Environmental Contexts and Cue Changes Made in the Photographs

PHOTO NO.	ENVIRONMENTAL CONTEXT	CUE CHANGE Set 2	CUE CHANGE Set 3	CUE CHANGE Set 4
FR-1	Middle class suburb built in 30's & 40's	NO	CHANGES	made
FR-2	Middle class suburban "farm" house	Add panal truck	Add horses	Add house extension
FR-3	Public housing project	Add white children	Add black children	Add vegetation (landscaping)
FR-4	Working class apartments built in 20's	NO	CHANGES	MADE
FR-5	Upper middle class post-war "contemporary" houses	Change one hs. to clapboard "farm" house	Change one hs. to modern house	Add statue of Virgin Mary
FR-6	Historic Georgian town houses	Add trash and garbage cans	Remove shutters and detailing	Add deterioration to buildings
FR-7	Working-lower class houses built in 20's	Add vegetation	Add ornate fence	Add windows from FR-6
FR-8	Upper class, large houses	NO	CHANGES	MADE
PA-1	Middle-upper middle class old clapboard house	Add ornate fence	Add white children	Add black children
PA-2	New middle class development	Add house density	Remove half of houses	Add teenage street corner gang
PA-3	Remodeled town houses	Change cars older Amer.	Change cars new exp. Amr.	Change cars expensive foreign
PA-4	"Alley" architecture student,"bohemians"	Remove symbol "veritas"	Add vegetation	Add older Cadillac
PA-5	Upper middle class "wooded" suburb	Change house to hs. in FR-2	Change house to hs. in FR-5	Change house to h. in FR-5,S-3
PA-6	Middle and working class, clapboard hs's	Add modern sculpture	Add statue of Virgin Mary	Add statue of black coachboy
PA-7	New apartment development	NO	CHANGES	MADE
PA-8	Doorway detail from FR-6	Add aluminum screen door	Add asbestos siding	Add aluminum door and asbestos siding

FIGURE 8. Cue Categories and thePhotographs in Which They Were Used

Cue Categories	Photo in which used	Present in Environmental Context
1. ANIMAL Cues (Riding Horses	FR-2, S-3	
2. HOUSE SIZE	FR-2, S-4	FR-8, PA-1
3. CHILDREN ----------Black	FR-3, S-3 PA-1, S-4	
White	FR-3, S-2 PA-1, S-3	
4. VEGETATION (Landscaping)	FR-3, S-4 FR-7, S-2 PA-4, S-3	FR-2 FR-5
5. ARCHITECTURAL STYLE	FR-5, S-2 FR-5, S-3 PA-5, S-2 PA-5, S-3 PA-5, S-4	FR-6 PA-7 PA-8 (All other Photos)
6. ICONS & SYMBOLS (Religious and Other)	FR-5, S-4 PA-6, S-2 PA-6, S-3 PA-6, S-4	FR-6 (Plaque)
7. MAINTENANCE of AREA (Trash)	FR-6, S-2	FR-4, FR-7
8. MAINTENANCE of BUILDINGS	FR-6, S-4	FR-7
9. ARCHITECTURAL DETAILS - Fence	FR-7, S-3 PA-1, S-2	(all photos)
Window	FR-7, S-4	
Shutters	FR-6, S-3	
Alum. Door	PA-8, S-2 PA-8, S-4	
Bldg. Mater (Brick & Asbestos)	PA-8, S-3 PA-8, S-4	
10. DENSITY (Space)	PA-2, S-3	FR-2, FR-4, PA-3
11. STREET CORNER CROWD	PA-2, S-4	
12. CARS	PA-3, All PA-4, S-4	FR-2 FR-3

(S=Photo Set)

can't say with certainty what effect the addition of vegetation would have had on responses to a photograph which by objective measures represented an upper middle or upper income area.

The dilemma can be reduced to two options. One was to take a very few cues such as those mentioned above and by photographic superimpositions and other graphic means place them in a wide range of environmental contexts. This would give one an understanding of the relationship between a given cue (or physical attribute) and a range of differing environmental contexts, and would yield interesting information. In a study such as the one I was doing, however, it would mean limiting the cues tested to perhaps two or three, since each cue tested can be shown to a subject in only one context. A cue that is important enough to elicit a response from a random sample of subjects could not be shown to the same subject in another context without risking his recognition of it. If a cue is recognized as identical to one seen earlier in another context the subject will no longer accept the photographs as objective copies of some existing real environment. The seriousness with which a subject approached the experiment might thus be severly diminished. As discussed earler, the subjects in my study and in other experiments in concept attainment have shown concern with validation of their efforts. The tendency observed in these experiments to engage in all-and-none categorizing when validation is absent and to accept greater risks or in effect to guess with greater abandon would, I feel, be greatly increased in a situation where it became obvious that the environments the subjects were evaluating were fabrications.

The other option was to take a larger number of cues and test them in environments which by intuition or past experience I felt would cause measurable changes in response. In accepting this option one must also accept the fact that inferences as to the effect a cue has made in one environmental context can be made only with uncertainty to other environments.

Rather than choosing greater understanding of two or three cues, I felt that knowing something--even if less completely--about a wide range of cues would be of more value. I am perhaps less hesitant to make inferences to other environments from responses to a cue in one environmental context than I should be, but I feel that there is some undeniable validity in such inferences. There are, however, changes that I would make if I were to do this sort of study over again which I will discuss in the final chapter.

The selection of cue categories was limited to those physical attributes which were susceptible to change by photographic - graphic manipulations. It was important that the subjects considered the photographs about which they were making judgments to be real places, hence, even with skillful doctoring there was a limit to the amount any photograph could be changed. The changes can be seen far more easily than they can be described. They are shown in Plates 1 through 16, and are described briefly in Figure 7.

CREATION OF SUB-GROUPS:

The decision to use photographs as the display media, and to make three doctored versions of 12 out of the 16 original photographs was contingent upon the possibility of dividing the three original groups of subjects into sub-groups. In figure 9 there is a diagram showing the division of the sample into basic control groups and subgroups. It will be seen that the first division (stratification) created three groups of 50 persons each from Newton, Watertown and Chelsea. It was then necessary to divide each of the groups of 50 into four smaller groups: a control group of twenty which would be shown the original undoctored photographs and subgroups of ten each which would be shown one of the three doctored versions.

As I have mentioned earler, four out of the sixteen photographs were shown in their undoctored state to the entire sample (FR-1, FR-4, FR-8, and PA-7). This was done as a control to assure that subgroup response to the interview questions on the undoctored photographs did not deviate from those of the larger 50 person groups. I also wanted to be sure that the background and economic characteristics of the three subgroups and the control group were similar. If the deviations were within acceptable limits it would then be possible to make inferences from the responses of the ten-person subgroups to the cue changes made in the doctored photographs back to the universe from which the 50-person groups were selected. This made it possible to use many more cues than would have been possible if the groups had not been subdivided.

Three of the four "control" photographs, that is those in which no

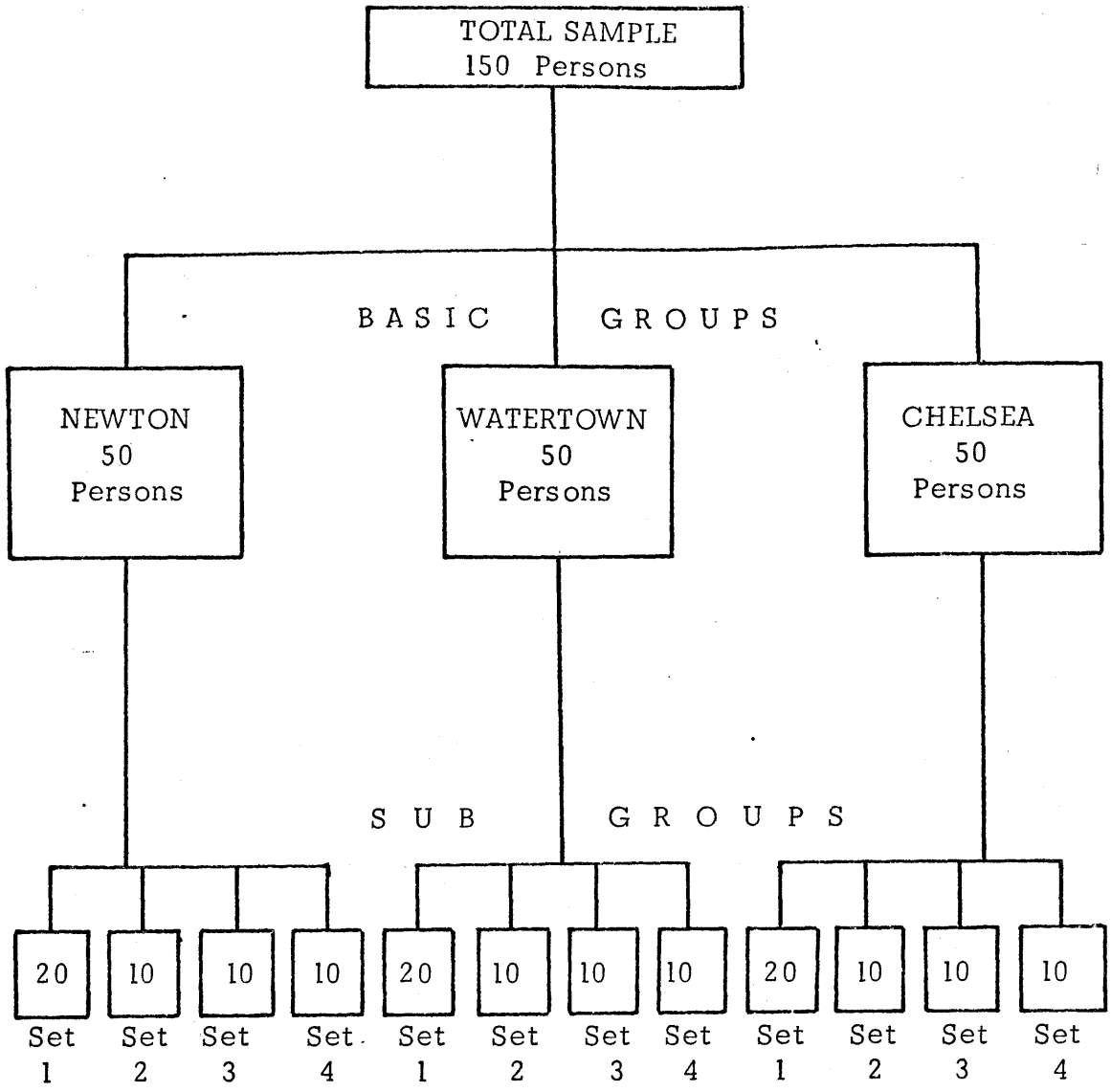


FIGURE 9. Basic Groups and Subgroups Within the Total Sample

cue changes were made, were the photographs which were taken in census tracts matched to those in Newton, Watertown and Chelsea from which the sample was drawn. I was particularly interested in response to areas with which people in the study would feel familiar. Some of the tests such as my version of the Bogardus Social Distance Scale involved responses to these three photographs only.

The validity of making inferences from the ten person subgroups back to the fifty member groups is dependent upon the similarity of responses to the control photographs between the two groups. Figure 10 compares socio-economic and other background characteristics of the sub-groups to the means for the 50 person groups. Figure 11 compares selected mean responses to the undoctored, "control" photographs of the subgroups to those of the control groups.

DataText, the computer program I used for much of the analytical work for this study includes an option for testing the independence of two cross tabulated variables, the chi square statistic. The chi square value for two variables which are independent will be zero. If they are not independent the chi square value will be greater than zero. The chi square obtained for any table of two cross-tabulated variables can be matched against a standard statistical table which is based on the degree of freedom and sample distribution. It will give the probability level at which the null hypothesis can be rejected, that is the point at which we can say that the two variables are not independent. These probabilities are usually referred to as significance levels. For example a particular table of two cross - tabulated variables might yield a significance score of .01. That means simply that no more than once in a hundred times would a similar result

FIGURE 10 - Comparisons of Socio-Economic Characteristics of Photo Sets

VARIABLE	TOWN	Photo Set 1	Photo Set 2	Photo Set 3	Photo Set 4	Means of all Sets
Income* (See Below)	Newton	7.4	8	8.3	8.4	8
	Water.	5.3	4.6	4.5	5.1	5
	Chelsea	2.8	2.9	3.5	3.3	3.2
Occupation (% Profes- sional)	Newton	53	70	60	70	64
	Water.	21	30	30	30	28
	Chelsea	5	10	10	2.5	7
AGE** (See Below)	Newton	5.9	6.7	6.5	6.5	6.4
	Water.	5.7	5.5	5.3	5.2	5.4
	Chelsea	5.5	4.9	4.7	4.8	5
Education*** (See Below)	Newton	1.7	1.6	1.8	1.8	1.7
	Water.	2.4	2.9	2.4	2.5	2.5
	Chelsea	4.0	3.3	3	4	3.5
Foreign Born (%)	Newton	10	10	20	20	15
	Water.	5	10	10	20	10
	Chelsea	20	10	10	20	15

*
Income Categories
0 - Less than 3,000
1 - 3,000 - 4,999
2 - 5,000 - 5,999
3 - 6,000 - 6,999
4 - 7,000 - 7,999
5 - 8,000 - 9,999
6 -10,000 -11,999
7 -12,000 -14,999
8 -15,000 -24,999
9 - More than 25,000

**
Age Categories
0 - Under 20
1 - 20-24
2 - 25-29
3 - 30-34
4 - 35-39
5 - 40-44
6 - 45-49
7 - 50-54
8 - 55-59
9 - 60 & Over

***
Education
1 - Prof. or Grad. School
2 - College, 1-4 years
3 - High School Grad.
4 - Some High School 1-3 yrs.
5 - Finished 8th grade
6 - 4-7 years of school
7 - 0-3 years of schooi

FIGURE 11 - Comparisons of Responses by Photo Sets

VARIABLES	TOWN	Photo Set 1 CONTROL GROUP	Photo Set 2	Photo Set 3	Photo Set 4	Significance Level *
				TEST GROUPS		
Photo FR-1	Newton	4.1	4.0	4.2	4.2	NS
1=High Class	Water.	4.1	4.2	4.6	3.7	NS
7=Low Class	Chelsea	4.2	4.0	4.0	3.7	NS
Photo FR-4	Newton	5.9	6.2	6.0	6.0	NS
1=Hi-Class	Water.	6.2	6.2	6.3	6.0	NS
7=Lo-Class	Chelsea	5.8	5.8	5.6	6.0	NS
Photo FR-8	Newton	1.4	1.0	1.4	1.6	NS
1=Hi-Class	Water.	1.1	1.7	1.1	1.6	NS
7=Lo-Class	Chelsea	1.4	1.2	1.5	1.3	NS
Photo PA-7	Newton	2.9	3.4	3.2	3.3	.39
1=Hi-Class	Water.	3.1	3.7	3.6	3.3	.39
7=Lo-Class	Chelsea	3.1	3.0	3.4	3.0	.39
Photo PA-7	Newton	3.3	3.3	3.2	3.4	NS
1=Friendly	Water.	2.9	3.1	3.2	3.3	NS
7=Unfr-dly	Chelsea	3.9	3.6	3.7	3.3	NS
Photo PA-7	Newton	3.2	3.3	3.0	3.7	NS
1=Happy	Water.	3.0	3.4	2.9	2.7	NS
7=Unhappy	Chelsea	3.0	2.8	3.7	3.3	NS
Photo PA-7	Newton	3.0	2.8	3.2	2.6	NS
1=Industri.	Water.	3.0	3.6	2.6	3.3	NS
7=Lazy	Chelsea	2.8	2.8	2.8	2.6	NS
Photo PA-7	Newton	2.9	3.1	3.3	2.7	NS
1=Stable	Water.	2.8	3.1	2.8	2.1	NS
7=Unstable	Chelsea	2.2	2.7	2.8	2.6	NS

*Significance Level: NS = Not Significant. This indicates that there are no significant differences among the four groups of subjects. The The best was made for the Newton sample, but the distribtions are felt to be similar to those of Watertown and Chelsea.

be obtained if chance factors alone were operating. Similarly, "significant at the .05 level" means that there are 5 chances in one hundred that the distribution was a chance one. Many researchers consider the .05 level a cut off point above which results are not very meaningful. I used the chi square statistic to assure that there were no significant differences among the three subgroups and the control group into which I divided each of the town samples. By cross tabulating town and photo set with responses to the control photographs and requesting the chi square significance test the "independence" of the subgroups and the responses was proven.

The chi square value and significance level is computed on request for all cross-tabulations done with the Data Text System. There are other procedures for testing the significance of a table of cross-tabulations (contingency tables) and the appropriateness of a given test depends upon the table size and the observed counts of "units" in each cell. As it is usually not possible to know in advance of asking for a set of contingency tables what the distribution characteristics will be, Data Text provides an option which causes the program to select the appropriate test, depending on the nature of the data. It also computes the actual probability level of the significance of the chi square statistic, i.e. the number of chances out of 100 that the distribution is one of chance.

Figure 11 shows the results of the significance test on the Newton subgroups. Seven out of the eight test items (responses to control photographs) yielded "not significant" results, i.e. there was a greater than 50%

probability that the assignment of persons to the different subgroups was chance. This of course, is the desired result as I wanted to prove the similarity of responses among the subgroups. Only one test item yielded a significance score lower than 50%. That was the response to "class" for photo PA-7, and it indicated a significance level of .39; i.e. in 39 cases out of 100 chance would account for the assignment of persons to subgroups. However, in most social science research anything above the .05 level is considered not meaningful.

I have shown only eight test items in Figure 11. There were a total of fourteen: 9 of these produced "not significant" levels, the other five were between .38 and .40.

On the strength of these results I feel it is reasonable to make inferences back to the larger groups from responses made by the subgroups of 10 when the significance level is .05 or lower. Since the subgroups are of minimal size, I feel that many of the results would have been stronger with larger subgroups.

Responses Format and Analytical Techniques Used

In the preceeding sections of this chapter, I have discussed various problems involved with sample selection, choice of display media, and selection of photographs and cues to be used in the study. In this section I will talk more about response format, mentioned in passing in other sections, and the various analytical programs used in studying

the data.[28]

There are two major parts to the interview instrument, which can be seen in Appendix A. The first part number from A through J-3 consists of response formats to the photographs, the second part consists of socio-economic background questions and other attitudial questions relating to the environment which do not involve the photographs.

In the first section there are five different response formats:

1. Free Responses -Open ended descriptions of people assumed to live in the FR set of 8 photographs.

2. Familiarity with Environment - Subjects were asked if they had lived in or visited friends in areas like those shown in the FR set of photographs.

3. Adjective Checklists - A series of nine paired adjectives which could be used to describe people assumed to live in the areas shown in the Paired Adjective photographs. The adjectives in each pair were polar opposites, (friendly-unfriendly, for example) and there is a seven-step scale between the two extremes. Set up similarly to these adjectives there were scales Attractiveness-Unattractiveness for the PA photographs and High Class - Low Class for all 15 photographs.

4. Ratings- A rank ordering of all 16 photographs, taken eight at a time, from most desirable to least desirable as a place to live.

5. Perceived Social Distance Scale - My version of the Bogardus Social Distance Scale based on attitudes towards various relationships with people assumed to live in the areas shown in

---

[28] A good discussion of the various problems and techniques of researching peoples perceptions of the physical environment, which did not come out until after my research was completed, is Kenneth H. Craik, The Comprehension of Everyday Physical Environment: (American Institute of Planners Journal, January 1, 1968, pp. 29-37). It includes good lists of possible observer groups, modes of presenting the environment, formats for recording observer's responses and validation criteria.

5. the photographs.[29] The relationships ranged from casually walking through an area to living and intermarrying with the people from that area.

The Free Responses describing persons felt to live in the FR set of photographs was the first task given to the subjects. (Pages A and B of interview, Appendix A.) The main reason for this was to get most natural, spontaneous comments from the subjects before they might be influenced by the closed-ended questions. Free descriptions place fewer constraints on one hand and offer fewer clues on the other hand than any other response format. I felt it would be important to get these sorts of response before introducing the paired adjectives, class scales and other structured response formats, which would very likely influence the way in which subjects would respond to open-ended questions. The disadvantage of free responses is that it is very difficult to make any kind of comparisons of a quantitive nature among the subjects, based on their responses. It is unlikely that they will all answer within the same

---

[29] E.S. Bogardus, Immigration and Race Attitudes, (Boston, D.C. Heath, 1928) Bogardus developed a scale for determining the "social distance" between persons in a social system which is a measure of their group affiliation to the exclusion of other groups. His technique asks respondents to indicate in which of the following situations they would admit members of various ethnic or national groups, (This would obviously be extended to include members of any group.):

1. To close kinship by marriage
2. To my club as personal chums
3. To my street as neighbors
4. To employment in my occupation
5. To citizenship in my country
6. As visitors only to my country
7. Would exclude from my country.

categories, or that their responses will be comparable even if they do because of the difficulty of placing values on different adjectives describing personal characteristics.

Of the computer programs used in the analysis of my data, the CROSSTABS Program was the only one useful in evaluating the free response section. The CROSSTABS Program in essence is simply a frequency count. Towns and Photo Sets were listed in combination on one side of a two-way table and response categories taken from the free responses made up the variables on the other side of the table. In cells of the table were frequency counts of persons both in actual numbers and percents. For example, Figure 12 on the following page is one of the print out pages from the CROSSTABS Program. It represents those responses to photograph FR-4 (see Plate 4) which refer to class. I have indicated the categories into which responses were divided. As can be seen, 20 persons from Newton mentioned class when describing this photograph, five placed it in the middle or working class, six placed it in the working class, and nine placed it in the lower class. A total of 52 out of 150 persons in the study referred to class in discussing this photograph. The significance level, which I have drawn a rectangle around, for this table is "Not Significant," i.e. the responses to this variable did not differ in a statistically significant way among the three towns. This significance test is based on the chi square statistic I discussed at the end of the last section.

FREQUENCIES - 1 SOCIAL INTERPRETATION OF PHYSICAL ENVIRONMENT JANUAR

CELL PERCENT BASED ON ROW SUM CONTINGENCY TABLE NO. 390

VAR 78 CLASS FR-4

VAR 72 TOWN	Hi Class 1	Upper Middle Class 2	Middle Class 3	Middle & working class 4	Working Class 5	Low Class - slum 6	7	8	TOTAL	PERCENT
NEWTON				25.0	30.0	45.0				
				5	6	9			20	38.5
WATERTOWN			12.5	18.7	37.5	31.2				
			2	3	6	5			16	30.8
CHELSEA	6.2		18.7	6.2	12.5	56.2				
	1		3	1	2	9			16	30.8
TOTAL	1		5	9	14	23			(52)	
PERCENT	1.9		9.6	17.3	26.9	44.2				100.0

CHISQUARE STATISTIC = 10.640 WITH 14 DEGREES OF FREEDOM (NOT SIGNIFICANT)

NO. OF MISSING UNITS = 98

FIGURE 12

The next major tasks the subjects were asked to do were the Adjective Checklists, (pages F 1-8 of the interview, Appendix A) and the Attractive-Unattractive and High-Class-Low-Class Scales (page D, and pages G and H of the interview respectively). These Lists and Scales were all based on a seven-step scale between two polar opposites and all were responses to the PA set of photographs. The High-Class-Low-Class scale was done also for the FR Set.

Whereas the Free Responses were useful in eliciting spontaneous qualitative judgments of the environmental displays, the Adjective Checklists and Class and Attractiveness Scales were useful in eliciting quantitatively measurable judgments. The advantages of using the adjective checklist method are that simple, commonly understood adjectives can be utilized, judgments can be brief, and easily recorded, its application is flexible and it yields readily to many forms of analysis .

The CROSSTABS Program previously mentioned was of some use in analysing the data from these closed-ended lists and scales. More useful, however, because of the relative sensitivity of the 7-step scales to changes in response patterns was the Correlations Program. Correlations programs are commonly used in social science research. The correlation coefficient is a statistical measure of the degree of linear relationship between two variables in a certain population. A correlation program was natural for data from the closed-ended responses based on a 7-step scale with a "positive and "negative end.

There is an implicit value bias in the way the various adjectives on my scales were assigned numerical values. One on the scale was positive and seven on the scale was negative. Wealthy is given a positive value and poor a negative one, happy is positive and unhappy negative, and perhaps more questionably young is positive while elderly is negative. However, this is no way effects the operation or significance of a table of correlation coefficients. If similar values with respect to these adjectives are held by individuals in the sample then one would expect strong positive correlations among them. If the same values are not held then there will simply be either no correlations or negative correlations.

I was in part interested in discovering what values were attached to a given environment, but I was more interested in seeing if the three different social classes in the sample held demonstrably different values with respect to a given environment. To see, for example, if an environment seen as wealthy and friendly by one group might be seen as wealthy and unfriendly by another. Further, if such were the case what conclusions could be drawn from this result. If assumed wealthy people were also felt to be unfriendly by a lower class sample could social distance between the two groups account for the difference? Would such an assumption be verified by the Social Distance Scale used in my study?

One further interest was a verification of the findings of Osgood, Suci and Tannenbaum in their book, Measurement of Meaning.[30] They were

---

[30]Charles E. Osgood, G.J. Soci and P.H. Tannenbaum, The Measurement of Meaning: (University of Illinois, Urbana, 1957).

interested in 'mapping' aspects of an individual's semantic speech. In their procedure the subjects rated a number of adjective dimensions with respect to a specified object. They set up a checking procedure similar to the one I have used. The concept being evaluated is given at the top, and a check is made somewhere between two adjectives which are polar opposites. The following is an example:

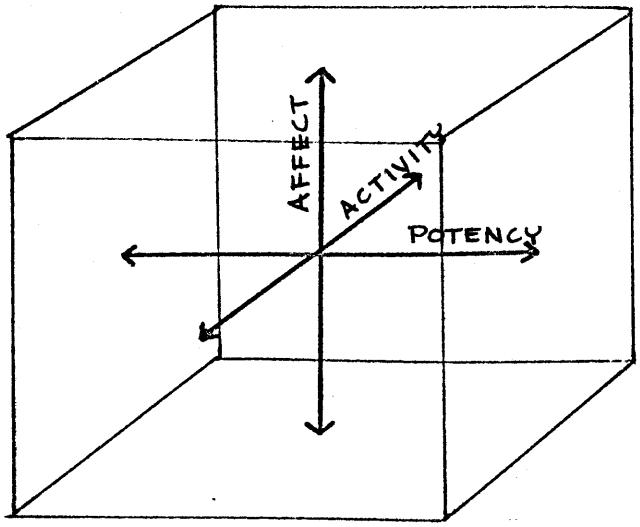
LADY

Rough----------Smooth
Fair ----------Unfair
Active----------Passive

The analysis techniques they used allowed the "distance between objects to be represented in a multidimentional factor space according to three principal orthogonal axes:

1. Affect (like-dislike)
2. Potency (weak-strong)
3. Activity (active-passive).

In applying this instrument to a number of research situations, they found that using factor analysis techniques they repeatedly came up with the same three factors mentioned above. Their contention is that when any person perceives himself, other persons, events, or any other stimulus the discriminations made are in terms of these three scales or factors. This does not mean that there is any necessary agreement among different people as to where the thing being judged will fall on any of the three factors, but all people will use these factors in the judgments. By the use of a generalized distance formula persons can be placed in space illustrated by the following diagram.



The adjectives I used in my study were chosen with the Osgood, Suci and Tannenbaum factors in mind. My adjectives can be related to their scales as follows:

AFFECT	POTENCY	ACTIVITY
Friendly-Unfriendly	Influential-Uninfluential	Industrious-Lazy
Happy-Unhappy	Wealthy-Poor	Lively-Dull
(Attractive-Unattractive)	Young-Elderly	Disciplined-Undisciplined

The attractive-unattractive scale is in parentheses because it is the only adjective which is related more to the environment than to the people assumed to live in it. The other adjectives pertain primarily if not exclusively to human rather than environmental characteristics. There were additionally a scale of stable-unstable and one of high-class--low-class which do not fall easily under the above three factors.

I was interested then in getting several kinds of information from the adjective scales. First, I wanted to see if, consistent with Osgood's findings, there was a higher degree of intercorrelation among the adjectives within each of the three factors, as one would expect, than for combinations

of adjectives taken from among the three factors. Secondly, I wanted to find out if different groups in my sample could be shown to "think-alike" with respect to value judgments of given environments. That is, if on the basis of their responses to the photographs they would fall into clusters of individuals who responded similarly and by extention felt similarly about the environment, and if these clusters followed class lines or were determined by other variables. The NATURE GROUPS of the Multivariate Statistical Analyzer System[31] is particularly suited to sorting out from many variables response patterns which identify in n-dimensional space clusters of similar persons. In this program a person is viewed as being represented by a point in n-dimensional space where n is the number of variables in his response profile. For each response a person is assigned a place in the n-dimensional space. By use of the generalized Pythagorean Theorem the distance of each individual is calculated relative to all other individuals and natural groups are defined by the tendency of some to cluster in space. This program worked reasonably well and some of the results have interesting, if expected, implications. Education and occupation, for example prove potent indicators of groups into which people tend to cluster.

DISCRIMINANT ANALYSIS was another program which provided useful results, and which does pretty much the inverse of the Natures Groups Program. Discriminant Analysis, using similar generalized

---

[31] Kenneth J. Jones, The Multivariate Statistical Analyzer, (Manual-Harvard Univeristy, 1964). Discriminant Analyzer is discussed on pages 101-107; Natures Groups on pages 125-128.

distance formulae, picks from the individual response patterns of a given number of groups those variables which best differentiate the groups from another. In the terminology of the MSA Manual,[32] "This program computes those weights for the several variables (M) which will maximally separate the K groups on K-1 sets of orthogonal axes (assuming M K)." The program also prints a correlation matrix (but it is far less easily readthan the Data Text Program) and the total means for each group. The table of means proved an extremely useful measure of the changes in responses which either the Photo Sets cue changes or town of residence (class) or a combination of the two caused. Perhaps the single most useful table was the table of means for all twelve groups (four Photo Sets from each of the three Towns) for a selected group of 49 variables from the closed ended responses. I have drawn a series of graphs from the results of this table which are shown in the Findings section of this report.

The Discriminant Analysis program includes an option for printing the final patterns of individuals arrayed in space in graphic form. From this it is easy to see which groups are least like one another and which are most similar.

---

[32] Kenneth J. Jones, The Multivariate Statistical Analyzer, Manual, (Harvard Univeristy, 1964) Discriminant analysis discussed on pages 101-107, Natures Groups program is discussed on pages 125-128.

The last response format listed at the beginning of this section which I have not yet discussed, is the Social Distance Scale. In a note at the bottom of that page I listed the seven test items used in Bogardus' original scale. The test items I developed to measure the perceived social distance subjects felt between themselves and the environments shown in the three photographs used in the test were the following. Subjects were asked if they would feel comfortable about:

1. Taking a walk through this area?
2. talking informallyin the area with people who live there.?
3. attending a party in the area with people who live there?
4. belonging to a social club in the area whose members are people living there?
5. living in the area and having people from there as close friends?
6. having someone in your immediate family marry a person from the area?

The test items did not consistently scale as I expected them to; i.e. there were a few of the items which seemed to be taken as exceptions in what otherwise would have represented expected scaling. As you can see the questions range from minimal contact with the area in the first test item to imtimate contact in the last. One would expect a person to go to a certain point on the scale representing a given degree of intimacy and respond negatively to all items involving closer contact than that. Items three, four and six, however, seemed to be treated as exceptional cases by many of the subjects. This will be covered in detail in the following chapters.

To complete the discussion of analytical techniques used in this study Figure 13 on the following pages lists all the computer runs used in the

analysis of my data. The "groupings" used as a basis of computations for those programs organized around group as the unit of analysis are indicated. The figure also contains a brief description of the variables used in the computation, ~~and the location by card and column number which can be identified by referring to the Colding Manual in Appendix B~~.

FIGURE 13: Computer Runs Used in Analysis of the Data

Computer Program Used	Groupings used as Basis of Computation (i.e. town, set, etc.)	Variables used in Computation	Number of Persons
CROSS TABS Program: Produces a 2-way contingency table with Town and/or Photo Set on one side of the table and responses and socio-economic background variables on the other side, i.e. a frequency table.	TOWNS AND PHOTO SETS 12 groups 4 Photo Sets 3 Towns (Newton Watertown, Chelsea)	All Responses To Photos Free Responses and Closed Ended Responses (Pages A through J-3 of the Interview Instrument)	150
	TOWNS 3 groups (All towns) All Photo Sets	Closed Ended Responses to Control Photographs	150
		Background and Attitudinal Variables	150
CORRELATIONS Program: Produces a table of correlation coefficients for variables which are being inter-correlated.	PHOTO SET 1 1 group (All towns)	All Closed Ended Responses (Pages C through J-3 of the Interview Instrement)	60
	PHOTO SET 1 1 group (Newton only)	Selected Closed Ended Responses (95 variables used) 1. Paired Adjectives(PAs) 2. Attractive-Unattractive Scale (PAs) 3. High Class-Low Class Scale (FRs and PAs) (Pages D through H of the Interview Instrument)	20
	PHOTO SET 1 1 group (Chelsea only)	Selected Closed Ended Responses (Same as directly above)	20
	PHOTO SET 1 1 group (All towns)	Selected Closed Ended Responses (Same as above)	60
	PHOTO SET 2 1 group (All towns)	Selected Closed Ended Responses (Same as above)	30
	PHOTO SET 3 1 group (All towns)	Selected Closed Ended Responses (Same as above)	30

FIGURE 13: Computer Runs Used in Analysis of the Data - Continued

Computer Program Used	Groupings used as Basis of Computation (i.e. town, set)	Variables used in Computation	Number of Persons
CORRELATIONS Program. (Continued)	PHOTO SET 4 1 group (All towns)	Selected Closed Ended Responses (Same as Above)	30
	PHOTO SET 1 1 group (All towns)	Selected Socio-Economic Background Variables and Closed Ended Responses (35 variables used)	60
CROSSTABS Program. (See description above.)	TOWN 1 group (Newton only) All Photo Sets	Closed Ended Responses To Control Photographs 1. Paired Adjectives (PAs) 2. Attractive-Unattractive Scale (PAs) 3. High Class-Low Class Scale (Frs and PAs)	50
DISCRIMINATE ANALYSIS Program: Computes weights for up to 80 variables which will maximally "separate" a given number of groups, i.e. by comparing response patterns of the variables determines which of the variables best differentiate the groups from one another.	TOWNS 3 groups(Newton, Watertown,Chelsea) Photo Set 1 only	Selected Closed Ended Responses (80 variables used) 1. Paired Adjectives(PAs) 2. Attractive-Unattractive Scale (PAs) 3. High Class-Low Class Scale (FRs and PAs)	60
	PHOTO SETS 12 groups All towns All Photo Sets	Selected Closed Ended Responses (Same as directly above)	150
	TOWNS AND PHOTO SETS 12 groups All towns All Photo Sets	Selected Closed Ended Responses (49 variables) 1. Paired Adjectives (PAs) 2. Attractive-Unattractive Scales (PAs) 3. High Class-Low Calss Scale (FRs and PAs)	150

FIGURE 13: Computer Runs Used in Analysis of the Data - Continued

Computer Program Used	Groupings used as Basis of Computation (i.e. town, set)	Variables Computation	Number of Persons
NATURES GROUPS Program: Seeks to identify "natural" groups within a multivariant swarm of points. Each person is located in space according to responses on a number of variables. Those people who cluster are identified as a "natural" group.	PHOTO SET 1 1 group (All towns)	Selected Closed Ended Responses (20 variables) 1. Paired Adjectives (PAs) 2. Attractive-Unattractive Scale (PAs) 3. High Class-Low Class Scale (FRs and PAs)	60
	TOWNS AND PHOTO SETS 1 group All towns All Photo Sets	Responses to Photograph PA-7 (6 variables from Adjective Checklist used) 1. Attractive-Unattractive 2. Friendly-Unfriendly 3. Wealthy-Poor 4. Happy-Unhappy 5. Young-Elderly 6. High Class-Low Class	150

CHAPTER IV: FINDINGS-FREE RESPONSE SECTION

INTRODUCTION

In the preceding chapters I have discussed the relevant cognitive processes, methodology and primary aims of my study. We are now ready to look at the findings which analysis of the data yielded. In this chapter I will discuss the free responses to the 8 photographs which make up the first section of the interview. In the next chapter I will look at the rank orderings of the photographs as desired places to live, then at the attribute categories and the effects of cue changes on responses with respect to these categories. I will then deal with the effects of class as defined by the three subgroups in my sample and the difference attributable to class in making inferences of a social nature from cues in the environment. Finally I will discuss the effectiveness of the different analytical techniques I used in studying the data.

Perhaps the most general finding of the study as a whole was that class accounted for less quantitatively measurable difference in responses to environmental cues than anticipated. Comments made in the Free Response section showed class biases much more clearly, however. In many cases the expressed attitudes toward the people assumed to live in the photographed areas were quite different between the Newton, Watertown and Chelsea groups but on the quantitative measures less difference could be observed.

Ex post facto, I can find reasons why the effects of class on the judgments made may have been less profound than I expected. It may

be that some of the cue changes which were made, and which are the bases of measuring class differences, were ineptly done, or were insignificant when compared to other attributes in a given environmental context and hence went unnoticed. It may be, however, that the high level of transmission of social symbols via the mass media is responsible for the degree of similarity exhibited by the three groups in my study.

Whatever the reasons the fact remains that cue changes were more effective, especially in the quantitative measure, than class in differentiating the sample. In two separate computer runs of the Discriminant Analysis program, one run using class (the three towns) as the units of comparison and the other program using the cue change (the four Photo Sets) as the units of comparison, cue changes were more than twice as effective in eliciting significant differences. Eighty variables were used in both runs--the variables were taken from responses to the paired adjective scales, and responses to the attractiveness and class scales. (See pages D through H of the interview, Appendix A). In the computer run which used class as the unit of comparison there were 20 variables which showed strong enough differences in response pattern to be significant to at least the .109 level. In the run which used cue change as the unit of comparison there were 45 variables which were significant at the same level. I expected the cue changes to elicit somewhat stronger results than class but not to the degree shown in the figures above.

There were some interesting and significant findings of class differences, however, which I will discuss in the following section. It

may be that in order to get consistently strong differences of perception of social characteristics from environmental cues one would have to find groups more different from one another than those used in my study. Recent immigrant groups or persons from other societies would undoubtedly read environmental cues in different ways. Although this kind of difference is hardly an objective to seek to create, understanding the social significance of symbols and how they are used to convey information into various groups in a society is an objective worth pursuing.

ANALYSIS OF FREE RESPONSE

In analyzing the Free Response one difference related to the class of the subject which became apparent was expressed attitudes toward different classes. Attitudes of any given class toward people who lived in environments similar to their own were usually more favorable. For example, the Watertown group made more favorable comments about the people they felt would live in photgraph FR-1, a photograph taken in a town with social characteristics similar to Watertown than about people they felt would live in areas considerably higher or lower in status than Watertown.

This tendency of different classes to evaluate other classes differently and especially to look at their own class more charitably has been illustrated in several studies. One such study is Deep South by Allison Davis, Durleigh and Mary Gardner. Davis and the Gardners in reporting the research for their book document these differing perspectives of the social

classes; each class defending and enhancing the status position of the group.[33] Figure 15 on the following page provides the best explanation of the descriptions used by the different classes in characterizing both themselves and other classes.

One of their findings, which is illustrated in the chart, is that as a given class becomes more distant from other classes there is a tendency to blur distinctions between the more distant classes. Thus, the upper-upper class "collapses" the two lowest classes and part of the lower middle class into one category, and the lowest class makes no distinctions among the three top classes. There was no quantitative measure of this attempted in my study but a careful reading of the descriptive labels attached to classes distant from the class of the person making an evaluative comment strongly suggests that the tendency exists. For example in responses to photograph FR-8 (see plate 8) clearly a high income area, Newton subjects made subtle distinctions while the Chelsea subjects did not. To them it was simply the top class in the system. They used different labels, such as top class, high class, very wealthy, or upper class but there were no divisions or implied distinctions made within the class. Several in the Newton group, however, made subtle if sometimes conflicting distinctions: i.e.,"once high class-very nice," "conspicuous consumption people," "successful business man," and "inherited, some tradition involved."

Subjects in my sample from middle class Watertown more frequently

---

[33] Allison Davis, Burleigh B. Gardner and Mary R. Gardner, Deep South (Chicago, University of Chicago Press, 1941) p.65.

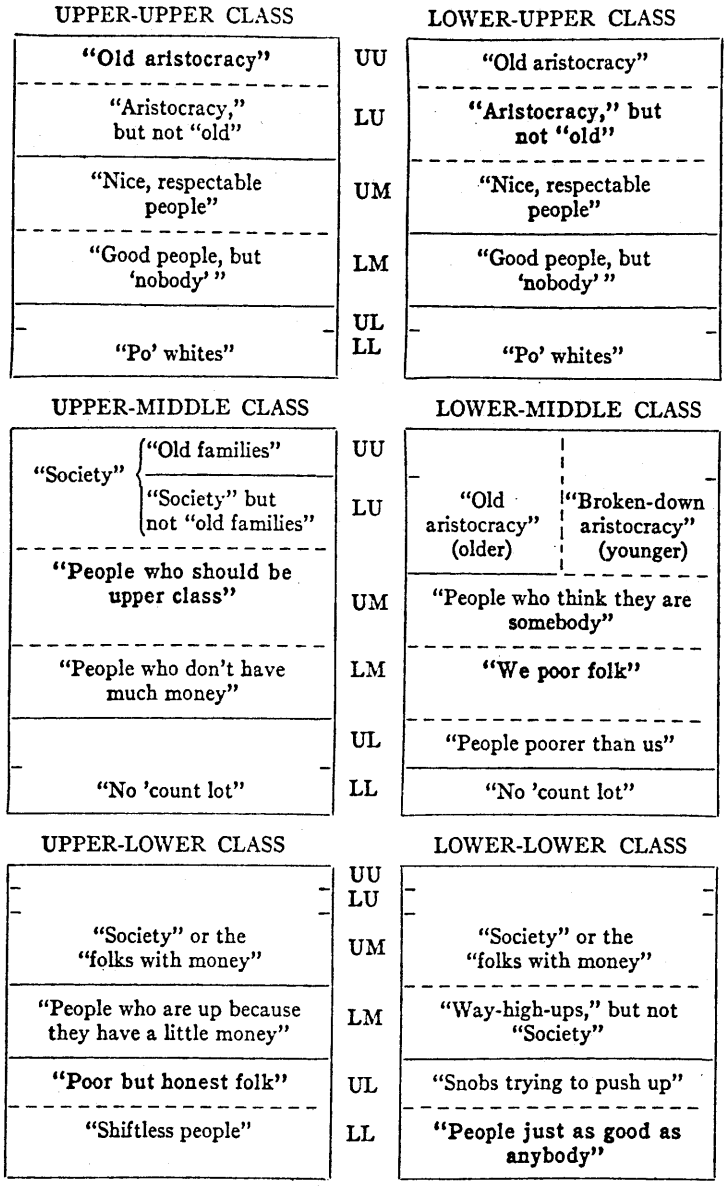


FIGURE 15: Characterizations of different classes made by subjects representing different classes, from Davis, Gardner and Gardner, Deep South.

than either of the other; groups inferred unfavorable characteristics to people above or below them on the social ladder. Some of the following comments in response to photograph FR-8 (plate 8) are typical: "not too friendly, real class," "middle class but big houses anyway." "a divorce or two" and "somewhat decadent." They were similarly critical of the people they felt would live in FR-4 (plate 4). Watertown subjects felt these people would "get drunk -- go to dance halls," and "received low income but even that isn't spent wisely." It was more difficult to tell from free responses to what degree the Watertown subjects were blurring distinctions in the classes at the top and the bottom of the social scale. Possibly this is because they are closer to either end than the ends are to one another and hence blurred distinctions less.

A look at the frequency with which different social characteristics were mentioned by all members of the sample, reveals a strong preference for some characteristics over others. Each subject was given the following directions and shown in turn each of the 8 photographs which make up the FR Set, (see plates 1 through 8).

> "Here are some photographs which I will show you one at a time. For each one I show you I would like for you to tell me anything you can about the people you think live there. Please look carefully at each photograph before answering.

Some aspects of the financial status of the people assumed to live in the areas shown was mentioned more often than any other characteristic by a substantial margin. The following figure shows the total number of times each of the 8 most "popular" characteristics were mentioned--These categories are totals drawn from the free responses to all eight photographs:

FREQUENCY COUNT OF SOCIAL CHARACTERISTICS MENTIONED

		NEWTON	WATERTOWN	CHELSEA	Total
1.	Financial status	149	178	172	499
2.	Social Class	123	126	140	389
3.	Occupational Group	97	108	111	314
4.	Character of People	46	148	70	264
5.	Life Style (Metropolitan location)	63	45	38	146
6.	Family structure (size etc.)	33	30	38	101
7.	Nationality-Ethnicity	25	39	17	81
8.	Age of People	23	25	23	71

The two categories of "financial status" and "social class" lead the list. The combination accounts for almost half of all responses (48%). That money is viewed as the single best descriptive characteristic of a person is a significant indication of the criteria by which people in our society are judged.

I recognize that the subjects were making judgments from photographs of material objects which reflect quite directly the owners purchasing powers. However, subjects were asked to say anything thay could about the people they felt would live there and were given no further cues as to the response to make. There were no suggestions given in the asking of the questions that would have caused subjects to respond in terms of financial status or class rather than other categories. It is probably true, though, that a judgment of the relative value of houses and other physical objects in the

photographs would be the judgment most readily arrived at. It may require less cognitive activity of a subject to look at a photograph and say a house is expensive, or inexpensive and estimate from this how much money a person would have to make in order to be living there than to make some judgment about the social characteristics of that person. Inferences about the person's character, or occupation or ethnicity cannot as easily be drawn from the houses or other objects in the photograph itself. Such inferences involve making associations between the houses shown and people one has known who have lived in such houses. This suggests that inferences which have to do with money can be more directly and dependably made from what is shown in the photographs than can inferences about personal characteristics. This does not explain away the strong preference to respond in money terms, but it probably does contribute to this preference.

In the aggregate there are few strong differences among the three towns in the frequency of responses to a given category. There are, however, exceptions which bear considering. The strongest of these is the great emphasis placed on the character of people inferred from environmental cues by the middle class group. Watertown subjects made reference to the character of people twice as often as Chelsea subjects and more than three times as often as Newton subjects. Further comments made by the middle class Watertown subjects were much more evaluative in nature and were based on strongly held views of what is acceptable in behavorial norms.

Such negative comments, for example, as "noisy, rowdy-never bother to rise above that condition," or "irresponsible, people don't give a damn," and such positive comments as "good conversative people" or "some ambitions, self respect – aspire to nicer things" are typical of comments made by the Watertown subjects. The negative comments mentioned above were made in responses to photographs FR-4 and FR-7. The positive comments were made in responses to photographs FR-1, an area very similar to Watertown in socio-economic terms. In the Watertown responses, then, there was a stronger emphasis on aspects of the character of the assumed residents, and a greater tendency to place positive and negative values on character.

Newton subjects were less direct in ascribing values to any comments on character. They were more likely to make comments such as "people who think and act the same," or "evidence of untidiness," or "looks sort of like a slum." Such comments are qualified in some way or are non-commital than typical comments of the Watertown group. This may indicate a need on the part of Newton subjects to convey an image of understanding and tolerance toward lower income groups. Regardless, they made less than a third as many comments relating to people's character as the Watertown subjects. They did not have the same tendency to accompany comments on character with positive or negative values.

Comments on character from Chelsea subjects fell into a middle ground between Watertown and Newton with respect to both frequency and evaluative content. In the photographs of areas with socio-economic characteristics

similar to their own Chelsea subjects often responded with comments such as "ordinary people live here," or in franker vein, "people without much education," or "people a little higher than the ones who live in the projects." There were few clearly derogatory comments from Chelsea subjects in response to an area similar to their own. When judging areas similar to middle class Watertown their comments were of two principle sorts. One was an "average citizen" type of comment. The other, such as "civilized people live here, don't throw trash," contained an implicit put-down of the lower-class, possibly indicating a mild self-hate syndrome. These indicate a hesitance of the Chelsea group to make unfavorable comments about areas similar to theirs and hence about themselves directly, but to do it indirectly anyway, by pointing out that people higher up on the social scale don't have certain undesirable habits, by implication, those often attributed to people of a lower class - their class.

After the subjects made a judgment about social characteristics for each photograph they were asked, "What was it in the photograph that made you say that?" Following are the most frequently mentioned categories taken from their free responses, rank order by number of times a comment within each category was made. The numbers are total counts for all 8 photographs. (Rank orderings for each town are shown in parentheses after the frequency counts.)

Frequency Count of Physical Attributes Mentioned

		NEWTON	WATERTOWN	CHELSEA	Total
1.	Maintenance of Area	94 (2)	97 (1)	101 (1)	292
2.	Maintenance of Buildings	94 (3)	69 (3)	96 (2)	259
3.	Vegetation	105 (1)	76 (2)	71 (3)	252
4.	Architectual Design	78 (5)	45 (6)	71 (4)	194
5.	Building type	80 (4)	40 (7)	65 (5)	183
6.	Age of Building	75 (6)	52 (5)	54 (7)	181
7.	Density	58 (8)	26 (8)	39 (8)	123
8.	Building size	58 (8)	26 (8)	39 (8)	123

Maintenance was the attribute most frequently used in making social inferences. If maintenance of the area and maintenance of buildings are added together they account for one-third of all responses in the 8 most frequently used categories shown above. The rank orderings for each town individually show a few differences which appear significant. Presence or absence of vegitation heads the list for Newton. Obviously Newton places greater emphasis on it than Chelsea or Watertown though it still is an important cue for all three. Since the town of Newton is itself amply and tastefully landscaped I am sure that this is not a chance correlation.

When social characteristics were being given by the subjects there may have been, as mentioned previously, a built-in bias in answer in financial terms, i.e., "rich people", "poor people," because the stimulus

was a photo of material goals, but I can see no bias which would give maintenance greater emphasis than any other cue category.

In the aggregate of responses to these 8 photographs, both in social characteristics and physical attributes, different individual categories which were emphasized in the different photographs are not shown. However, since the photographs covered a wide range of environments and also a wide range of cue changes, the total frequency counts given above represent an accurate picture of which social characteristics and which physical cues are most generally used.

The hypotheses which are suggested and supported by the preceding discussion of Free Responses are listed below. It is often the qualitative nature of comments which verify the hypotheses which are listed below, rather than precise counts of quantifiable data.

HYPOTHESES

1. A group whose environment contains attributes and cues which for its own groups in a social system have unfavorable connotations will not in free responses mention these attributes and cues as frequently as will other groups.

   Either of the following could contribute to this response behavior.

   (a) The attribute or cue may not have negative connotations for the group in whose environment it is found.

   (b) In conflicts with other cues the unfavorable one will be supressed or normalized to conform to more favorable conflicting cues--the more favorable cues will be given preference.

II A given social group will make finer distinctions among environments whose residents are objectively similar to it in terms of socio-economic status than among environments whose residents are different from it.

III. Groups higher on the socio-economic scale perceive and will verbalize more accurately social characteristics of all the other classes on the basis of environmental cues than will groups lower on the scale.

ANALYSIS OF FREE RESPONSES BY PHOTOGRAPH

Photograph FR-1 (shown in plate 1.) This photograph was taken in Saugus, Massachusetts in a census tract which was almost identical with the Watertown census tract. There were no cue changes made in this photograph. In the three categories most frequently used to describe social characteristics of its inhabitants, (class, occupation group and financial status) there were fairly consistently different responses from the three towns. Newton tended to undervalue and Chelsea tended to overvalue all three categories compared to Watertown. The three figures below illustrate these differences:

Class Assessment Made by Each Town (in percentages)

	Upper and Upper Middle	Middle Class	Working, Lower Middle, and Lower.
Newton	7%	39%	54%
Watertown	3%	84%	13%
Chelsea	4%	92%	4%

Occupational Group Assessment Made by Each Town (in percentages)

	Professionals, Executives or Merchants	White Collar	Blue Collar or Mixed White and Blue Collar
Newton	11%	24%	65%
Watertown	8%	25%	67%
Chelsea	18%	27%	55%

Financial Status Assessment Made by Each Town (by percentages)

	Above Average Means	Average	Below Average Means
Newton	8%	72%	20%
Watertown	14%	72%	14%
Chelsea	30%	65%	5%

Although the differences are not strong in all cases they are quite consistent. They indicate that persons at the top of the social ladder judge an environment in which a middle class group lives less favorably than persons near the botton. Although it is hard to make accurate comparisons, the Watertown group is closer to objective reality with respect to the three categories shown than either the Newton or Chelsea groups.

The Watertown groups also made more positive comments about the character of people they felt would live in Photograph FR-1, an area like their own, than the Newton and Chelsea samples combined. There were 20 specific, positive comments about the character of people given by Watertown subjects, while there were eight from Newton and seven from Chelsea. It should be remembered, however, that Watertown subjects made more comments about personal character than either of the other towns. The significant point is that for most of the other photographs a higher porportion of the comments were unfavorable but for this photograph most were favorable.

Photograph FR-2 (shown in plate 2). This photograph was taken in Sudbury, a still quite rural, middle to upper middle class suburban town in the Boston Metropolitan Area. The only quantitative measure which was made based on responses to this and all the FR photographs, was a judgment of class. The figures below shows the mean responses:

Class Assessment Made by Each Town (1=High Class, 7=Low Class)

	Photo Set 1	Photo Set 2 (panel truck)	Photo Set 3 (horses)	Photo Set 4 (larger house)
Newton	3.4	3.9	3.5	3.0
Watertown	3.9	3.3	3.0	2.6
Chelsea	4.3	4.0	3.3	3.5
Means for Total Sample	3.9	3.7	3.3	3.0

(Significant at .07 level)

The mean responses for the total sample show clearly the aggregate effects of the cue changes. Among the three towns there were not consistent differences between Photo Set 1 and Photo Set 2; the only difference between them is the addition of a small panel truck in Photo Set 2. In Photo Set 3 riding horses were added and in Photo Set 4 the size of the house was approximately doubled. In class terms these last two cue changes raised ~~related~~ the class standing of the assumed residents 9% with the addition of horses and 13% with the increase in house size.

All three towns responded positively to the rural setting and the presence of meadows and trees. Newton and Watertown, when all Photo Sets are considered together, placed the residents somewhere above an

"average means" level more often that did Chelsea as the following diagram shows.

Above Average Means

Newton	62%
Watertown	70%
Chelsea	50%

An explanation for this can be found from the comments of the Chelsea subjects. In Photo Set 3, about one-half of the Chelsea respondents inferred from the presence of horses that the residents were farmers. One Chelsea subject referred to the horses as work horses. Following are comments from Chelsea subjects: "good, old farmer," "low income people--farm house," and "looks like a farm --horses." No one from Watertown made such an inference from the presence of horses and only two persons from Newton said it might be a working farm, but they doubted it. In fact, 31% of the Newton group indicated they felt the residents were in the "upper income" bracket; 20% of the Watertown group agreed with this, but no one from Chelsea thought so.

The tendency mentioned earlier of Watertown subjects to place value judgments on comments made about the character of people was evident in comments on this photograph. This was probably the most significant substantive difference between the responses of Watertown subjects and those of Newton and Chelsea. Many subjects from all three towns mentioned the rural, open character of the site. The Watertown group, however, made several comments inferring unfriendliness from this openness; comments such as "not too sociable," like to be alone," "desire seclusion," and less flattering, "country folk, used to living in the boondocks."

Both Newton and Chelsea subjects mentioned the seclusion of the site but there were very few comments which so overtly contained value judgments. Statements such as "people who want a retreat from the city" or "people who like a country atmosphere" are typical of the Newton subjects. Chelsea subjects made comments such as "people who like plenty of room", "like the country" and most flatteringly, "nice people who like living in the country."

It was also obvious from the responses made by the three groups that the natural, rural character of the total scene was viewed differently by the three groups. The Newton group seemed to view it with a romanticized, unselfconscious return to nature attitude, The Watertown group was more "objectively" critical and the Chelsea group viewed the naturalness as indicative of unsophisticated, rural inhabitants.

PHOTOGRAPH FR-3 (shown in Plate 3). This photograph of one of Cambridge's better public housing projects at the corner of Prospect and Harvard Streets is shown in its original and doctored versions in Plate 3. Responses to this photograph revealed clearly the low opinion most people hold of housing projects and residents thereof. With few exceptions those people who felt the area was a housing project also said the people who lived there were low class, were on welfare, or were ADC mothers. If on the other hand, the area was seen as simply a private apartment development the residents were seen to be young single persons, young couples with few children or elderly and more middle class.

As with all photographs in the FR set, the subjects were asked to make one quantitative judgment. They had to make a class assignment on a seven-step class scale. The responses show the following mean pattern for FR-3:

FR-3 Class Assessment Made by Each Town

CLASS (1 = High Class., 7 = Low Class)

	Photo Set 1	Photo Set 2 White kids	Photo Set 3 Negro kids	Photo Set 4 Vegetation
Newton	5.5	5.1	5.9	3.5
Watertown	5.0	5.0	6.4	3.5
Chelsea	5.3	6.0	5.7	3.0
Means for Total Sample	5.4	5.4	6.0	3.3

(significant at 0,000 level)

The dramatic difference between the mean responses in Photo Sets 3 and 4, is due to the addition of Negro children playing in Photo Set 3, and the vegetation of Photo Set 4, (see Plate 3).

It is not surprising that the children were used as cues in Set 3 in preference to non-human cues. When information regarding social characteristics is being sought from among both human and non-human cues I would certainly expect the human cues to be given greater weight. It is also clear that the Negro children are being used as signals for inferring a number of related social characteristics.

For example, the Watertown group characteristically made more evaluative statements than Newton or Chelsea, usually stereotypical responses to the cue of Negro children. Such comments as "broken families", "people

relatively unhappy," "probably frustrated," "ghetto discontent" and "no respect for selves or whites" indicate the strength of association between cue and stereotype. Of course not all comments were overtly unfavorable; some were condescending but not unfavorable such as "noisy but friendly" "look relatively clean" or "not rundown" and a few were reluctantly favorable such as "kids nicely dressed, a better class Negro than in Roxbury."

The environmental context of FR-3 in the original state was ambiguous and was interpreted quite differently depending on what cues the subject focused upon. Typically when the area was judged to be a public housing project the cues cited in making that judgment were among the following: asphalt paving in the courtyards, broken bench, lack of vegetation, or "institutional" architecture.

If on the other hand it was seen to be a private apartment development the cues cited were typically among the following: no evidence of trash of breakage, nice fence and gatepost, or well constructed brick buildings. When the Negro children were available as cues, they were used to infer lower status even though all the cues which had been used in the original photograph to infer higher status were still there and unchanged. While there was ambiguity in the original photograph as to the occupancy of buildings shown, the addition of white children changed opinion relatively little but the addition of Negro kids was a strong enough cue to override conflicting cues.

The diagram below indicates in percentages the people who specifically commented that they thought the area was a public housing project:

FR -3 JUDGED TO BE A "PROJECT"

	Photo Set 1	Photo Set 2 (white kids)	Photo Set 3 (Negro Kids)	Photo Set 4 (Vegetation)
Newton	40%	30%	80%	0%
Watertown	45%	50%	60%	0%
Chelsea	50%	50%	70%	30%

The addition of vegetation in Photo Set 4 made the greatest change from the original. It raised class assignment approximately two points on a seven point scale, and with the exception of Chelsea removed the area from the unfavorable public housing category. Newton subjects mentioned that the foreign car looked out of place. These comments were not especially were not prevalent in Photo Set 3; one subject said, "The car belongs to a social worker".

PHOTOGRAPH FR-4 (shown in plate 4) This photograph ~~(also Plate 4)~~ was taken in eastern Somerville near the Cambridge border in an area with social characteristics very similar to those of the Chelsea tract. As with Watertown where subjects were most favorable in their comments toward an environment (FR-1) similar to their own--even though they did not place it as high on the class scale as did Chelsea--I expected Chelsea to be more favorable toward an environment similar to their own. This proved true, and is most clearly shown in the free descriptions. The measure of class position on the seven-step scale shows that Chelsea placed its highest on the scale, and Watertown lowest.

FR-4	CLASS
Newton	6.0
Watertown	6.2
Chelsea	5.5

A count of the comments made which were directed at the character of the assumed residents shows that Watertown subjects once again made more comments about people which were evaluative and contained stronger, in this case, negative attitudes than either Newton or Chelsea subjects. The important point through is that comments from Chelsea subjects toward the assumed residents of FR-4 (people similar to themselves) were more uniformly favorable. There were, however, defensive overtones; i.e. such comments as "ordinary people" , "average people" "regular working class" or "some less fortunate" were frequent and contain an implicit apology. Most of the unfavorable comments from Chelsea subjects were directed at the dirty streets and the "trash bins," negligence which could be blamed on the city. There were unfavorable comments, however, most of which were along the line of "don't have pride in neighborhood" or "properties not kept up".

Watertown subjects were less charitable in their comments. The following illustrate their feelings: "neighbors fight," "not particularly ambitious," and "not responsible."

Newton subjects again showed restraint and made relatively few condemnatory comments. Subjects in an attempt to be objective but not unkind said there was "alittle evidence of untidiness" or allowed that residence were "poorer people, but probably clean, energetic citizens." Many commented that it was working class and was "not a slum".

The following diagram shows the total number of subjects out of a possible 50 per each town who made favorable and unfavorable comments about FR-4.

	FAVORABLE COMMENTS	UNFAVORABLE COMMENTS
Newton	9	4
Watertown	6	16
Chelsea	4	5

The two most frequently mentioned cues used in making inferences were similar for all groups: dirty streets and high density of buildings. Another cue frequently mentioned by all groups had to do with the garbage cans. Several of the Newton and Watertown subjects inferred lower status from the use of steel barrels rather than standard "cans." Newton and Watertown subjects also made frequent mention of the chain link fence in negative terms. These fences were not mentioned by the Chelsea residents. This supports the hypothesis that " attributes and cues which for some groups had unfavorable connotations will not be mentioned as frequently by the group whose environment continues these attributes or cues."

PHOTOGRAPH FR-5 (shown in Plate 5) was taken in Brookline, Massachusetts There were fewer significant differences in the responses to it, and its variations than any other. ~~(See plate 5)~~. There were different attitudes expressed by the three class groups, but little difference was attributed to the cue changes. This is not surprising because the abundant landscaping and lawns of the environmental context plus the house in the foreground which was not changed form a strong gestalt. The addition of a single house of different style but not radically different price range obviously

had little effect on the original gestalt.

Class position as judged by the three groups did not produce a difference which was measurable by the chi square statistic. The figure below shows these class positions:

FR -5 Class Assessment Made by Each Town

(1 = High Class, 7 = Low Class)

	Photo Set 1	Photo Set 2	Photo Set 3	Photo Set 4
Newton	2.2	2.0	1.6	2.8
Watertown	2.1	2.2	1.6	1.9
Chelsea	2.1	1.7	1.6	2.0

One interesting result, however, was the judgment of the Photo Set 4 version of this photograph by the Newton subjects. In this version, a statue of the Virgin Mary was added in a conspicuous place. This received the lowest rating on the class scale by the Newton subjects of 2.8, and the highest rating by the Watertown subjects of 1.9. 18.7% of the Newton group are Catholic, while 56.2% of the Watertown group are Catholic.

There was little difference among the three groups with regard to the cues they stated were used in evaluating the photographs. The predominant cue was the landscaping--the presence of many trees and expansive lawns. Although most of the Newton subjects were favorable, some were critical of the quality of the landscaping and architecture, saying it was "atrocious" and "lacked individuality." Watertown subjects seemed more concerned with the care required to keep the landscaping up and surmised

that it was not done by the owners. Chelsea subjects were apparently more impressed with the abundance and quality and less concerned with who kept it up, although maintenance was mentioned by some. So although landscaping was the common choice of cue for all groups, the nature of comments among the groups was different.

The nature of the comments among the three groups with respect to the personal characteristics of the assumed residents was also interesting. While all three groups assigned the FR-5 residents the same place on a class scale, they expressed different attitudes about them. Newton was basically favorable, but there were comments such as, "people who think and act the same" and "solid but bad taste" and implications of nouveau riche status. Watertown, following its usual pattern, made many evaluative comments. Some were favorable, but many were critical. There were far more critical comments made by Watertown than by either Chelsea or Newton.

Some of the more interesting comments from Watertown subjects include: "all neurotic--status conscious," "take pride in house and neighborhood but that doesn't say anything about happiness" or "too interested in social life to be part of the community," "party type" -- stereotype of suburbia," "people are proud of their property, probably unfriendly," "where the Jones live to keep up with" and less critically "run their lives efficiently", and "like better things, martini before dinner".

Chelsea subjects made fewer evaluative comments than subjects in either of the other towns. In all but a few cases, people were assumed

to be in the upper class. One person allowed that they were upper crust but "could be phonies".

PHOTOGRAPH FR-6 (shown in Plate 6) was taken near Brown University in Providence, R.I. It produced a significance level of 0.000 on the class scale; i.e. there were 0 cases in 100 that the distribution was chance. The class scale is shown below:

FR-6 CLASS (1=High Class, 7=Low Class)

	Photo Set 1	Photo Set 2	Photo Set 3	Photo Set 4
Newton	1.9	4.3	3.0	2.8
Watertown	2.5	4.2	3.0	3.2
Chelsea	2.5	4.4	3.2	5.0

(significant at the 0.000 level)

There are many interesting results in this class scale, and also in the free responses made to the four variations of the photograph. As can be seen, Newtonians placed residents of this photograph higher on the class scale than did either of the other towns. Newton subjects with hardly an exception saw this as an upper class area, referring to its Beacon Hill or Georgetown character. There were comments such as "Yankee," "Young modern or Yankee" and "older people". Various aspects of the architectural design were cited as attributes used in making their judgments: "Quality of architectural detail," "quaint, kept up well" "Georgian houses," or just "fashionable". Several of the Newton subjects mentioned the plaque on the building in the foreground which designated it as a historic building. This was a cue that was mentioned a very few times by the Watertown subjects, and was not mentioned by the Chelsea subjects at all. This is a "limited access" cue which I expected to be

noticed only by the higher class group, which is what apparently happened.

The responses of the Newton group who saw Photo Set 2 (Plate 6) to which trash had been added was fascinating. It was the only group of the three in which a majority of the subjects mentioned the contrasting combination of "fashionable" buildings and trash strewn sidewalks. Such comments as "trash around like colored areas, but homes look like Beacon Hill" "can't understand the mess" and "curtains don't go with trash" are typical. Some tried to explain away the undesirable conflicting cues with "clumsy garbage collectors." Others allowed that it was "old Bostonian spinsters on the downgrade" or just exclaimed "mystery?" It is hard to understand why, compared with Watertown and Chelsea subjects, the Newton subjects made far fewer unfavorable comments but still agreed almost exactly where it should be placed on the Class Scale.

Many of the comments made by the Newton subjects in response to the original photograph were also made to the Photo Set 3 version, in which the shutters and other door and fence details were removed. Generally the same classes and groups were named as probable residents but "affluent students" were also mentioned. In spite of the similarity between the responses the Newton subjects made to the Photo Set 3 version and the original with respect to assumed residents, the two were given significantly different class positions: the original was 1.9 and Photo Set 3 was 3.0 on the scale. The only difference in the two was the removal of architectural details from the latter.

The exterior condition of the house seemed to influence the judgment of the Newton subjects far less than presence of trash did. In Photo Set 4, cracks were drawn in the walls, shutters were made to appear broken and in need of paint, and the building was in obvious need of care. While this was mentioned by the Newtonians, it affected the class designation and changed the nature of responses less than I expected. There seemed consensus that people who would live here would either be older high class in "gracious decline" or young executives on the way up, presumably not having had time yet to make the necessary repairs. Only one or two people felt that poor people lived here and did not care about the appearance of their house. It is also interesting that the leaves on the sidewalk were seen by many as "trash" in this photograph, but just leaves in the original.

For both the Watertown and Chelsea groups, the original of FR-6 was seen not so much as an area of historic significance but, especially with some of the Chelsea subjects, as an area that was just old. Watertown subjects held true to form and made several comments about the character of the people they felt would live in FR-6. The leaves on the sidewalk were noted and were felt to be an indication of "laxness" or as one subject put it, "the leaves may imply sloppiness." Watertown subjects agreed generally with the Newton subjects that "wealthy but elderly " people or "old yankees" probably lived there; but went farther to imply that there was "little neighborliness, and "these people are not friendly at all".

The most notable difference in Chelsea subjects' responses to the original of FR-6 was the wide range in types of people they felt would live there from different reactions to physical cues.

Estimates of class positions went all the way from 1 to 6 on the 7-step class scale. A few felt that it was a slum or low class area. The cue used in arriving at this judgment was that the "houses are not up to date". In a similar vein, one subject stated that "ordinary people" live there because of the "ordinary, simple, plain, houses." By any standard, this reading of the architecture in FR 6 is grossly inaccurate.

Neither the Watertown nor Chelsea subjects felt the conflict of cues in Photo Set 2, in which trash was added, that the Newtonians expressed. Although they ranked it similarly to Newton, the Watertown and Chelsea groups did not, with a couple of exceptions, ponder over the juxtaposition of trash and richly detailed old brick buildings in good repair. Watertown subjects made no qualifications to such comments as "welfare cases--without pride," "don't care about surroundings" or "this place has had it-low class, maybe colored." Chelsea subjects made comments which indicated low status but were not value-laden. Typical were comments such as "pretty poor people", "low class, maybe a slum," or "college kids, just don't care". Several of the Chelsea group felt that students would be living in an area such as this.

Responses from Watertown and Chelsea to Photo Set 3 were similar in class designation to Newtons, but favored older people and students as the most likely residents. Both groups were concerned with the litter in the streets. In Photo Set 4, Watertown was again critical of the residents for the bad maintenance of the exterior and felt that "old republicans"

"students---girls who like to live away from home" and "people with don't give a damn attitudes" would live there.

Chelsea gave this photograph the lowest class rating of the entire array, 5.0 on a scale with 7 representing the lowest class. They noticed all the cues of deterioration which had been added to the photograph; the same cues that the Newton group had largely ignored. Commonly mentioned were "broken windows and shutters", "cracks in the walls", "twisted railing" and "leaves".

PHOTOGRAPH FR-7 (shown in Plate 7). FR -7 was taken in Roxbury and represents the lowest income area among all of the 16 photographs used in the study. The responses to this photograph and its variations with regard to both differences in towns and differences made by cue changes, were strong enough to produce a significance level of 0.000 on the class scale. This level of significance was also achieved for photographs FR-3 and FR-6. The cue changes in Photo Set 2 and Photo Set 3 produced substantial results, i.e. perceptions of class position and attitudes toward supposed residents were significantly altered. The cue change in Photo Set 4, however, was just a subtle change, the substitution of the door and windows from the foreground building in FR -6 for the door and windows of the foreground building in FR-7. It is in conflict with almost everything else in the photograph, but from the responses, it is obvious that it is not strong enough to raise doubts or change evaluations. What I will say for Photo Set 1, the original, then is true for Photo Set 4 as well.

In the pattern which can now be seen as typical, Newton subjects were critical but exercised restraint in commenting unfavorably against the personal characteristics of the supposed residents. Watertown was highly critical of the people they felt would live here; some were also critical of the people they felt would be slum landlords in this area. Chelsea "told it like it was", but was more sparing with personal condemnations than was Watertown.

Using such cues as "broken fence," "general neglect," "broken and boarded up windows," and "cheap Sears and Roebuck siding" the Newton sample judged the residents to be low income, low class and non-owners. They felt the area was "something urban renewal would take" and felt that the residents "simply don't care." (One Newton subject said it was a low income area probably with a median income of $8,000 to $15,000, which is a fascinating dollar interpretation of the meaning of low income.) While they disapproved of the area they were largely restrained and did rank it higher on the scale at 6.0 than Watertown or Chelsea, which both placed it at 6.8.

The cues used by Watertown subjects was similar to those used by Newton subjects but the attitudes were more strongly negative. "Should be levelled" and "type of thing we're trying to clean up in Boston" were prevalent sentiments. With respect to personal characteristics there were many assertions that the people who live there are "shiftless," "irresponsible," and "fight like animals," that they were "not interested in better things in life," and "don't care at all even about appearances." There were also comments such as "make good money but eat and drink it all up," and one person stated that "homes prevent them from raising themselves morally." Racial mix was not mentioned often but when it was it was felt that the area would be predominantly Negro.

The vegetation added to Photo Set 2 and the fence added to Photo Set 3 not only raised the class position in the eyes of all three groups, but also elicited much more favorable comments from all three.

Comments such as "people without money but with pride," and "lower middle class interested in keeping up appearances" were made by the Newton group. Watertown subjects were also much more favorable in their comments. They commented that the area "looks depressed but is not a slum." Some felt that the residents were 'not rich-not poor, probably clean, neat and hard working," the ultimate good in the view of the Watertown subjects it would appear from many of their comments. The vegetation and fence did not lift the area into the middle class by any means, but they quantitatively changed the class position and qualitatively changed the nature of many of the subjects responses.

The Newton subjects were the only ones to point out the unusual juxtaposition of cues and environments in the photographs to which vegetation and the fence were added. One Newtonian said "no curtains doesn't go with trimmed hedges," and another said "fence incongruous with quality of houses." Interestingly one of the Chelsea subjects felt the fence was "cheap" seemingly because it was all the same down the street. The fence, in fact, was around an estate in the Brattle Street area of Cambridge and would be quite expensive. People from all three groups felt that all the buildings were in one ownership because of the fence.

PHOTOGRAPH FR-8 (shown in Plate 8). This photograph produced results in which the three groups were very similar by the quantitative measure of class position. However, examination of the free descriptions revealed subtle differences in the three groups. The following judgments were made:

FR-8 Class Assesment Made by Each Town
(1=High Class, 7=Low Class)

Newton	1.4
Watertown	1.4
Chelsea	1.4

All placed the area near the top of the class scale, which is, of course, objectively true- the photograph was taken in Brookline in one of the higher socio-economic tracts in the Metropolitan area. But in describing the people assumed to live there it became clear that within the Newton sample there were fine distinctions being made by some of the subjects regarding status. As I mentioned in the opening discussion of the Free Response section some of the Newton subjects mentioned as possible residents of the area "conspicuous con sumption people," "merchant and upper class" and "old estates or new rich" suggesting a particular mercantile sort of upper class rather than old line WASP types. There was not total agreement among the Newton subjects, but there were finer distinctions of class designations suggested by them than by either the Watertown or Chelsea subjects. Chelsea subjects seemed to view the area simply as the people at the top of the system and there were no finer distinctions made.

A DISCUSSION OF HYPOTHESES

Just preceeding the discussion of individual FR photographs, I suggested three hypotheses that I felt data from free descriptions would provide good information for testing. The first of the hypotheses is:

I. A group whose environment contains attributes and cues, which, for its own or other groups in a social system, have unfavorable connotations will not in free responses mention these attributes and cues as frequently as will other groups.

I felt that either of the following could contribute to this response behavior:

(a) The attribute or cue may not have negative connotations for the group in whose environment it is found.

(b) In conflicts with other cues the unfavorable one will be suppressed or normalized to conform to more favorable cues---the more favorable cues will be given preference.

What in the responses to the FR set of photographs is there to support this hypotheses?

FR-6 in its original version (see Plate 6) was seen by all of the three class groups as an upper income - upper class area (though the Chelsea group's responses covered a wider range of classes). In Photo Sets 2 and 4, cues normally associated with lower classes, trash littered streets and dilapidating buildings respectively, were added to the original.

The judgments as to class position by the three groups with respect to people in the original and doctored photographs are shown below:

CLASS POSITION OF FR-6 (1=High Class, 7=Low Class)

	Original Photo Set 1	Trash added Photo Set 2	Dilapidation added Photo Set 4
Newton	1.9	4.3	2.8
Watertown	2.5	4.2	3.2
Chelsea	2.5	4.4	5.0

When trash was added, 60% of the Newton sample felt that the area was no longer a place where upper income people would live and mentioned the trash, albeit in puzzled tones. In the photograph in which the buildings were made to appear dilapidated, 70% of the Newton group felt "traditionalists," "conservatives," "older people," or "young business executives coming up" would live there. These are all acceptable members somewhere above the middle class, and the cues of dilapidation were not mentioned at all by most of the subjects, or were noted with a "need some repairs" by the few who did comment. I do not feel the cues of dilapidation would have gone unnoticed by the Newton sample. They proved themselves acute observers in responses to all the photographs, generally "seeing," or at least verbalizing, more than the Chelsea group. It was obvious, however, that the Chelsea subjects noted the cues of building deterioration and downgraded the area in response. I think, rather, that the Newton subjects "normalized" the conflicting cues to conform to one more favorable to themselves and people they felt were similar to themselves.

To recall the discussion in Chapter II on categorizing strategies, the subjects did seem to be forming gestalten of the photographs they were shown, utilizing a combination of attributes that was sometimes verbalized and sometimes not. In some cases, for example, all a subject would say about the salient attributes used in making the judgment he made was "just the look of the picture" or some other non-specific comment. In some cases they seemed unable to go beyond this broad, general sort of statement. Once a gestalt of a certain area was formed (the concept

attained) including the characteristics of the people who would live there as a part of this gestalt, the subjects could then verbalize the social characteristics of the assumed residents. When faced with the task of verbalizing the attributes used in making these judgments the subjects would scan the photograph again and again, in a sense repeating the process which lead them to the gestalt originally, sorting out those specific attributes they had used . I would theorize that at this point those cues which were in conflict with the gestalt were not mentioned - if the conflict or contradiction was felt to exist - or they were normalized in order to conform to the gestalt.

Looking at the other end of the environmental spectrum, in FR-4 (see Plate 4), an area in which the Chelsea subjects felt people similar to themselves would live, the following class judgments were made:

FR-4 CLASS ASSESSMENT MADE BY EACH TOWN
(1=High Class, 7= Low Class)

Newton	6.0
Watertown	6.2
Chelsea	5.5

As I pointed out earler, the Chelsea subjects not only evaluated more favorably the area in quantifiable , class terms, but also made fewer critical or unfavorable comments about the area and the people they felt would live there than those from Newton and Watertown. I suggested in (a) of the hypotheses under discussion that an attribute seen as unfavorable by certain groups might not be seen as unfavorable by the group in whose

environment it is found. In FR-4, both Watertown and Newton subjects made frequent mention of the use of steel barrels rather than trash cans, and the omnipresence of chain-link fences when placing the area in the working or lower class, and making other unfavorable comments. However, the Chelsea subjects made no mention of either of these two cues. I feel these cues do not have the same negative connotation to the Chelsea residents as they do to the Watertown and Chelsea residents. Of course, I have no way of incontrovertibly proving this. However, the fact that the Chelsea subjects did not mention in free responses these cues which were given negative readings by other subjects supports the hypothesis.

The two photographs I have discussed so far were matched to the environments of subjects at the high end and at the low end of the range. FR-1 is an environment that is clearly at the midpoint, and represents an environment similar to Watertown. Not surprisingly, comments made by the Chelsea subjects contain little of use in support of the hypothesis.

There were comments on attributes in FR-1 from the Newton subjects which they clearly viewed as unfavorable. They most frequently criticized the "uniformity" of the buildings. There were related criticisms such as "mediocre design," "designed by builder," and "conformity". Although approximately 40% of the Newton sample made some comment of this sort, there were no such comments about uniformity made by Watertown subjects - a characteristic which is objectively obvious in the pictures, but which is

~~obvious in the pictures, but which~~ is not seen in an unfavorable light by Watertown residents.

The second hypothesis mentioned was:

II. A given social group will make finer distinctions among environments whose residents are objectively similar to it in terms of socio-economic status than among environments whose residents are different from it.

At the "high" end of the class scale, I have already discussed the distinctions that Newton subjects made with respect to photograph FR-8 (high class area). While all three towns recognized the people with high incomes, and all apparently used this as a measure of class, the Newton subjects made responses indicating that there were other important distinctions to be made among people in the higher income brackets. As previously stated, there was not always agreement among the Newton residents, but such labels as "conspicuous consumption people," or "old estates or new rich" indicated that they tended not to think of the residents as old line WASP families. Chelsea made no similar distinctions interpreting it simply as a place where the people at the top lived.

When looking at the "low" end of the class scale, the Newton sample showed the same lack of understanding of fine distinctions among lower income areas that Chelsea had shown regarding higher income areas. Comparing the verbal responses and class judgments of the Chelsea and Newton subjects with respect to photographs FR-4 and FR-7, it is obvious that Chelsea subjects were making distinctions between the two that the Newton subjects were not.

Comparison of FR-4 and FR-7 on Class Scale
(1=High Class, 7=Low Class)

	Photograph FR-4	Photograph FR-7
Newton	6.0	6.0
Chelsea	5.5	6.8

FR-4 is, in fact, an area which more nearly matches the Chelsea subjects "own environment" in socio-economic terms than does FR-7. Chelsea subjects also responded verbally very differently to the two photographs. There were few unfavorable comments made in describing FR-4. However, most comments were somewhat defensively put in terms of "ordinarly people," "average people," and "regular working class". Most of the Newton subjects were not unfavorable in their comments, but specified that it was a low income, low class area. Several subjects stated they felt it was not a slum. Newtonians described FR-7 in similar but perhaps less favorable terms. Chelsea subjects, however, were quite obviously less charitable in describing FR-7. Most significantly they placed the area more to their own at 5.5 on the class scale and the other area at 6.8 on the class scale.

The third hypothesis states that:

III. Groups higher on the socio-economic scale perceive and will verbalize more accurately the social characteristics of all the other classes on the basis of environmental cues than will groups lower on the scale.

In discussing the FR photographs individually, I mentioned several cases and types in describing a given photograph. Generally there was

a greater variation of responses among the Chelsea subjects, and much less variation among both the Watertown and Newton groups.

For example, Photo FR-3 was a somewhat ambiguous area, which I expected would be seen either as public housing or a privately developed moderate income apartment complex. It is in reality one of the better designed and maintained public housing projects in Cambridge. Responses to the original of this photograph by the Chelsea subjects went all the way from "its a housing project and not a very nice one" to "it looks like real nice apartments," and one person even thought it was a "beautiful home" in which a politician would live. He apparently felt the entire complex was a single house around a courtyard with a fenced and gated entrance. Some of the Chelsea subjects felt it was either a school or a hospital. There was not this range of responses among either the Watertown or the Newton subjects. For both of these groups it was seen either as public housing, or as private apartments for people of average to low-average means. There were only a few suggestions that it might be a school.

In FR-6, there was a similarly wide range of responses from the Chelsea subjects. On the class scale, estimates of class position ranged from 1 to 6. In verbal responses, comments ranged from "lower class, looks like a slum," to "high income, professionals". There were also intermediate comments such as "ordinary people...ordinary, simple, plain houses" to complete the range. In many cases the mean class response for Chelsea was similar to the means of the other groups, but there was a wider range among individuals in Chelsea, and also a wider range of verbal

responses. Many of them were, of course, inaccurate.

In photograph FR-2, however, there was a wide range of class judgments by all three groups. The cue of riding horses was incorrectly interpreted by some of the Chelsea group to be work horses, and to indicate farmer tenancy. In FR-7, the cue of an expensive wooden fence was interpreted incorrectly by some Chelsea subjects to be "cheap" because it was all the same along the street.

Two other observations which are not related to the original hypotheses became apparent as the free responses were being analyzed. The first was the frequency with which Watertown, more than either of the other groups, made evaluative comments. I have noticed this tendency before, but I was surpirsed at its strength.

The other was the wide range of responses of the Chelsea subjects. In most responses there was less agreement among them as to the class position, and descriptions indicating much less agreement as to the kind of people they felt would be living in a given area. This is another way saying that the Chelsea subjects were less accurate in inferring social characteristics from environmental cues. In the quantitative measures these divergent responses are concealed to some extent, i.e., the mean may be similar to the responses of the other two towns even though there was considerably greater deviation from this mean by individual subjects.

CHAPTER V: FINDINGS--STRUCTURED RESPONSE SECTION

In the preceding chapter, I discussed the free descriptions of the first set of 8 photographs. The only quantified measure of the effect of cue changes in this section was the scale of estimated class position. All other changes were judged by the nature of responses made in the free descriptions. The discussion in this chapter, however, will deal with the 9 PA photographs and all the measures are quantified ones.

These measures, described in Chapter 3, are the following:

1. Adjective Checklists--The subjects check on a seven step scale the position between two polar opposite adjectives which they think best describes the residents they think would live in the area shown in the picture.

2. Class Position Scales--The subjects ranked the photographs on a 7-step scale from High Class to Low Class.

3. Attractive-Unattractive Scales--The subjects also did this ranking on a 7-step scale.

4. Rank Orderings--The subjects rank ordered the photographs from most desirable as a place to live least desirable.

5. Perceived Social Distance Scale--subjects indicated on a Bogardus-Type scale the degree of closeness of contact with assumed residents of the photographs which they would feel comfortable engaging in.

As the Perceived Social Distance scale and some of the rank orderings use photographs in the FR set as stimuli I will discuss these first and then look at the quantitative measures of cue changes in the PA set of photographs.

PERCEIVED SOCIAL DISTANCE SCALE

The Bogardus scale discussed in footnote 27 measures the degree of contact which one group finds acceptable toward others. Bogardus asked subjects questions about relationships of increasingly closer contact to which they would be willing to admit various ethnic or national groups. He found that usually a person would admit a member from on of these other groups to a relationship which involved a certain degree of closeness, and all relationships which involved contact closer than that were rejected.

I felt that one of my basic hypotheses: i.e. "social attitudes, positive and negative, can be formed by one group of persons toward another group on the basis of visual, physical attributes alone" could be supported by asking subjects to look at a series of environments and respond to a Bogardus type scale vis a vis the supposed residents. The photographs used for this measure were those three which matched the census tracts of the subjects in the sample. (FR-1, FR-4 and FR-8). While looking at each photograph separately the subjects were asked their feelings about the following:

1. Would you feel comfortable about taking a walk through this area?

2. How about attending a party in the area with people who live there?

3. Would you feel comfortable about talking informally in the area with the people to live there?

4. Belonging to a social club in the area whose members are people who live there?

5. Living in the area and having people from there as a close friends?

6. Having someone in your immediate family marry a person from the area?

Subjects were asked to respond yes or no, indicating that they either would or would not feel comfortable in the relationships suggested.

I expected the Newton subjects who are the highest in socio-economic status to eschew close contacts with groups lower on the scale than themselves, to accept closer contact with the people they felt would live in the "Watertown" environment than with those they felt would live in the "Chelsea" environment. Conversely I felt there would be a similar but weaker hesitancy of subjects from Chelsea to from close relationships with groups perceived to be distant from them on the social scale. These could be stated in the following hypothesis:

IV. The greater the social distance between two groups, perceived via environmental cues, the greater will be the feeling of discomfort in relationships in increasingly closer contact.

The results support the hypothesis in part, but a reformulation of the hypothesis would be required for the results to fit it completely. What is most obvious is that responses do not scale continuously from high at one end to low at the other. That is to say, some of the relationships which I felt would be uncomfortably close and hence rejected sooner by a group of different status simply were not. The three photographs used in the social distance scale are shown on the plate which follows this page. Diagrams of the results illustrate the point best. Below is the diagram of the response to the middle class area photograph:

Percent "Yes" Responses to Middle Class Area, FR-1

(i.e. Subjects would feel comfortable in relationships suggested)

	Newton	Watertown	Chelsea	Significance level
Walk in Area	100	96	98	ns
Talk to People	96	96	94	ns
Attend Party	83	94	92	ns
Belong to Club	62	90	85	.001
Live There	76	85	90	.13
Intermarry	90	90	94	ns
	512	551	553	

(ns = not significant)

(The totals indicate the comparative social distance between the towns and the photographs.)

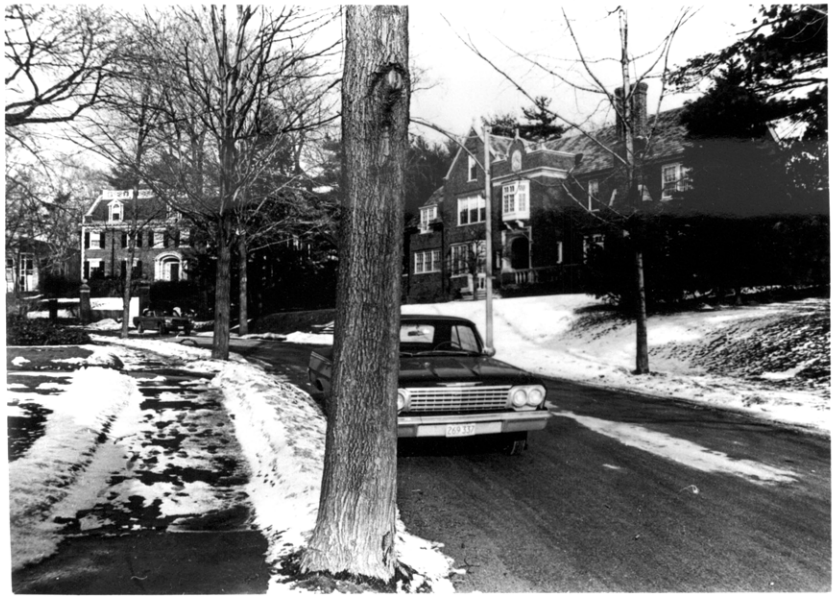
As can be seen there is a general tendency for responses to scale in the predicted direction, except for "intermarriage with people from the area," which surprisingly does not follow the pattern. "Membership in a club" and "living in the area" were the only variables in the scale in which there were significantly different responses among the three towns, as measured by the chi square statistic. The others all varied consistently across towns which is what a "not significant" result indicates.

I was a little surprised at the strength of the exception that was made of intermarriage on my social distance scale. The implication that a marriage partner is evaluated on the basis of his or her individual qualities is a comforting one for the state of our society if it accurately reflects the attitudes of the subjects. It was a pattern which was consistent

PLATE
17

FR 1

FR 4



FR 8

for all the three photographs on which the scale was tested.

The totals give some indication of the comparative social distance felt between each of the three towns and the people assumed to live in the area in the photograph. Newton subjects show the greatest perceived social distance, but most of this difference comes from the variables of club membership and living in the area.

Responses to the lower class photograph (FR-4) show the following distributions:

Percent "Yes" Responses to Low Class Area, FR-4
(subjects would feel comfortable in relationships suggested)

	Newton	Watertown	Chelsea	Significance level
Walk in area	36	34	46	ns
Talk to people	78	68	66	ns
Attend Party	44	36	38	ns
Belong to Club	12	18	32	.03
Live There	8	16	32	.01
Intermarry	30	30	35	ns
(TOTALS - Comparison or relative Social distance)	208	202	249	

The two variables which do not scale in this photograph are "walking in the area" and "intermarriage with people in the area". It is easy by ex post facto rationalizing to explain this pattern. With respect to " taking a walk in the area" my feeling is that, for subjects from all of the three towns, the response was, in part, based on concern over their safety as a stroller in this area. This perhaps reflects the "law and order" syndrome prevalent in the country now. I am surprised that the Chelsea groups

responded in this way since the neighborhood is very much like their own. Their negative responses to walking in the area was not as strong as was Newton's or Watertown's, but it is nonetheless surprising. It could be that the Chelsea subjects thought the idea of taking a walk in such an area, while not threatening, would not be enjoyable or would simply be something they would not consider doing. This is of course conjecture in an attempt to explain an unexpected result.

The variable of "intermarriage with people in the area" can be explained in the same way as with the preceeding photograph--an individual is to be judged on his personal characteristics, not by the area in which he is living or has lived. The other variables have scaled as I expected them to. "Club membership" and "residence" in an area again exhibited the greatest difference among the three towns. The column totals for all the variables show Watertown and Chelsea expressing the greatest generalized social distance vis a vis people who would live in FR-4 with 202 and 208 respectively, compared with Chelsea's total of 249.

The upper class area shown in FR-8 produced the following results:

Percent "Yes" Responses to High Class Area - FR-8
(subjects would feel comfortable in relationships suggested)

	Newton	Watertown	Chelsea	Significance level
Walk in Area	100	100	82	.000
Talk to People	96	80	68	.002
Attend Party	94	66	74	.003
Belong to Club	63	48	62	ns
Live There	76	72	82	ns
Intermarry	96	92	96	ns
	525	458	464	

The response pattern to this photograph is the most difficult to interpret. First, I think the original assumption that the scale would work in the same way for a high class person, concerned with maintaining the distance between himself and people lower on the scale, as it would for a low class person concerned, more likely, with diminishing the social distance between himself and those at the top was somewhat naive. What I thought, however, was that the feeling of being "distant" in class terms would be a feeling a person at either end of the scale would have toward a person at the other end. It was this distance I felt would be measuring.

It seems, however, from the results of responses to this photograph of a high class area that other factors are involved. The Chelsea subjects expressed greatest feeling of discomfort concerning the variables which would require immediate, personal interaction or conversation (talk to people, attend party, belong to club) with a cross section of the people living in the area shown. They were highest on the variables which would not demand immediate, personal interaction, (Walk in area, live there, intermarry) with a cross section of people from the area. With the former, there would be an immediate confrontation which would demand a social interaction, with the latter, this kind of contact and response would not be required. If they were merely walking in the area, little contact would be involved. If they lived there (not a very real prospect) they would choose their own friends, and if they or members of their family married someone

from the area, it would be a limited personal contact of their choosing but not a neighborhood-wide one.

The column totals show Watertown to feel greater generalized social distance from the high class area than Chelsea does. I think again Chelsea subjects were expressing a less realistic attitude, a "sure, why not live there" attitude whereas Watertown subjects more realistically appraised the implications of such a comment. Watertown subjects, much more than Chelsea, had expressed in free responses to this photograph the feeling that the residents of this area might be "snobbish" and would probably "keep to themselves, in their own circles". Their responses to the social distance scale reflects this column.

Membership in a club belonged to by residents of the high class area was one of the most consistent variables in eliciting different feelings of social distance. This variable is shown below for the three different photographs:

Percent of "Yes" Responses to Belonging to Club

	FR-8 (Upper Class)	FR-1 (Middle Class)	FR-4 (Lower Class)
Newton	63	62	12
Watertown	48	90	18
Chelsea	62	85	32

With all three of the photographs subjects who were from an area most similar to that shown in the photograph gave the highest number of "yes" responses, indicating that they would feel most comfortable belonging to a club with members most like themselves. In the upper class area (FR-8) Chelsea was only one point behind Newton. Chelsea subjects in

general seemed more disposed toward being club members. The tendency was stronger in response to pictures of areas not similar to their own than it was to areas similar to their own. This indicated to me a less realistic attitude toward the social system as it now operates.

RANK ORDERINGS - CHOICE AS A PLACE TO LIVE

Subjects were asked to rank order both sets of 8 photographs with respect to their desirability as a place to live. They were told: "Put the Photo of the area you would most like to live in on top, the area you would next most like to live in under it and continue to the area you would least like to live in, which would be on the botton". Only the 20 person basic groups from each town who saw th e original photographs are included in these rank orderings. Inclusion of the doctored versions would create difficult problems of interpretation.

I will show the orderings by town for the FR set of photographs in the diagram below:

Choice As A Place to Live -- FR Photographs

1st Choice	2nd Choice	3rd Choice	4th Choice	5th Choice	6th Choice	7th Choice	8th Choice
Newton							
FR-5	8	6	2	1	3	7	4
c 3	c 1	c 2	c 4	c 5	c 6	c 7	c 8
Watertown							
FR-8	5	2	1	6	3	4	7
c 1	c 2	c 4	c 5	c 3	c 6	c 7	c 8
Chelsea							
FR-5	8	1	2	6	3	4	7
c 2	c 1	c 4	c 5	c 3	c 6	c 7	c 8

c = Rank ordered class position as assigned by each town to the photograph indicated.

There is obvious agreement as to the most desirable places to live and the least desirable places to live. There is less agreement in the middle. (It should be remembered that the area most like Newton is FR-8, the area most like Watertown is FR-1 and the area most like Chelsea is FR-4). It is also obvious that the class position (shown by a "c" under the photograph number) assigned each photograph was not the sole criterion for choosing it as a desirable place to live, although it was clearly an important factor. For example, even though Newton thought an environment such as that shown in FR-5 would be the most desirable place to live they ranked it third in class position below FR-8 and FR-6. Similarly both Watertown and Chelsea subjects recognized FR-6 as higher class but did not feel that it was as desirable a place to live as FR-1 and FR-2. Their free comments would suggest that a combination of high density and lack of any feeling of empathy for the assumed residents caused them to place it as low as fifth choice.

In free responses to FR-8 a number of the Newton subjects mentioned the cost of maintaining homes of that size. One subject said they were considered "white elephants," which may explain why that photograph was not ranked first as a desired place to live.

It is probably not by chance that the Watertown subjects, who in free comments seemed most concerned with status, propriety and particularly ambition and neatness, ranked the photographs by class and by choice as a place to live in very nearly the same order.

The PA photographs present a more complicated pattern of preference. With the FR set of photographs there was general agreement as to the most desirable and the least desirable of the areas as a place to live, but with the PA set there was only agreement that PA - 4 would be the least attractive place to live. This is an understandable result. As mentioned before the FR set was chosen to represent a wider range of environments--going from very high to very low on the socio-economic scale--than the PA set. Most of the PA photographs, however, fell in the middle income and class range, objectively measured, but represented groups with different life styles. One would, therefore, expect a higher degree of agreement among the three groups in ranking the FR photographs where choices are being made from among environments which range from very good to very bad. Conversely, one would expect less agreement if choices are being made from among environments such as those in the PA set whose residents in socio-economic terms are fairly similar, but who vary in life style; environments which are in fact lived in by discriminably different subgroups of the broad middle class.

As the diagram of rank orderings for the PA set which follows shows, there is less agreement. In order to understand better the rank orderings of the areas shown with respect to their desirability as places to live ,I have included below the photograph number, a rank ordering of the class position and attractiveness of the area in that photograph. The rank ordered

class position is indicated by "c"; the rank ordered attractiveness by "a".

Choice As A Place to Live - PA Photographs

1st Choice	2nd Choice	3rd Choice	4th Choice	5th Choice	6th Choice	7th Choice	8th Choice
Newton							
PA-8	5	2	3	7	1	6	4
c 1	c 4	c 6	c 3	c 2	c 5	c 7	c 8
a 1	a 2	a 6	a 4	a 3	a 5	a 7	a 8
Watertown							
PA-2	7	5	8	1	3	6	4
c 6	c 3	c 2	c 1	c 5	c 4	c 7	c 8
a 3	a 2	a 4	a 1	a 5	a 6	a 7	a 8
Chelsea							
PA-2	7	1	6	5	3	8	4
c 5	c 2	c 6	c 4	c 7	c 3	c 1	c 8
a 2	a 1	a 3	a 5	a 4	a 7	a 6	a 8

c = Rank ordered Class position

a = Rank ordered Attractiveness

Some of the choices in the diagram are easily understood. For example, Newton thought the area shown in PA-8 was the highest class of the PA set of 8, that it was also the most attractive and picked it as their first choice as a place to live. At the opposite end of the scale they thought that the area shown in PA - 4 was the lowest class, was the least attractive and picked it as their last choice as a place to live. Watertown and Chelsea subjects agreed with Newton subjects on the last choice, but beyond that the towns agreed relatively little. Choices of a place to live were clearly not determined solely by their positions on class and attractiveness scales. Although it does not appear to be a strong pattern, the rank ordering according to attractiveness correlates more closely with ~~to~~ desirability as a place to live ~~closer~~ than class order does. That is, whether the area is seen as attractive seems to have a little more to do with the choice of place to live than its position on the class scale does.

Since class position and the degree to which an area was felt to be attractive or unattractive did not explain its choice as a place to live, I looked at some other measures which I felt would be important in making such a decision. With respect to PA-8 for example, Newton's choice is easy to understand but although Watertown subjects also thought it was the highest class area and the most attractive, they ranked it fourth as a place they want to live. Chelsea subjects also thought PA-8 was the highest class, but they did not think it was attractive and ranked it next to last as a desirable place to live. In looking for an explanation I scanned the paired adjectives used to describe PA-8. The only paired adjectives in which there were fairly strong differences and which differed in a way which I felt would account for the choices was the "Friendly-unfriendly" pair. The mean response of Newton Subjects was 3.8, the "friendliest" judgment made. A Watertown subject's mean response was lower on the scale at 4.3 and Chelsea subjects placed it at 4.8 on the scale, the unfriendliest" judgment made. I think this is part of an explanation. At least some of the rest of the explanation would have come out in free descriptions, I feel, but there were no free descriptions for the PA set of photographs. The particular door detail in PA-8, however, is the doorway of the house shown in the foreground of FR-6 for which there were free descriptions.

The nature of the free descriptions to FR-6 indicate to me great empathy and attraction toward the people assumed to live in PA-8 by the Newton subjects, less empathy and attraction by the Watertown subjects, and least by the Chelsea subjects. This would explain the choices made by the

three groups. In looking at PA-5 a similar pattern can be seen with respect to felt "friendliness" Newton ranked PA-5 second choice as a place to live, Watertown ranked it third and Chelsea ranked it fifth. Similarly of the three, Newton felt that people who lived there would be friendliest and Chelsea felt they would be least friendly. On a scale from lively to dull, of the three groups, Newton also felt the people would be"liveliest" and Chelsea felt they would be "dullest."

Similar feelings explain many of the other choices, but the mosaic of choices is not completely clear or understood. It is clear that perceived attractiveness is an important factor and perceived class is somewhat less important (but obviously still a factor). Further for one area one set of adjectives and their associated attitudes may be most salient, and in another area another set of adjectives and attitudes may be. As Michelson found in his thesis which investigated the relationship between value and orientations and urban form, different sets of criteria are used in "evaluating" a certain area than those used in "preferring" that area as a place to live. Michelson states:

> " People do not evaluate every housing type by means of a standard list of value orientations, instead their terms of evaluation differ according to what type of dwelling it is."[34]

---

[34] William B. Michelson, Value Orientations and Urban Form, PhD Thesis, Department of Social Relations, Harvard Univeristy, 1965, p. 149.

He found that when a single family house, for example, was being evaluated the subjects in his study used terms related to individualism and "doing" orientations, but when evaluating apartment buildings they used terms related to "instrumentality," (efficiency and functional concerns), "expression" (positive or negative affect) and class consciousness.

One thing that is obvious from the various rank orderings of the PA photographs is that when considering a choice of place to live strongly positive attributes for all three groups are open "space," single family homes and vegetation. Both Watertown and Chelsea ranked PA -2 as their first choice even though it was ranked sixth and third on the class and attractiveness scales by Watertown, and fifth and second on the same scales by Chelsea. Newton also placed this area of small single family homes fairly high on their preference rating, third specifically, even though they recognized it as sixth in class position and sixth, among the 8 photographs, on the attractiveness scale. The strength of this preference for single family homes with open space and vegetation as a place to live is impressive in the face of "negative" evaluations of it on other (more objective?) scales.

There are strong differences between the kind of homes and vegetation in photographs PA-2 and PA-5 and between the preferences and ratings of the three goups withrespect to these two areas. The following diagram of rank orderings for PA-5 shows the differences.

PA-5 Rank Orderings, "Place to Live" and Attractivness"

	Choice as a place to live	Class Position	Attractiveness
Newton	2nd	4	2
Watertown	3rd	2	4
Chelsea	5th	7	4

(It should be remembered that I am talking only about the original photographs in this discussion of rank orderings.)

This photograph was taken in a high income area of Wellesley Hills and was chosen because of the "understatement" of the architecture and unselfconsciousness of the landscaping--untouched open woods. I felt the three groups would evaluate this area differently and indeed they did. Surprisingly Watertown was more accurate with respect to class position, while Chelsea, as predicted, could hardly have been more incorrect. Presumably because of the attractiveness of the natural site, Newton subjects felt this would be a good place to live. Moreover, this kind of openness and naturalness was less appealing to the other two groups. Misinterpretations of such preferences of various groups to physical environments is a common occurence.

Architects and manipulators of the physical environment would be well advised to attempt a clearer understanding of these differences. ~~There is~~ A low cost housing project now under construction in Boston is an example of this kind of misunderstanding. ~~which~~ If is generally viewed by the architectural world as an attractive, thoughtful design. Conversations with the low income

people for whom it was designed, however, reveal quite different impressions. The unpainted concrete block being used in the building is generally approved as an "honest, natural" material by architects, but it is seen as a cheap material by the low income residents. It is further viewed by them as an attempt by "the powers that be" to pawn junk off onto them. The design which is angular, and has one-way sloped roofs reminiscent of unpretentious rural or industrial architecture, is again respected and liked by architects but apparently quite universally disliked by the people for whom it is being built. They view the architecture as another affront to them, an attempt to put them in "barns". There are of course, other factors involved in the antagonism. Primary among these is the total lack of voice the community has had in the preliminary stages of the design, a fact which is a sore spot with the community. But the existence of two very different sets of values with respect to the design is one of the factors which has given rise to controversy.

Similar differences of preferences in arrangements of the environment are apparent from the responses of the three groups in this study. These will be discussed in the following pages.

STRENGTH OF CUE CHANGES

On the following pages are tabulated results of responses before and after cue changes were made in the photographs. Both are the FR and PA sets

of photographs are included in this tabulation. For both sets the most frequently used measure was class position as assigned by the three towns. In the case of the FR photographs this was of course the only quantified measure available. With each cue category I have briefly stated the effect I expected each cue change to have on the responses of the different groups in the study and indicated whether this expectation was supported.

FIGURE 14: Measured Change in Responses Due to Cue Changes

Cue Categories	Hypotheses	Photo # Set #	Measurement	Original	After Cue Change		Comments
House size	All groups will positively correlate house size with class	FR-2 S-4	Class Scale	N: 3.4 W: 3.9 C: 4.4	3.0 2.6 3.5		All towns support hypothesis
					Wh.	Ne.	
Children (Black and White)	White children added to the environment will change only the judgment of age of residents, and activity of area. Negro children added to an environment will change judgments of age of residents, activity of area, class position and wealth.	PA-1 S-3 (Wh.) S-4 (Ne.)	Class Scale	N: 4.0 W: 4.1 C: 4.3	4.0 4.1 3.8	4.5 4.9 4.9	Hypothesis weakly supported
			Young-Old Scale	N: 4.5 W: 4.8 C: 4.9	3.2 3.5 3.5	3.2 3.4 3.4	Hypothesis Supported
			Dull-Lively Scale	N: 4.7 W: 4.9 C: 4.2	3.6 3.8 4.0	3.5 3.2 3.0	Hypothesis Supported
			Rich-Poor Scale	N: 3.9 W: 3.6 C: 3.8	3.9 4.0 3.9	4.1 4.0 4.0	Hypothesis NOT Supported
			Friendly-Unfriendly Scale	N: 2.9 W: 3.2 C: 3.1	2.3 2.8 2.6	2.7 1.8 1.6	W. and C. considered Negro area friendlier
Vegetation and Landscaping	Addition of vegetation in an environment will raise the class position and perceived relative wealth and influence of an area	FR-3 S-4	Class Scale	N: 5.5 W: 5.0 C: 5.3	3.5 3.5 3.0		Hypothesis Supported
		FR-7 S-2	Class Scale	N: 6.0 W: 6.8 C: 6.8	5.7 6.0 5.0		Hypothesis Supported
		PA-4 S-3	Class Scale	N: 5.2 W: 5.7 C: 5.8	3.5 4.7 3.4		Hypothesis Supported

(S = Set; N = Newton; W = Watertown; C= Chelsea; Wh. = White; Ne. = Negro.)
(1 = positive end of scale; 7 = negative end of scale.)

FIGURE 14: Measrued Change in Responses Due to Cue Changes - Continued

Cue Categories	Hypothesis	Photo # Set #	Measurement	Original	After Cue Change	Comments
Vegetation and Landscaping (continued)		PA-4 S-3	Influential/Uninfluential	N: 5.7 W: 5.2 C: 5.7	3.6 4.5 4.0	Hypothesis Supported
	Lower class subjects will position "manicured" landscaping higher on a class scale than subjects from an upper class will. Conversely higher class subjects will position landscaping with "natural" qualities higher on a class scale and find them more attractive than lower class subjects wil. This will happen regardless of architecture in the landscape.	FR-5 S-1, 2&3	ClassScale Aver. mean for 1,2,3.	N: 2.9 W: 3.0 C: 2.7		Hypothesis supported but not as strongly as comments from free responses would have indicated
		PA-5 S-2, 3&4	ClassScale Aver. mean for 2,3&4	N: 2.6 W: 2.2 C: 2.9		
		PA-5 S-2, 3&4	Attractive/Unattractive Scale, Aver. mean for 2,3&4	N: 2.3 W: 2.4 C: 2.4		NOT supported. Note: PA-5 was high on the list as a desireable place to live with Chelsea subjects.
Religious symbols, statuary, icons and other symbols	A statue of the Virgin Mary will result in more positive evaluation in a highly Catholic area and more negative evaluations in a highly Protestant area.	FR-5 S-4	Class Scale	N: 2.2 W: 2.1 C: 2.1	2.8 1.9 2.0	Hypothesis Supported
	Relative to one another a statue of the Virgin Mary will increase the mean age and decrease the assumed activity level and a piece of modern sculpture will decrease mean age and increase assumed activity level.	PA-6 S-2 (sculp.) S-3 (Virgin)	Age Scale	Sculpt. N: 3.4 W: 3.9 C: 3.0	Virgin 4.4 4.2 4.7	Hypothesis Supported
			Lively/Dull Scale	N: 2.8 W: 3.3 C: 3.1	4.3 3.4 4.0	Hypothesis Supported
	An environment such as PA-4 with "Veritas" as a cue will be recognized as a student area and be judged as younger by the higher class group. Removing "Veritas" will weaken the differences between the judgments of the three towns.	PA-4 S-2	Young/Old Scale	N: 3.3 W: 3.7 C: 4.8	3.2 3.8 4.4	First part of Hypothesis supported. Second part Not. Newsees area as younger but removal of Veritas does not change judgment.

FIGURE 14: Measured Change in Responses Due to Cue Change - Continued

Cue Categories	Hypothesis	Photo # Set #	Measrue-ment	Original	After Cue Change	Comments
Maintanence of area; trash and litter	All groups will downgrade an area on class, relative wealth and other scales if there is trash in the area. Further, a middle income group will make the strongest negative comments.	FR-6 S-2	Class Scale	N: 1.9 W: 2.5 C: 2.5	4.3 4.2 4.4	General hypothesis supported, but middle income group did not react more strongly according to this measure.
Maintanence of Buildings	Architectural quality or character is more salient for a high income sample in determining class than state of repair, i.e. poor maintanence will make less different in evaluation of an upper class group.	FR-6 S-4	Class Scale	N: 1.9 W: 2.5 C: 2.5	2.8 3.2 5.0	Hypothesis Supported. Newton devalued the area least.
Architectural Details: Fence	An elaborate and expensive wooden fence added to an area will raise the perceived class of the area; it will also increase feelings of unfriendliness.	FR-7 S-3	Class Scale	N: 6.0 W: 6.8 C: 6.8	5.0 5.8 5.3	Hypothesis Supported.
		PA-1 S-2	Class Scale	N: 4.0 W: 4.1 C: 4.3	3.8 3.0 3.0	Hypothesis Supported.
			Friendly/ Unfriendly Scale	N: 2.9 W: 3.2 C: 3.0	4.0 3.9 3.1	Chelsea did not supported the hypothesis. Newton and Watertown did.
Architectural Details: Shutters	Shutters and ornate detailing on old, historically important buildings enhances the perceived class of assumed residents of area.	FR-6 S-3	Class Scale	N: 1.9 W: 2.5 C: 2.5	3.0 3.0 3.2	Hypothesis Supported

FIGURE 14: Measured Change in Responses Due to Cue Changes - Continued

Cue Categories	Hypothesis	Photo# Set#	Measurement	Original	After Cue Change	Comments
Architectural Details: Building Materials	An aluminimum screen door added to a well maintained colonial house will lower the class position of the assumed residents. Relative wealth and influence will also be judged lower. These will change more for an upper class viewer than for a a lower class one. Asphalt siding will have the same effect. Both together will have a still stronger negative effect.	PA-8 S-2 (door)	Class Scale	N: 1.7 W: 2.1 C: 2.2	3.0 3.0 2.8	Hypothesis Supported.
		PA-8 S-3 (siding)	Class Scale	N: 1.7 W: 2.1 C: 2.2	3.3 3.8 3.3	Hypothesis Supported.
		PA-8 S-4 (both)	Class Scale	N: 1.7 W: 2.1 C: 2.2	4.3 4.9 3.3	Hypothesis Supported.
Density	Lowering density in a development will enhance class position.	PA-2 S-3	Class Scale	N: 4.0 W: 4.2 C: 4.2	4.0 2.9 3.3	Watertown and Chelsea supported the hypothesis. Newton did not.
Street Corner Crowd	The upper class group will devalue the area in class terms; the lower class will see no difference.	PA-2 S-4	Class Scale	N: 4.0 C: 4.2	4.6 3.6	Hypothesis Supported.

Other cues did not produce statictically significant results.

DISCRIMINANT ANALYSIS PROGRAM: Manipulation of Adjectives, Class and Attractiveness Scales.

One of the things I wanted to find out was in what ways ~~in~~ each of the groups would look at environmental cues that would be different from the ways other groups would look at them. More specifically, how the responses of one group would be different from those of the other groups. This would tell me the cues which were important ones to differentiate one group from the others.

The computer program that is designed to do this best is Discriminant Analysis. It will look at up to 80 variables, weighing responses in such a way as to maximally "separate" a given number of groups. In my study this number of groups was 12; one for each of the four Photo Sets for each of the three towns. By comparing the pattern of responses to each of the variables by the different groups, the program identifies those variables which best differentiate the groups.

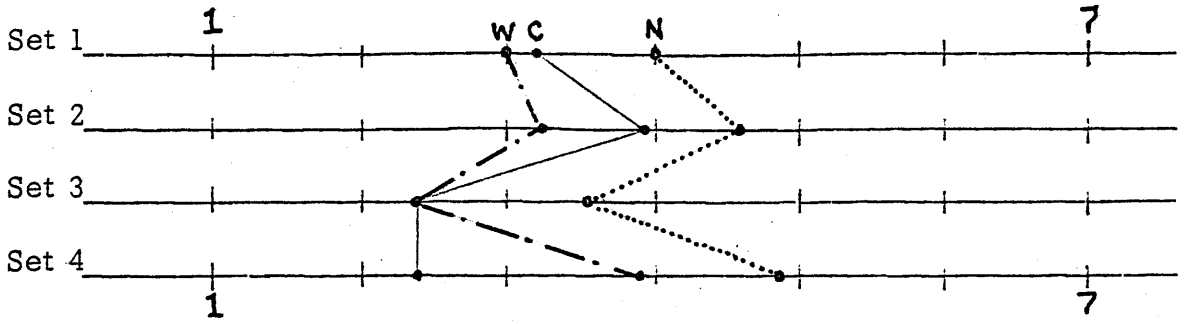
Using first the three towns and then the four photo sets as groups and most of the responses to the paired adjectives to the attractiveness-unattractiveness scale and to the High Class--Low Class scale as variables, I identified 49 variables which were most effective in differentiating the sample both by photo sets and by towns. With this information I then submitted all 12 groups (4 photo sets for 3 towns) and the 49 variables for analysis.

PHOTOGRAPHY PA-1

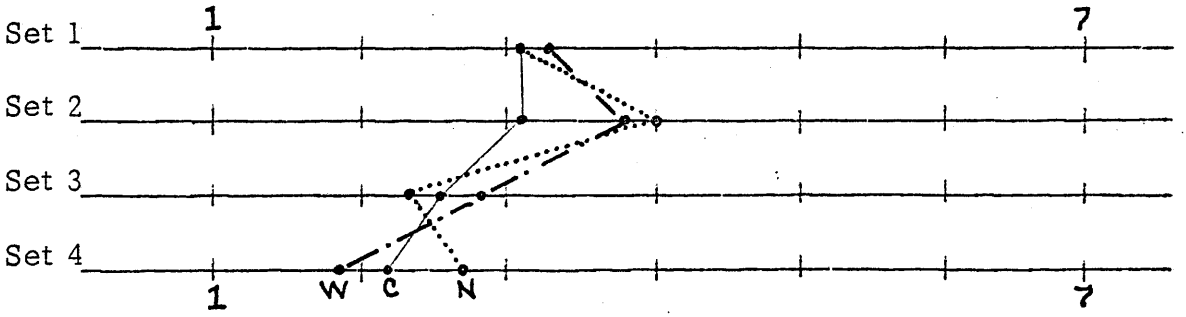
I will show in graphic form the results of the variables which were

most interesting from this run, and discuss what I feel is significant about the results. Photograph PA-1 (shown in plate 9) showed interesting results because of differences in the responses due to cue changes or differences due to town or both. Below are four graphs of the results:

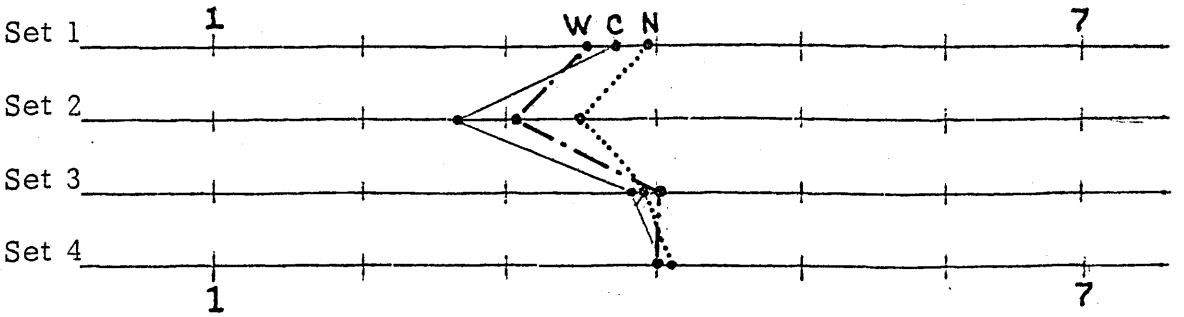
PA-1 Assessment by Photo Set and Town on Attractiveness-Unattractiveness Scale
(1 = Attractiveness, 7 = Unattractiveness)



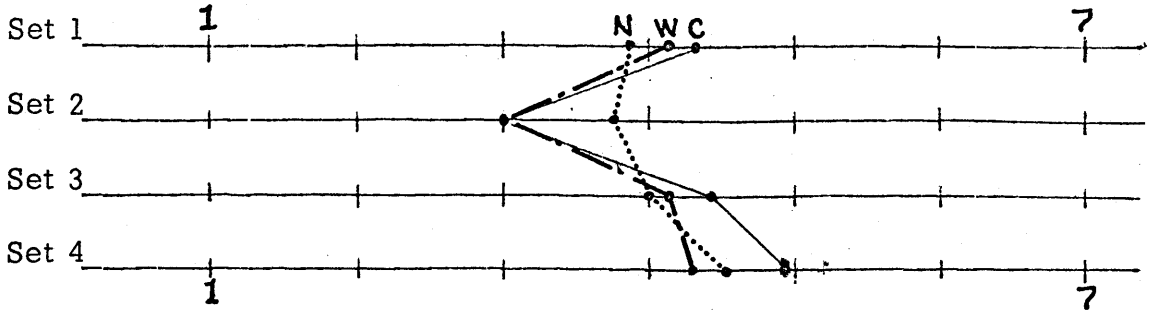
PA-1 Assessment by Photo Set and Town on Friendly-Unfriendly Scale
(1 = Friendly, 7 = Unfriendly)



PA-1 Assessment by Photo Set and Town on the High Class - Low Class Scale
(1 = High Class, 7 = Low Class)



PA-1 Assessment by Photo Set and Town on Rich-Poor Scale
(1 = Rich, 7 = Poor)



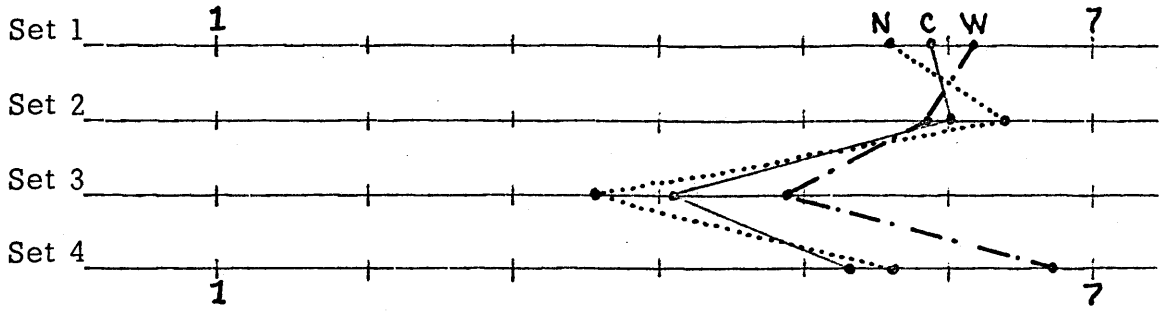
There are a number of interesting suggestions from these graphs. I was surprised that Newton found the area (see Plate 9) less attractive than either Watertown or Chelsea; this was true for the original and all the changes. The photograph was taken just off Brattle Street in a solidly upper-middle class area of Cambridge and is typical of the large uniquely New England Style of house. I expected the Newton group to identify more positively with the area than either of the other towns. They in fact did place it at about the same spot on the class scale, though this was lower than in reality was the case, even if they did not find it as attractive.

The addition of a fence created the same response in all groups; less attractive and less friendly, but richer and higher class. As noted in the FR set, the addition of white children changed responses from the original (set 1) relatively little, while the addition of Negro children made the area less attractive but friendlier, changed the judgment of relative wealth very little but made the class position drop somewhat.

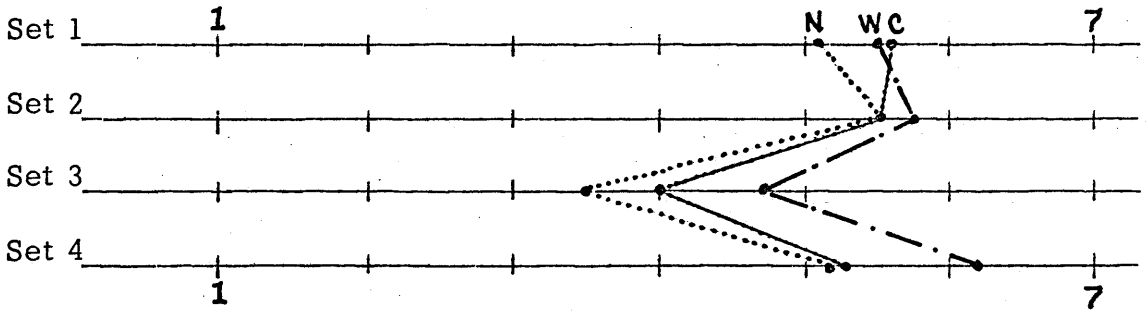
PHOTOGRAPH PA -4

This photograph series shown in Plate 12 yielded amazingly consistent responses from all three towns. Further the 5 variables which were used all followed the same patterns. The patterns for three of these variables are shown below:

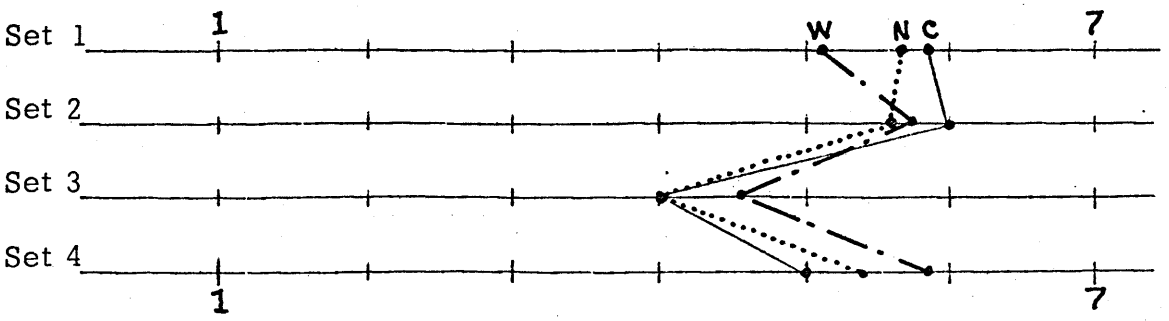
PA-4 Assessment by Photo Set and Town on Attractive-Unattractiveness Scale
(1 = Attractive, 7 = Unattractive)



PA-4 Assessment by Photo Set and Town on High Class--Low Class Scale
(1 = High Class, 7 = Low Class)



PA-4 Assessment by Photo Set and Town on Influential-Uninfluential Scale
(1 = Influential, 7 = Uninfluential)

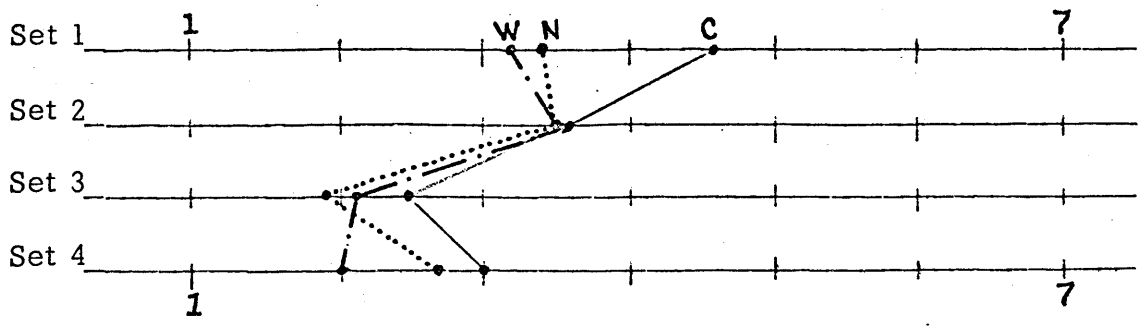


There were two other variables which I have not shown, primarily because of their similarity to those shown. They were Rich-Poor and Industrious-Lazy scales, and they were similar in magnitude and position on the scale to the Class and Influence Scales. The addition of vegetation in Set 3 made a large difference in responses for all the variables, but neither of the other two changes had much effect. The removal of "veritas" which was written on the wall in the original, may account for the slight drop in evaluation of both Attractiveness and Class in the eyes of the Newton subjects, but the evidence is weak. The remarkable thing about the responses to this photograph is the consistency of opinion among the three groups and the high degree of correlation of all the variables used to measure responses.

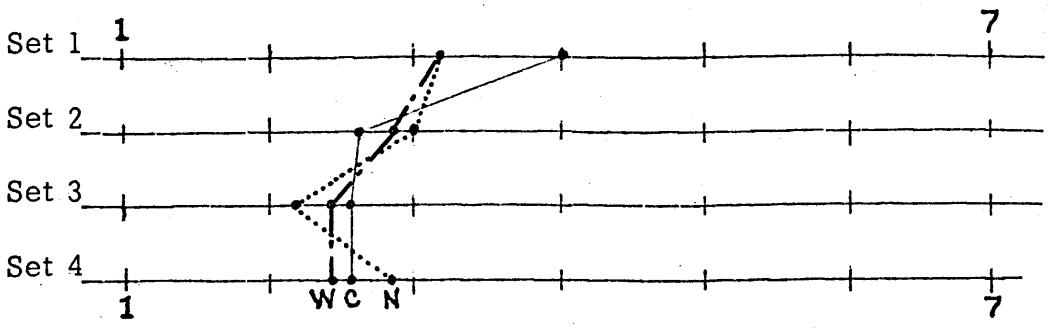
PHOTOGRAPH PA-5 (shown in Plate 13)

Responses to this photograph covered a wider range from high to low on most of the scales than was true for any other photograph. Within the towns estimates of class, for example, went from 1 to 7 in both Watertown and Chelsea and from 1 to 6 in Newton. The three scales used for PA-5 are shown below:

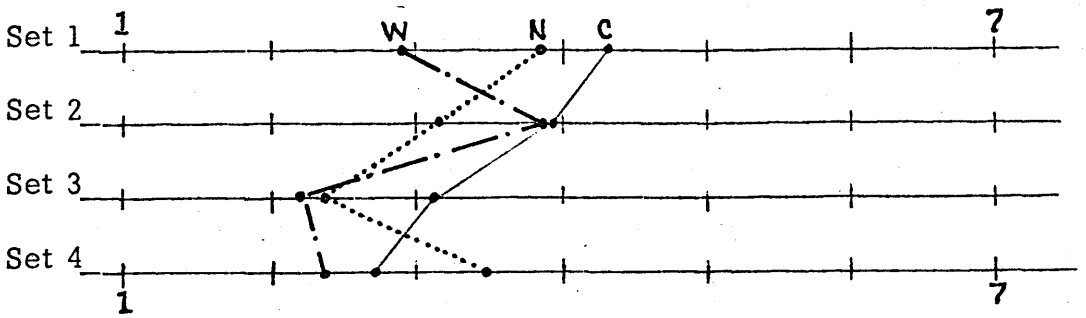
PA-5 Assessment by Photo Set and Town on High Class - Low Class Scale
(1 = High Class, 7 = Low Class)



PA-5 Assessment by Photo Set and Town on Rich-Poor Scale
(1 = Rich, 7 = Poor)



PA-5 Assessment by Photo Set and Town on Influential-Uninfluential Scale
(1 = Influential, 7 = Uninfluential)



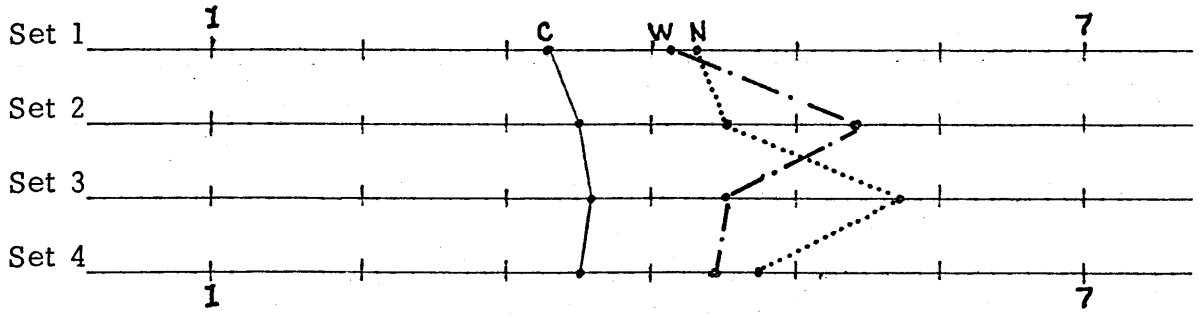
Chelsea subjects, with few exceptions, rated the area as somewhat lower in class, less influential and poorer than the other towns did. There was not as large a difference with any of the photographs in which cue changes had been made as with the original. The interesting point about the Chelsea responses, however, is the difference between Photo Set 1 and the other three. The original house in Photo Set 1 is a large, expensive, wood shingle house in Wellesley Hills. Chelsea subjects drastically underestimated the actual position on all of the scales that people who would live in Photo Set 1 would enjoy. It was, I feel sure, the weathered wood shingles of the house and the natural open woods of the site that caused the Chelsea

subjects to underrate the status of people who would live in such an area. Almost all subjects from all three towns seemed to agree that the house shown in Photo Set 3 would belong to people with more money and influence and higher on the class scale than the residents in the other photo sets of PA-5.

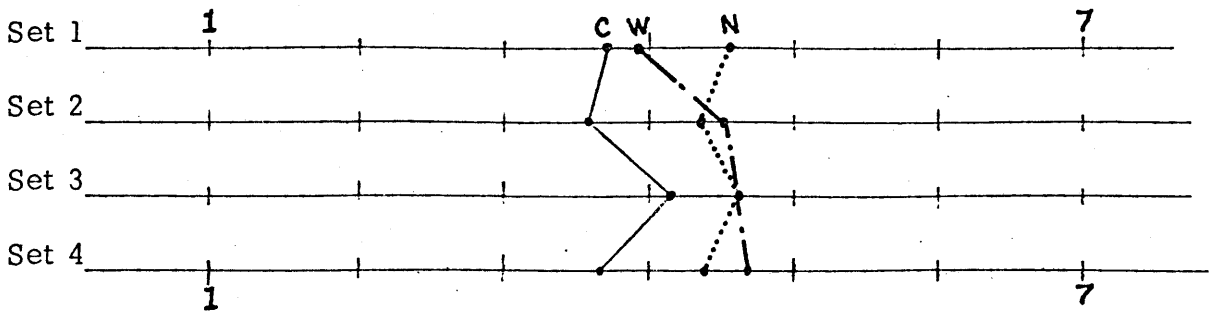
PHOTOGRAPH PA-6

This photograph (shown in Plate 14) was taken in an area in Providence, Rhode Island which is close enough to Brown Univeristy to have a student population, but which also has middle and working class components. In the three scales which are shown below, Chelsea subjects, whose environment it comes closest to matching, rated it higher on the class and attractiveness scales than the other towns did.

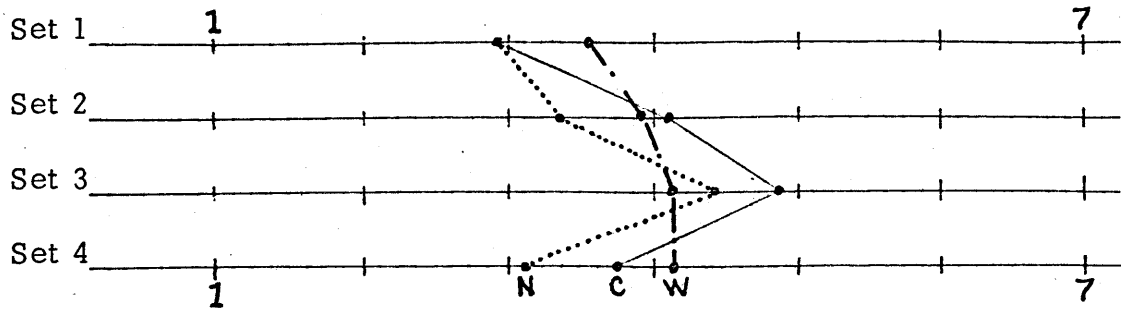
PA-6 Assessment by Photo Set and Town on Attractiveness-Unattractiveness Scale
(1 = Attractive, 7 = Unattractive)



PA - 6 Assessment by Photo Set and Town on Rich - Poor Scale
(1 = Rich, 7 = Poor)



PA-6 Assessment by Photo Set and Town on Young - Old Scale
(1 = Young, 7 = Old)

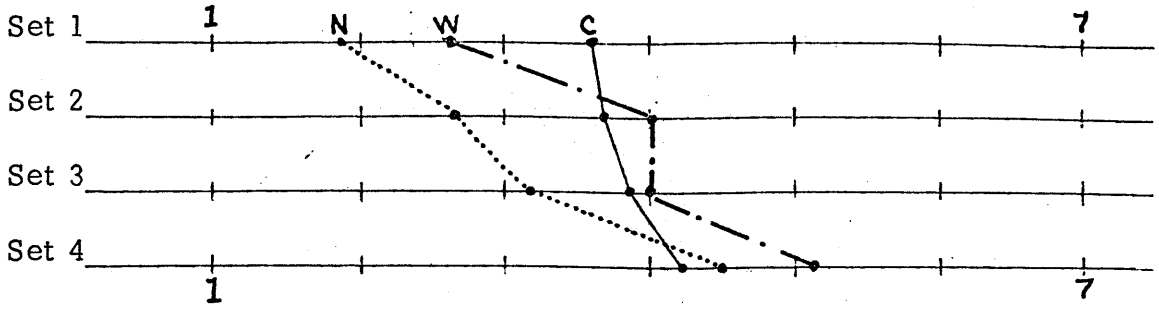


Chelsea judged the area to be a higher class and more attractive than Newton and Watertown felt it to be, but all were more in agreement on the age scale. Photo Set 1 which contained a Volkswagen was seen to be the area in which younger people would live. Photo Set 3, with the older American car replacing the Volkswagen and a statue of the Virgin Mary was seen to be the area relative to the other three, in which older people would live. The cue of a statue of a Negro "coach boy" in Photo Set 4 made little change. One reason may have been that it was somewhat hard to distinguish and I cannot be certain that it was seen. It might also have been a cue that would cause little measurable difference in response.

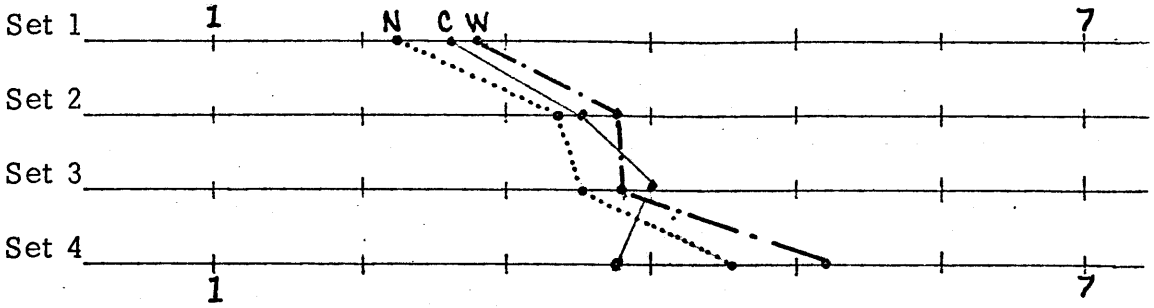
PHOTOGRAPH PA-8

The detail shown in this photograph (Plate 16) is the doorway of the building in the foreground of FR-6 (Plate 6). The scales below show that the Chelsea group is distinguishing between what they feel is attractive and what they recognize to be an indication of high income residents:

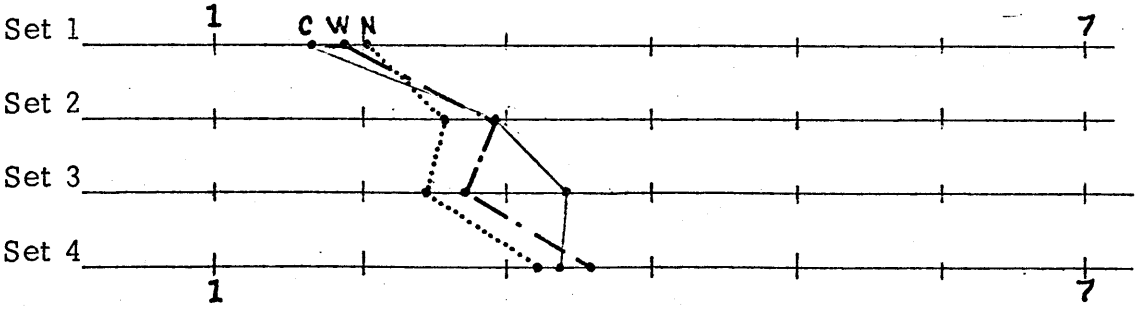
PA-8 Assessment by Photo Set and Town on Attractive-Unattractive Scale
(1 = Attractive, 7 = Unattractive)



PA 8 Assessment by Photo Set and Town on Rich - Poor Scale
(1 = Rich, 7 = Poor)



PA-8 Assessment by Photo Set and Town on Influential-Uninfluential Scale
(1 = Influential, 7 = Uninfluential)



In the attractiveness scale it can be seen that the Chelsea subjects viewed the area in its original version as less attractive than it was seen to be by Watertown or Newton. However, after both asphalt siding (to replace the original brick) and an aluminum storm door (to replace the

original panelled wood one) were added, Chelsea subjects viewed it as more attractive than Watertown or Newton did. After seeing this response by the Chelsea subjects I was a little surprised that they agreed as closely with the other towns on the Rich-Poor scale as they did. They were able to interpret the physical cues indicative of wealth and influence with fair accuracy but didn't change their feelings about the attractiveness of these cues. It is interesting that the two cues (aluminum door and asphalt siding) when combined made no greater effect than either of the two by ~~them~~ itself.

CORRELATIONS OF PAIRED ADJECTIVES

In Chapter III, I discussed the selection of adjectives to include in the adjective checklist. I referred to the work of Osgood, Suci and Tannenbaum and to their contention that when a person perceives himself, other persons, events or any other stimulus the discriminations made are in terms of three scales or factors. The scales are the following:

Affect = Like-Dislike

Potency = Weak-Strong

Activity = Active-Passive.

I felt that if the adjectives I chose were equally distributed among these three scales then the subjects should respond such that there would be strong intercorrelations among adjectives within each of the scales above, and weaker intercorrelations between adjectives which were not on the same scale. For example, friendly-unfriendly and happy-unhappy are

adjective pairs which are related to the affective scale and I would expect them to strongly intercorrelate in responses to the photographs. Similarly, wealthy-poor and influential-unifluential are adjective pairs which are related to the Potency scale and I would expect them to strongly intercorrelate. I would not expect as strong a correlation between the happy-unhappy pair of adjectives and the influential-uninfluential pair as they are on separate scales.

To put this into the form of a hypothesis: there will be greater intercorrelations among adjectives on the same scale (affect, potency, activity) than among adjectives on different scales.

This hypothesis was only partially substantiated. One difficulty in observing the patterns of intercorrelations was the fact that in some of the photographs virtually all of the adjective pairs correlated with one another. In PA-5 the 9 adjective pairs on the adjective checklist and the attractiveness and class scales were so strongly intercorrelated with one another that no pattern could be discovered. The following figure shows the rank orderings of PA photographs from those in which positive intercorrelations were most frequent to those in which the intercorrelations were least frequent. All three towns are included. Three rank orderings are shown:

1. The adjectives with adjectives; i.e. when a subject said that people in an area were friendly he also said they were wealthy, happy, influential, etc. (Conversly if he said they were unfriendly he also said they were poor, unhappy and uninfluential).

2. The adjectives with the attractiveness scale, i.e. when a subject said that an area was attractive he also said the people who live there were friendly, wealthy, influential, etc.

3. The attractiveness and class scales; i.e. when a subject said that an area was attractive he also said that the people who lived there were high class.

Intercorrelations Among Various Scales for the PA Photographs
(1=most intercorrelation, 8 least intercorrelation)

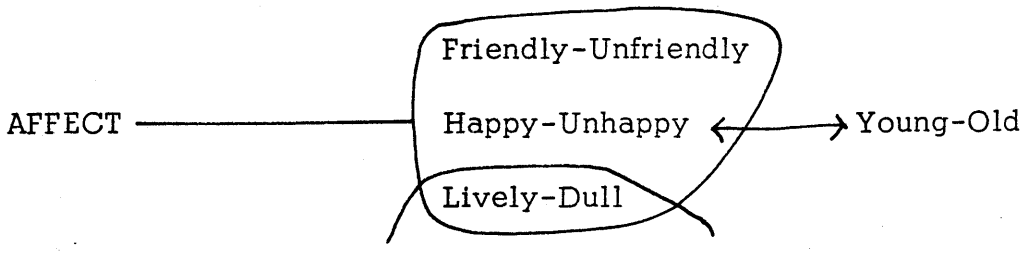
	Adjectives with Adjectives	Adjectives with Attractiveness	Attractiveness with High Class
PA-5	1	1	1
PA-4	4	2	2
PA-7	2	5	3
PA-3	3	4	4
PA-8	7	3	5
PA-6	5	6	6
PA-2	6	7	7
PA-1	8	8	8

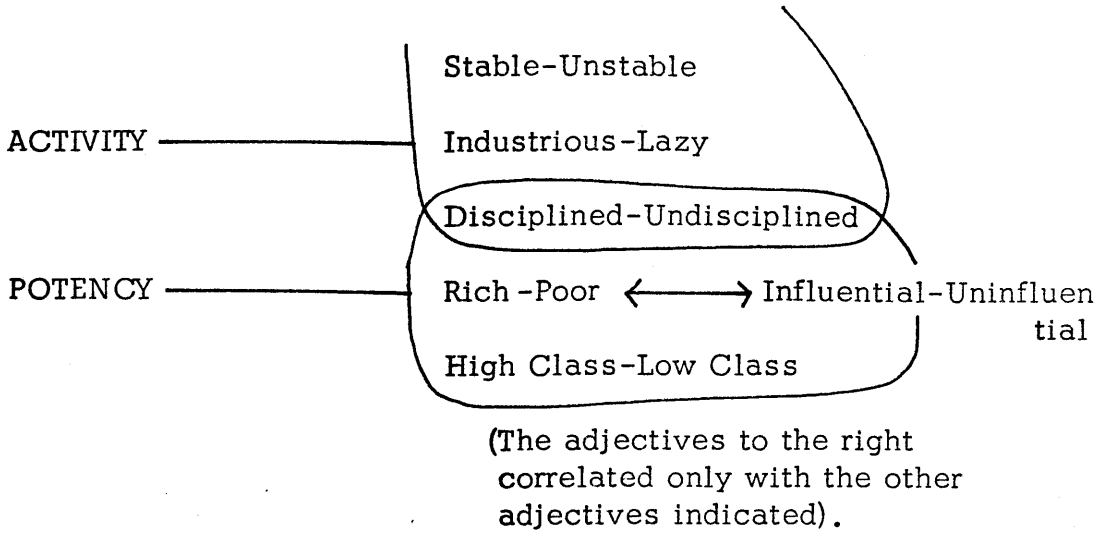
The same photographs that elicited strong correlations among all the descriptive variables also had a larger standard deviation. That is there are more views which were diversified from the mean for the sample. This combination indicates that for these photographs there is greater disagreement as to what the attributes contained in the photograph mean, and there are different values inferred from the attributes. The rank ordering from the photograph in which there were the highest number of inter-correlated adjectives shows PA-5 at the top of the list. We can infer from this that

among the individual members of the entire sample there was a lot of disagreement. PA-4 was second on the list. A rather unique group lives in both of these areas and it is not surprising that there are divergent views and that different values from positive to negative are assigned to the adjectives describing the areas and their residents. In PA-5 there are high income residents who enjoy simple, natural materials and landscaping. In PA-4 are young couples and students whose life style is obviously differently understood and valued by individuals in the sample. At the other end of the list with PA-2 and PA-1 there is apparently greater similarity in the understanding of the attributes and greater selectivity in the correlating of adjectives. That is, adjectives were correlated in groups rather than all intercorrelating with one another.

Only among those photographs in the bottom half of the list were the patterns on intercorrelations clear enough to support the hypothesis. Below are two diagrams showing the patterns of intercorrelations. Adjectives which are intercorrelated are drawn with circles around them. On the left is the scale from Osgood, Suci and Tannenbaum which I feel goes with the intercorrelated adjectives.

Intercorrelations for Photograph PA-2

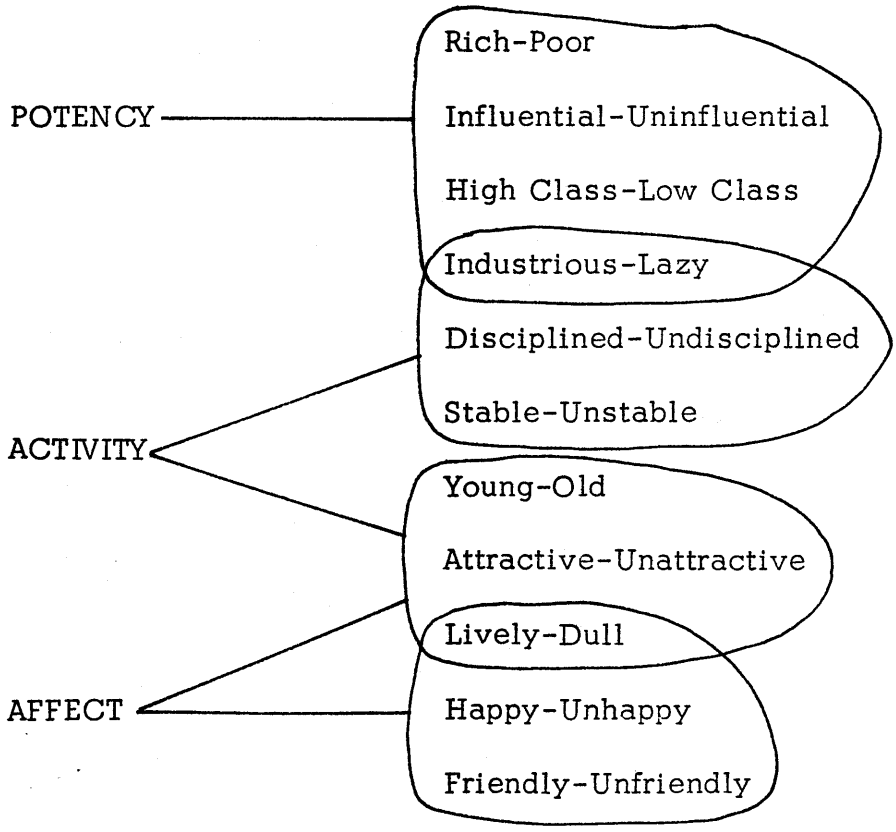




(The adjectives to the right correlated only with the other adjectives indicated).

There is some overlap, but it is obvious that adjectives which intercorrelate strongly tend to relate to one or the other of the three factors on the left.

Intercorrelations for Photograph PA-8



I feel the hypothesis is supported as the adjectives which are

intercorrelated fall easily into groups which can be specifically related to one of the three factors. There is some overlap, but it seems apparent that from environmental cues the subjects have responded in patterns which express their feelings toward the area and its residents in terms of Affect, Activity and Potency.

NATURES GROUPS PROGRAM

Not much need be said about the results of the Natures Groups program. The program sorts out from many variables, response patterns which identify in n-dimensional space clusters of similar person, i.e. persons who responded similarly to all the variables. The groups which were identified by the program, using only the responses to the photographs as the basis of forming these groups, could most easily be distinguished from one another on the basis of their education, their occupation and their income. There was, of course, a tendency for the groups formed by the Natures Groups Program to coincide with the higher, middle and lower class groups which made up my sample. This was not strictly true for in each group although there was a predominance of subjects from one of the three towns there were some subjects from the other towns. When this mixing occurred, however, it was usually because the education or occupation of the group members were similar. I feel that there are other important dimensions about which I had no information, however, that would explain some apparent mismatchings in the formation of natural groups. I had no knowledge, for example, of the psychological characteristics of the sample, and I would expect this to be an important factor.

CHAPTER SIX: SUMMARY

The most basic hypothesis with which I began this study states that: Social attitudes, positive and negative, can be formed by one group of persons toward another group on the basis of visual, physical attributes alone. There is no question but that this is true. Using both free and structured responses the subjects revealed a high degree of consistency in making social inferences from physical cues contained in the photographs they were shown. There was greater consistency within each of the groups than across groups, but the degree to which subjects from different classes agreed on the social meaning of a wide range of physical cues was surprising.

The most significant differences which were observable among the three classes which made up the samples were the following:

1. The middle class group, Watertown, was in fact, much more concerned with many values which have been stereotypically identified with their class. They responded more strongly to signs of neglect or "laziness" in the maintenance of areas shown in the photographs. They were much more likely than either of the other groups to make inferences regarding the character or morality people they assumed to live in the areas shown. These inferences, which were often negative, were directed not only at supposed members of the lower class who because of poorly maintained areas were felt to be "irresponsible" or "shiftless" but also at the upper class, who living in impeccably maintained

large houses, were felt to be "aloof" or "not concerned with the community".

2. The lower class group, Chelsea, showed much less consistency within the group in making inferences from the environmental cues. Implicit in this is the related fact that they were necessarily less accurate in their inferences, since a number of divergent views can't all be right.

3. The upper class group, Newton, was the most restrained in making inferences as to the character or morality of the people they felt would live in the areas shown. They were the most accurate in their inferences by objective measure, though little more than Watertown. They were able to interpret more accurately the gamut of environments, especially higher income, older areas with their associated symbols.

4. All groups made finer distinctions, or responded with a larger number of subtilties, to photographs of areas that were similar in socio-economic status to their own. This tendency was much more marked at the upper and lower end of the scale. Newton, for example, considered two low income areas to be more similar to one another than Chelsea considered them to be; one of the areas Chelsea residents felt was similar to their own and the other they felt was a cut below them.

The three groups showed a preference for certain cues, these varying from one group to the other and gave differing weights to the cues used, i.e. a cue which for one group was not important in making a judgment might be quite important to another group. Subjects would scan the photographs attending to certain cues (attributes) and ignoring others until they formed a gestalt of the area and the people living in it. Some subjects would not refer to the photographic stimulus again as they answered a number of questions about it, others would refer again and again to the photograph seeking out new or needed cues to aid in their decision making.

Newton subjects placed great emphasis on such things as architectural detailing and the quality of materials. Aged but good brick was in itself an important cue for Newton subjects, but counted for less with Chelsea subjects. Many other instances of cues which have strong positive or negative connotations are mentioned in the preceding pages.

Perhaps what is important about having this kind of information is that its use might allow the surveyors of environmental change to make fewer mistakes when designing an environment for a specific class group. Natural, unplanned landscaping, or "rustic" unfinished materials may mean one thing to a Newton resident, and mean something else to a Chelsea resident. To the Newton resident it may be a retreat to unpretentious naturalness while to the Chelsea resident it may be viewed as the sort of "unpretentious naturalness" from which he hopes to escape. His aspirations may be toward the technologcially progressive symbols of a society geared toward consumption. The "natural" is too much a part

of his recent past to have the same meaning it has for a Newton resident.

This study supports the contention that class differences of the sort mentioned above exist and that judgments of the social structure of urban areas are differentially made according to these prejudices. What should be remembered is that when an environment is being planned for the occupancy of a specific group, the values in terms of physical arrangements, materials and symbols of the occupying group should be carefully understood and provided for. Environments should be made for the satisfaction of the residents and not for the satisfaction of the peer group of the designer. What should also be remembered is that any environment is telling the rest of society a great many things about the people who are living in it. For example, public policy is being forced away from certain kinds of physical arrangements for public housing because the image of public housing design, to say nothing of the underlying policies and administration of public housing, has become anathema to most people. These associations are clearly seen in this study.

Being more responsive to the values held by various groups toward the physical environment does not necessarily create a conflict with order or quality of design. There are clouds of confusion that surround such words as "order" and "quality" but they are not made more or less illusive by understanding the basic patterns of perception of the environment. I am not concerned here with problems of "taste setting" in the housing market, but with a greater understanding of the attributes to

to which different groups attend. It is these areas in which those hoping to create better environments can productively direct their attention.

There are a number of changes I would make in my study if I were to do it again. In some cases I felt the cues which were changed were too unimportant in relation to stronger attributes in the environmental context. It was hence difficult to know if I had properly measured the responses of the subjects to these cues, or if they had gone unnoticed. It was obviously impossible to find out any way other than by a change in response whether or not the cue had been seen--the subjects could not be asked.

Secondly, and more importantly, I think the open ended and closed ended sections of the interview could have been coordinated to better advantage. If the interviewing had been done in two stages, with the first stage the free response questions, the second stage could benefit from the information gathered from the free responses and be more tightly structured. It would also have been good to relate more often than was possible free responses and structured responses to the same photograph.

APPENDEXES

INTERVIEW INSTRUMENT A

Here are some photographs which I will show you one at a time. For ach one I show you I would like for you to tell me anything you can about he people you think live there. Please look carefully at each photograph efore answering.

PHOTO #	CONFIRM PHOTO NUMBER	RESPONSE	(AFTER EACH PHOTO ASK: What was it in the photograph that made you say that?) CLUES
R-1			
R-2			
R-3			
R-4			

PHOTO #	CONFIRM PHOTO NUMBER	RESPONSE	(AFTER EACH PHOTO, ASK: What was it in the photograph that made you say that?) CLUES
FR-5			
FR-6			
FR-7			
FR-8			

Have you ever lived in an area like any of these?

FR1	FR2	FR3	FR4	FR5	FR6	FR7	FR8
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
No	No	No	No	No	No	No	No

Now consider the homes of people you visit: are any of them like these?

FR1	FR2	FR3	FR4	FR5	FR6	FR7	FR8
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
No	No	No	No	No	No	No	No

Now would you tell me how you feel about the way these areas look. I want for you to think only about the way the buildings and the general area look. Try not to think about the people who you feel would live there.

ATTRACTIVE - UNATTRACTIVE

Very ATTRAC-TIVE	ATTRAC-TIVE	Somewhat ATTRAC-TIVE	Neither One nor The Other	Somewhat UNATTRAC-TIVE	UNATTRAC-TIVE	Very UNATTRAC-TIVE
Photo No. PA1						
VA	A	SA	N	SU	U	VU
Photo No. PA2						
VA	A	SA	N	SU	U	VU
Photo No. PA3						
VA	A	SA	N	SU	U	VU
Photo No. PA4						
VA	A	SA	N	SU	U	VU
Photo No. PA5						
VA	A	SA	N	SU	U	VU
Photo No. PA6						
VA	A	SA	N	SU	U	VU
Photo No. PA7						
VA	A	SA	N	SU	U	VU
Photo No. PA8						
VA	A	SA	N	SU	U	VU

E

On these sheets of paper are some words often used to describe people; such as friendly, unfriendly, wealthy, poor etc. I will show you some photographs and I would like for you to tell me which of the possibilities listed best describes the people you think would live there. For instance - (INTERVIEWER EXPLAIN INFORMALLY). Please look carefully at the photograph before answering each question.

FRIENDLY-UNFRIENDLY

Very FRIENDLY	FRIENDLY	Somewhat FRIENDLY	Neither one Nor the other	Somewhat UNFRIENDLY	UNFRIENDLY	Very UNFRIENDLY

F(1-8)

Photo No._____ (PA1 through PA8)

FRIENDLY-UNFRIENDLY

Very FRIENDLY	FRIENDLY	Somewhat FRIENDLY	Neither one Nor the other	Somewhat UNFRIENDLY	UNFRIENDLY	Very UNFRIENDLY

POOR-WEALTHY

Very POOR	POOR	Somewhat POOR	Neither one Nor the other	Somewhat WEALTHY	WEALTHY	Very WEALTHY

UNHAPPY-HAPPY

Very UNHAPPY	UNHAPPY	Somewhat UNHAPPY	Neither one Nor the other	Somewhat HAPPY	HAPPY	Very HAPPY

INFLUENTIAL-UNINFLUENTIAL

Very INFLUENTIAL	INFLUENTIAL	Somewhat INFLUENTIAL	Neither one Nor the other	Somewhat UNINFLUENTIAL	UNINFLUENTIAL	Very UNINFLUENTIAL

ELDERLY-YOUNG

Very ELDERLY	ELDERLY	Somewhat ELDERLY	Neither one Nor the other	Somewhat Young	Young	Very Young

UNSTABLE-STABLE

Very UNSTABLE	UNSTABLE	Somewhat UNSTABLE	Neither one Nor the other	Somewhat STABLE	STABLE	Very STABLE

INDUSTRICUS-LAZY

Very INDUSTRIOUS	INDUSTRICUS	Somewhat INDUSTRIOUS	Neither one Nor the other	Somewhat LAZY	LAZY	Very LAZY

DULL-LIVELY

Very DULL	DULL	Somewhat DULL	Neither one Nor the other	Somewhat LIVELY	LIVELY	Very LIVELY

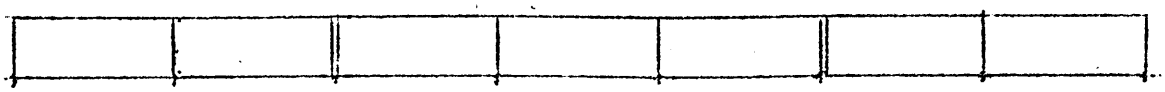
DISCIPLINED-UNDISCIPLINED

Very DISCIPLINED	DISCIPLINED	Somewhat DISCIPLINED	Neither one Nor the other	Somewhat UNDISCIPLINED	UNDISCIPLINED	Very UNDISCIPLINED

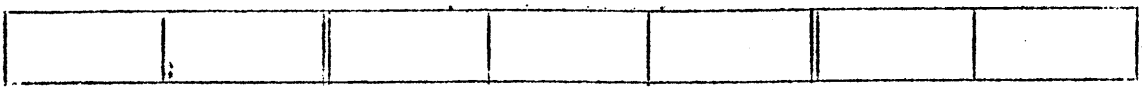
G

Would you tell me now what class you think people in these areas belong to, hat is whether they belong somewhere in the lower class, somewhere in the iddle class, or somewhere in the upper class.

hoto o.FR1



hoto o.FR2



hoto o.FR3

hoto o.FR4

hoto o.FR5

hoto o.FR6

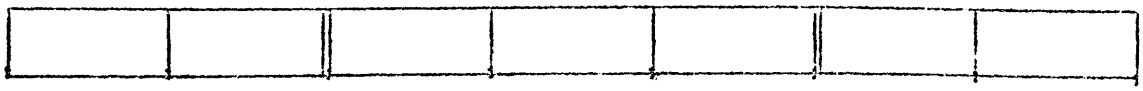
hoto o.FR7

hoto o.FR8

H

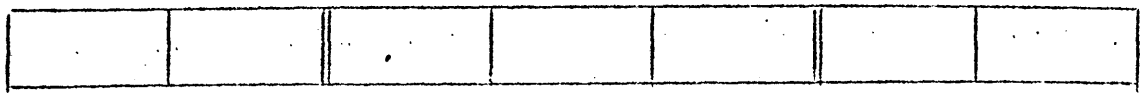
Please do the same for these photographs.

Photo PA1



HIGHER CLASS | MIDDLE CLASS | LOWER CLASS

Photo No.PA2



HIGHER CLASS | MIDDLE CLASS | LOWER CLASS

Photo No.PA3

HIGHER CLASS | MIDDLE CLASS | LOWER CLASS

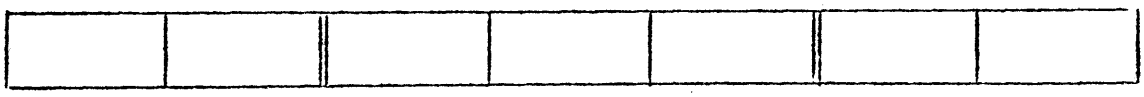
Photo No.PA4

HIGHER CLASS | MIDDLE CLASS | LOWER CLASS

Photo No.PA5

HIGHER CLASS | MIDDLE CLASS | LOWER CLASS

Photo No.PA6

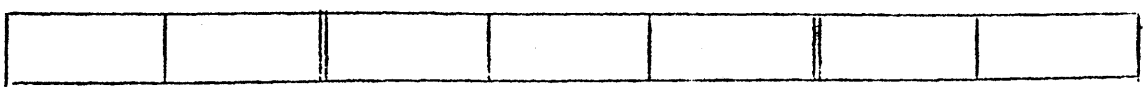


HIGHER CLASS | MIDDLE CLASS | LOWER CLASS

Photo No.PA7

HIGHER CLASS | MIDDLE CLASS | LOWER CLASS

Photo No.PA8



HIGHER CLASS | MIDDLE CLASS | LOWER CLASS

I

Would you please put these in order. Put the photo of the area you would most like to live in on top, the area you would next most like to live in under it and continue to the area you would least like to live in, which would be on the bottom. (FR1 throught FR8)

1. ____ 2. ____ 3. ____ 4. ____ 5. ____ 6. ____ 7. ____ 8. ____

Would you please do the same with these. (PA1 through PA8)

1. ____ 2. ____ 3. ____ 4. ____ 5. ____ 6. ____ 7. ____ 8. ____

J(1-3)

Social Distance Scaling Questions:

(ASK THE FOLLOWING QUESTIONS FOR PHOTOGRAPHS NOS. FR1, FR4, FR8.)

Photo No. _____

Now would you tell me the following:

1. Would you feel comfortable about taking a walk through this area?

   1. Yes
   2. No

2. Would you feel comfortable about talking informally in the area with people who live there?

   1. Yes
   2. No

3. How about attending a party in the area with people who live there?

   1. Yes
   2. No

4. Belonging to a social club in the area whose members are people who live there?

   1. Yes
   2. No

5. Living in the area and having people from there as close friends?

   1. Yes
   2. No

6. Having someone in your immediate family marry a person from the area?

   1. Yes
   2. No

1. (WRITE PRESENT ADDRESS: _____

_____

_____)

2. When did you move into your present home? _____.

3. Where did you live before that? Specify street address, city and state. (or country)

_____

A _____

_____

4. When did you move there? _____

5. Where did you live before that? Specify street address, city and state. (or country)

_____

B _____

_____

6. When did you move there? _____

7. (IF ANY OF THE 3 ADDRESSES - PRESENT AND TWO LAST PLACES LIVED - ARE IN THE SAME TOWN ASK IF THEY WERE IN THE SAME NEIGHBORHOOD. CIRCLE ANSWER.)

1. None in same neighborhood
2. Present and Address A in same neighborhood
3. Present and Address B in same neighborhood
4. Addresses A and B in same neighborhood
5. All in same neighborhood

8. If you had to describe your neighborhood to someone who had never seen it before what would you say about it?

9. What do you consider the boundaries of your neighborhood?

10. Have you considered moving from where you now live?

    1. Yes
    2. No
    3.. Don't know (Never thought about it.)

11. What would your preference be as a town or area to move into if you could live anywhere you wanted to?

    Specify by name: _____

12. Why would you choose that one?

13. Are you completely satisfied with the house (apt.) in which you are now living?

    1. Yes
    2. No

    (IF NO, CONTINUE; OTHERWISE SKIP TO QUESTION 15.)

14. What is it you are dissatisfied with? This is just the house not the neighborhood!

15. How would you compare your present house (apt.) with the one you lived in before this one? Would you say the present one is:

    1. Much better
    2. A little better
    3. About the same
    4. A little worse
    5. Much worse

16. Are you completely satisfied with the neighborhood in which you are now living?

1. Yes
2. No

(IF NO CONTINUE; OTHERWISE SKIP TO 19.)

17. What is it you are dissatisfied with?

(IF THEY RESPOND "DON'T LIKE PEOPLE WHO LIVE HERE," ASK QUESTION 18; IF NOT, SKIP TO QUESTION 19.)

18. What is it you don't like about the people who live here?

19. How would you compare the neighborhood you live in now with the one you lived in before this one? Would you say the present one is -

1. Much better
2. A little better
3. About the same
4. A little worse
5. Much worse

20. In the area you are living in now, which of the following things seem to be most important in determining a person's social standing? For each one I read tell me whether you feel it is:

	Very Important	Fairly Important	Makes Some Difference	Makes No Difference
1. His education				
2. His occupation				
3. His wages or income				
4. The people he is friends with				
5. The organizations he belongs to				
6. The kind of family he comes from				
7. Things he does in his leisure time				
8. His possessions, i.e. house, car, furnishings, etc.				
9. The house he lives in				

21. Do you own a car; if you own more than one car please indicate how many?

0. No
1. Yes, one car
2. Yes, two cars
3. Yes, more than two cars

(IF YES, ASK QUESTION 22, OTHERWISE GO TO QUESTION 24.)

22. What make of car is it?(are they)? Specify make and model:

1st car _____
2nd car _____
3rd car _____

23. What year is it? (are they)?

1st car _____
2nd car _____
3rd car _____

24. We know that it is difficult to say what class a whole town belongs to, but most people can estimate what class the neighborhood they live in belongs to.

From the following categories which do you feel best describes <u>this</u> neighborhood?

1. Lower
2. Working
3. Middle
4. Upper middle
5. Upper
6. Don't know
7. Diverse

25. What class would you say you belong to?

1. Lower
2. Working
3. Middle
4. Upper middle
5. Upper
6. Don't know

26. What sorts of things do you do in your free time?

Now I would like to get a few facts about this household so that I can get a picture of your present family situation - things like names, ages and so forth of each member of the household.

27. What is your age?

0. under 20
1. 20 to 24
2. 25 to 29
3. 30 to 34
4. 35 to 39
5. 50 to 44
6. 45 to 49
7. 50 to 54
8. 55 to 60
9. over 60

28. Are you single, married, divorced or widowed?

1. Single
2. Married
3. Divorced (or separated)
4. Widowed

(IF SINGLE SKIP TO QUESTION 31; OTHERWISE CONTINUE.)

29. How many children, if any, do you have?

0. None
1. One
2. Two
3. Three
4. Four
5. Five
6. Six
7. Seven
8. Eight
9. More than eight

30. How many of your children are living with you now, as members of this household?

0. None
1. One
2. Two
3. Three
4. Four
5. Five
6. Six
7. Seven
8. Eight
9. More than eight

31. What is or was your father's main occupation? Specify in detail.

32. How much education have you completed?

1. Professional or graduate school
2. College Education (1 to 4 years)
3. High school graduate
4. One to 3 years high school
5. Finished 8th grade
6. Four to 7 years of school
7. 0 to 3 years school

33. How much education did your father complete?

1. Professional or graduate school
2. College Education (1 to 4 years)
3. High school graduate
4. One to 3 years high school
5. Finished 8th grade
6. Four to 7 years of school
7. 0 to 3 years of school
8. Don't know

34. Where were you born?

Specify city, state (if in U.S.A.), and country.

_____

(IF NOT U.S.A., ASK QUESTION 35; OTHERWISE SKIP TO QUESTION 36.)

35. How old were you when you came to the U.S.A.?

_____

36. What kind of work do you do? Specify in detail:

37. Where is your place of work? Specify street address and town.

_____

38. How do you feel about your present job?
Would you say you are completely satisfied, more or less satisfied, have no feelings one way or the other, dissatisfied to an extent, or completely dissatisfied?

1. Completely satisfied
2. More or less satisfied
3. Have no feelings one way or the other
4. Dissatisfied to an extent
5. Completely dissatisfied
6. Don't know

39. If you had it to do over again, would you choose another occupation?

1. Yes
2. No
3. Don't know

(IF YES, ASK QUESTION 40; OTHERWISE SKIP TO QUESTION 41.)

40. What would you have chosen? Specify:

41. What is your approximate total yearly family income?

0. Less than 3,000
1. 3,000 to 4,999
2. 5,000 to 5,999
3. 6,000 to 6,999
4. 7,000 to 7,999
5. 8,000 to 9,999
6. 10,000 to 11,999
7. 12,000 to 15,000
8. 15,000 to 24,999
9. More than 25,000

42. What is your religion?

1. Protestant
2. Jewish
3. Catholic
4. No religion
5. Other. Specify: _____

8.

POLITICAL - ECONOMIC ATTITUDES (CONSERVATISM - LIBERALISM SCALE)

Now I am going to read some statements concerning politics and the international situation in general. For each statement I read tell me whether you strongly disagree, moderately disagree, feel neutral, moderately agree, or strongly agree. Some statements may sound too extreme from your point of view; this is because we are trying to guage the full range of opinions.

1. The best way to solve social problems is to stick close to the middle of the road and to avoid extremes.

1. Strongly disagree
2. Moderately disagree
3. Feel neutral
4. Moderately agree
5. Strongly agree

2. Government ownership of the big manufacturing industries would lead to an intolerable degree of government control.

1. Strongly disagree
2. Moderately disagree
3. Feel neutral
4. Moderately agree
5. Strongly agree

3. Labor unions in large corporations should be given a major part in deciding company policy.

1. Strongly disagree
2. Moderately disagree
3. Feel neutral
4. Moderately agree
5. Strongly agree

4. Socialized medicine would be a better way to provide health services than our present system.

1. Strongly disagree
2. Moderately disagree
3. Feel neutral
4. Moderately agree
5. Strongly agree

5. It is up to the government to make sure that everyone has a secure job and a good standard of living.

1. Strongly disagree
2. Moderately disagree
3. Feel neutral
4. Moderately agree
5. Strongly agree

6. In general, complete economic security is bad; most men wouldn't work if they didn't need the money for eating and living.

1. Strongly disagree
2. Moderately disagree
3. Feel neutral
4. Moderately agree
5. Strongly agree

7. If the government owned the big manufacturing industries this would lead to a more equitable distribution of wealth.

1. Strongly disagree
2. Moderately disagree
3. Feel neutral
4. Moderately agree
5. Strongly agree

INTERVIEWER'S REPORT

1. Length of interview: Begin _____
   End _____

2. Housekeeping habits:

   1. Immaculate
   2. Tidy
   3. Lived in but "respectable"
   4. Untidy
   5. Chaotic

3. Home furnishings condition:

   1. Excellent
   2. Good
   3. Fair
   4. Poor

Interviewee's Response:

4. Expressed interest (curiosity):

   1. High
   2. Average
   3. Low

5. Exploration (poring over photographs, searching for clues and details, etc.):

   1. High
   2. Average
   3. Low

6. Were other people in the room?

   1. Yes
   2. No

7. Were there important distractions or interruptions?

   1. Yes
   2. No

   (IF YES, SPECIFY:_____)

8. Were there any other special problems which might have affected the respondent's answers; i.e. eyesight, language, understanding the task, etc. Specify:

LETTER TO POTENTIAL SUBJECTS

Massachusetts Institute of Technology
Department of City and Regional Planning
Cambridge, Massachusetts 02139

I am a graduate student in the Department of City Planning at M.I.T., writing a Ph.D. thesis on the ways different people look at the city they live in.

I am getting information for my study by asking people from different parts of the city questions about themselves and how they see and use the city. Your name was chosen as part of a sample from your town's voting list. I hope you will be willing to help me. Individual names will never be used in the study as I am interested only in the different groupings individuals fall into depending upon how they look at the city.

It will take only about fourty-five minutes to answer these questions. There are no single "right" or "wrong" answers to the questions; the only "right" answers are how you, personally, feel about the city you live and work in.

I will get in touch with you soon by telephone and set up a time convenient for you when I might talk with you. I will appreciate your giving me this much of your time.

Sincerely,

Donald C. Royse
Ph.D. Student, M.I.T.

BIBLIOGRAPHY

Allport, Gordon, W., The Nature of Prejudice, Boston, The Beacon Press, 1954.

Attneave, F., "Some Information Aspects of Visual Perception," Psychological Review, Vol. 61, 1954.

Banton, Michael, "Social Distance: A New Appreciation", Sociological Review, 8 (2): 169-183. July, 1960.

Blake, Robert R., Clifton C. Rhead, Bryand Wedge and Jane Srygley Mouton, "Housing Architecture and Social Interaction," Sociometry, 19(2): 133-139.

Boring, E.G., Sensation and Perception in the History of Experimental Psychology, New York, Appleton-Century, 1942.

Bruner, Jerome S. & Leo Postman, "On the Perception of Incongruity: A Paradigm," Journal of Personality, Vol. 18 (2), Dec. 1949, 206-223.

Bruner, Jerome S. & C.C. Goodman, "Value and Need as Organizing Factors in Perception," Journal of Abnormal Psychology, Vol. 42, 1947, 33-44.

Bruner, J.S. & Minturn, L. "Perceptual Identification and Perceptual Organization". J. General Psychology, 54, 21-28, 1955.

Bruner, J.S., Postman, L. & Rodrigues, J. "Expectation and the Perception of Color," American Journal of Psychology, 64, 216-227, 1951.

Bruner, Jerome S., Jacqueline J. Goodnow and George A. Austin, A Study of Thinking, New York, John Wiley and Sons (Science Editions, Inc.) 1956.

Chapin, F. Stuart, Experimental Designs in Sociological Research, New York, Harper and Bros., 1955.

Collier, John, Jr., Visual Anthropology: Photography as A Research Method, Holt, Rinehard and Winston, New York, 1967.

Collison, Peter, The Cuteslowe Walls - A Study in Social Class, London, Faber & Faber, 1963.

Bibliography

Cox, D.R., Planning of Experiments, New York, Wiley, 1958.

Craik, Kenneth N., "The Comprehension of the Everyday Physical Environment," Journal of the American Insititute of Planners, January, 1968, 29-37.

Davis, Allison, Burleigh B. Gardner and Mary R. Gardner, Deep South, Chicago, University of Chicago Press, 1941.

Duhl, Leonard J. Editor with John Fowell, The Urban Condition: People and Policy in the Metropolis, New York, Basic Books, 1963.

Dyckman, J.W., "Of Men, Mice and Moles", Journal of the American Institute of Planners, Vol. 27, (1) February, 196 .

Festinger, Leon, "Architecture and Group Membership," The Journal of Social Issues, Vol. 7, Nos. 1, 62. 152-163.

Festinger, Leon, Stanley Schacter and Kurt Back, Social Pressures in Informal Groups: A Study of Human Factors in Housing, Harper, New York, 1950.

Form, William H. and Gregory P. Stone, "Urbanism, Anonymity, and Status Symbolism," American Journal of Sociology, Vol. 62, March 1957, 504-514.

Fried, Marc and Peggy Gleicher, "Some Sources of Residential Satisfaction in an Urban Slum," Journal of the American Institute of Planners, Vol, 27, Nov. 1961., 305-315.

Gans, Herbert, "The Balanced Community," Journal of the American Institute of Planners, Vol. 27, (3), August 1961, 176-184.

Gans, Herbert, The Levittowners, New York, Pantheon Books, 1967.

Gans, Herbert, The Urban Villagers, New York, The Free Press of Glencoe, 1962.

Gibson, James Jerome, The Perception of the Visual World, Boston, Houghton Mifflin, 1950.

Goffman, Erving, Behavior in Public Places, New York, The Free Press, 1963.

Gough, Harrison G., The Adjective Checklist Manual, Consulting Pshchologists Press, Palo Alto, 1965.

Bibliography

Grier, Eunice and George, Private Developed Interracial Housing, Berkeley, Univerisity of California, 1960.

Gutman, Robert, "Site Planning and Social Behavior," Journal of Social Issues, 22 (4): 103-115, 1966.

Hall, Edward T., The Hidden Dimension, Garden City, Doubleday, 1966.

Hall, Edward T., The Silent Language, Greenwich, Fawcett, Premier Book, 1959.

Hansen, Morris H., Sample Survey Methods and Theory, (Vol 1), New York, Wiley, 1953.

Hartman, Chester W., "Social Values and Housing Orientations," Journal of Social Issues, 19 (2): 113-131, 1963.

Howmans, George C., The Human Group, New York, Harcourt Brace, 1950.

Jacobs, Jane, The Death and Life of Great American Cities, New York Random House, 1961.

Jones, Kenneth J. The Multivariate Statistical Analyzer, Manual, Harvard Univerisity, 1964.

Lasswell, Thomas and P.F. Parshall, "The Perception of Social Class from Photographs," Sociology and Social Research, July 1961, 407-414.

Lorin, William C., "Residential Environment: Nexus of Personal Interactions Healthful Development," Journal of Health and Human Behavior, 5 (4), 166-169, Winter , 1964.

Lynch, Kevin, The Ways of the City, The Technology Press & Harvard Univerisity Press, Cambridge, 1960.

Michelson, William M., Value Orientations and Urban Form, PhD Thesis, Department of Social Relations, Harvard University, 1965.

Osgood, Charles E., G.J. Suci and P.H. Tannenbaum, The Measurement of Meaning, Urbana, University of Illinois Press, 1957.

Payne, Stanley L., The Art of Asking Questions, Princeton, University Press, 1951.

Bibliography

Postman, L., Bruner, J.S. & Walk, R.D. "The Perception of Error" British Journal of Psychology, 42, 1-10, 1951.

Rainwater, Lee, "Fear and the House as Heaven in the Lower Class," Journal of the American Institute of Planners, January, 1966.

Riemer, Svend, "Hidden Dimensions of Neighborhood Planning," Land Economics, 26 (2): 197-201, May 1950.

Roscow Irving, "The Social Effects of the Physical Environment," Journal of the American Institute of Planners, Vol. 27., May 1961, 127-133.

Ross, Lawrence H., "The Local Community: A survey Approach," American Sociological Review, Vol. 27, 1962, pp. 83-84.

Ruesch, Jurgen and Weldon Kees, Nonverbal Communication: Notes on the Visual Perception of Human Relations, Berkeley and Los Angeles, University of California Press, 1964.

Schorr, Alvin L., Slums and Social Insecurity, U.S. Department of Health Education and Welfare, Social Security Administration Division of Research and Statistics, Research Report No. 1, 1963.

Shevky, Eshref and Wendell Bell, Social Area Analysis, Stanford, Stanford University Press, 1955.

Sweetser, Frank L., The Social Ecology of Metropolitan Boston: 1960, Division of Mental Health, Massachusetts Department of Mental Health, 1962.

Vernon, Magdalon Dorothea, The Psychology of Perception, Baltimore, Penguin Books, 1962.

Warner, Lloyd, Marchia Meeker and Kenneth Eells, Social Class in America Harper, & Row, New York, 1960 (originally published by Science Research Assoc., Chicago, 1949).

Whyte, William Foote, Street Corner Society, Chicago, University of Chicago Press, Second Edition, 1955.

Wilner, Daniel M., Rosabelle Price Walkey, Thomas C. Pinkerton and Matthew Tayback, The Housing Environment and Family Life, Baltimore, The Johns Hopkins Press, 1962.