

THE PERCEPTUAL FORM OF THE CITY  
PROGRESS REPORT AND PLAN FOR FUTURE STUDIES – June, 1955

Section 1 – INTRODUCTION

The research program has been underway since September of 1954. The first eight months have been devoted primarily to a general search of the broad field presented to us, to a clarification of basic principles, and to the preparation of a concrete program of study for the two years of major effort. This has been done by means of a series of discussions and writings, by city surveys and readings in various fields, by several conferences, and, in the spring of 1955, by a set of brief projects which tested various study methods. A summary of this activity is given in Appendix A. The principal object of this report, however, must be to clarify our basic ideas and to set our future course. This is discussed below, with a description of three studies which will be developed in 1955-56. Appendix B contains preliminary outlines of two projects which may be undertaken at a later date.

Our field of study is the immediate action of the urban environment on the citizen via his senses. This perpetual experience is dynamic in nature, a sequence over time. The dynamic quality and the complexity of the stimuli received must be reflected in the techniques used to analyze them. The purpose of our study is to learn ways of making an environment which will best answer human needs, both in the present cultural context, and in its possible future transformations. Thus at bottom this will be a normative study and be organized on normative principles.

Working Premises: Coherence

Before proceeding to develop the four proposed projects, it may be well to expose our working premises, largely subjective and intuitive, which underly and direct our choice of study. These premises affirm

that a {margin: ?} good urban environment has at least two basic qualities: it is coherent or connected {underlined}; and it is {margin: ? when?} growth-facilitating {underlined}. let us expand these briefly, particularly in regard to our field of perceptual form:

{margin: if p21 operationally incoherent[?]} By coherence {underlined} we mean an eloquent, legible relatedness of the complex physical factors of the environment, which allows their connections {circled} to be easily and fully grasped {circled} {Esthetic biases as living participant in urban environment}. Such a physical patterning is perceived as a {margin: gestalt Figure and ground} perceptual, emotional, and conceptual continuity. It {circled, arrow to "patterning"} is not achieved by masking complexity and richness, but by developing {underlined} and interrelating {margin: ?} it {circled}, and it {circled} implies extending both the range and the depth of an individual's contact {arrow to margin: transactual process} with his environment.

For us this criterion will have several facets. It may refer to the form {underlined} quality: simply to the extent to which the perceptual environment can be organized by the observer {underlined}. And this quality in its turn can {margin: Cultural + Industrial} appear on many levels: first {underlined}, and most direct, in the patterning of the visual field; secondly {underlined}, at the level of spatial location and relation to the observer and other forms; and lastly {underlined} when we are dealing with chains {margin: appreciation} of memorized perceptions and their conceptual organization. At all these levels, there are form-qualities which do or do not facilitate {or may abstract} perceptual and conceptual grasp by the beholder. Where the grasp is made strongest and most direct, without effacing the intricacy of the real world, there one aspect of the criterion of coherence is being met.

Coherence and connectedness in this sense further includes our emotional connections with the material environment – our responses of feeling {underlined} {margin: fulfillment frustration of environment, \_\_\_\_ vs. Esthetic}. Here we are dealing not with form qualities as such but with {margin: Esthetic response vs. factual response, sightseer \_\_\_\_ citizen} their emotional significance, the character of familiar or alien, promising or menacing, rich or barren, alive or dead, pleasant or unpleasant. These characters arise from our past experiences {underlined}, from our purposes, wishes and interests, and color our perceptual world very {margin: traditions history \_\_\_\_ art}

powerfully. Most of us would seem to require a sense of emotional continuity with our world, a sense of being "at home". For our purposes, this feeling is most often evoked by an environment which expresses a broad connection, (margin: Respond create Relatively Figure=perception Ground= \_\_\_\_\_) either with human beings and human history, or with the natural universe. Surroundings which have these emotional linkages in depth are fulfilling another aspect of the criterion of coherence and connectedness. (margin: Enormal which may be invented \_\_\_\_\_ feel)

Finally, a coherent environment is one which is meaningful, which communicates information to us easily. (margin: Can be invested with meaning in whichever regard) This intellectual quality, of course, is grounded both on perceptual coherence, the form-quality, and on the reinforcing power of emotional significance. City life depends on communication, and much of this is carried by (circled) the material cityscape. In this sense, a coherent environment would be one which allows an attentive observer to extract the most information from that which surrounds him, (margin: cp 21) an environment which raises the level of meaning and lowers the effort required to receive it. (margin: I \_\_\_\_\_ vs. esthetic)

#### Working Premises: The facilitation of Growth

Our second major criterion calls for a world which encourages human growth (circled) and development, (margin: Maturation which life \_\_\_\_\_) in contrast (circled) {supplements?} to the somewhat static quality of the first principle. It would also have several components, some of them somewhat at variance with the qualities discussed above.

(margin: Also provides sequence of experience to maturation child – adven adult – aged) An environment which encourages development will certainly be one which at appropriate times supplies new experiences – even irritations, discomforts, and breaks in coherence. it must provide the beholder with new material for him to organize, {new tasks to cope with} and occasionally must challenge his perceptual or conceptual ability, so long as the challenge is one which can be met. We may cite the delight of fresh sights which nevertheless have some common reference with past experience, or the satisfaction of an environment which, although coherent at each successive level, yet reveals more and more of itself as we experience it more and more intimately.

A world which explained itself at a glance, even if it were possible, could not hold our attention long.

{margin: Growth and consolidation} Growth also demands a basic rhythm of alteration in events: in particular a rhythm of stimulus and of withdrawal {circled}. Thus periods of intense activity and stimulus must be offset by periods of quiet relaxation and the integration of the latest stimuli into the individual's body of total experience. In a city, for example, we should be able to enjoy both the crowded streets of the center, dense with sights and sounds, and also the calm, undirected freedom of "waste" spaces. The rhythmical nature of the environment, so close to a fundamental character of life itself, should also be a rhythm in time {underlined} as well as in space; it will express the changes of the sun or the seasons, or the alternation between holiday and workday. {Diurnal rhythms--} {margin: of \_\_\_\_\_}

Finally, a world conducive to development would be a flexible one. To the greatest extent possible, its elements would be within the power of the individual to modify or manipulate, so that he could take an active part in the shaping of the environment. {margin: to select} And where it went beyond the power of the individual, {margin: Hist of Traditional Perspective on world – which is to be the test object?} it would be made to offer a wide range of alternative environmental choices: as, for example, by providing many well-differentiated areas in close contact with each other. {margin: or, if good D \_\_\_\_ of \_\_\_\_ of p1116 & p4}

#### Future Studies:

With these intuitive premises as our basic guides, we have chosen three projects as our major effort for the coming year. The first {underlined} of these will be a descriptive study, an attempt to learn more about the process of perception in the city and to make a systematic analysis of the urban visual scene. this study of a small urban environment and its perception, planned to occupy a full year's time, is described in the next section of this report.

The two remaining studies will be normative rather than descriptive, and will relate to the first basic premise of coherence or connectedness. The decision was made to focus the work primarily on this first criterion so that the projects might support each other as they progressed, and eventually converge. It was a choice, incidentally, based on what seemed to be the present rewards of the alternative studies, and carries no implication that one principle is more important than the other, or that the bearing of the second can be forgotten in the study of the first.

Both of the proposed normative studies tie in with a major aspect of the criterion of coherence: the first {underlined}, on orientation, with the aspect of form-quality, and the second {underlined}, on communication, with the aspect of meaning. these are described in sections 3 and 4 of this report. Both should complete the core of their work in the coming year, but will run into the final year for the pursuit of new openings and the presentation of material. While both principles expect to engage to some extent in all studies, final responsibilities will be in part divided. The study on orientation will be in charge of Professor Lynch; that on communication will be the responsibility of Professor Kepes; and the descriptive small-area study will be carried on jointly.

The normative analyses will be directed, not to a testing of the intuitive premises stated above, although some comment on their soundness may issue as a by-product, but essentially to a study of the means whereby these qualities, assumed to be desirable, can be achieved. Each, for example, will culminate both in a set of principles and in generalized design proposals which illustrate their application. it should be made clear that these will not be "scientific" {analytic} principles, but rather that they will be at base subjective {circled}, however well developed. It is expected that the methods and results of the studies will interact continuously. {margin: L\_\_\_\_ Uniformly\_\_\_\_ \_\_\_\_\_ artistic integration}

These normative studies, together with the descriptive study above mentioned, constitute the proposed program under the Rockefeller grant for the year 1955-56. The succeeding sections describe them in some detail.

The final year will be utilized for the coordinated visual and verbal presentation of the findings, and perhaps in the pursuit of the two studies outlined in Appendix B. these are projects organized about some key feature of the city environment and would build on the results of the second year's work.

## Section 2 — A STUDY OF A SMALL URBAN ENVIRONMENT AND ITS PERCEPTION

Despite our bias towards normative studies, we must carry on certain descriptive work, since so little has been done on the sensuous impact of the city in any systematic way. As material for other studies, we need careful descriptions of the city scene; we also need a better understanding of the process of perception of the city. Since it cannot be pretended that we can perform an exhaustive coverage of this process, or a complete description of the American cityscape, it seems most promising to make a concentrated attack on a few small urban areas. We propose as one of our major efforts, therefore, what is essentially a two-branched study of some given small areas. the study will both describe and analyze the scene in detail, through photographs, motion pictures, drawings, descriptions and recordings {circled}, and will on the other hand study the subjective impressions and feelings generated by the scene, using interviews and motion pictures. The principle objective will be a comparison of the physical cityscape with the impression it makes on the citizen, so as to gain some insight into both the urban perceptual world we live in and also our perception of it. An intensive project on a small

area basis will furnish solid ground work for an understanding of how we distort, simplify, and respond to our physical surroundings. {margin: Select ignoring Blotting out}

The city is a very complicated environment, and it is perceived selectively: many elements are filtered out, others are absorbed and compensated for without conscious attention, and those that arrive at consciousness are substantially colored and modified. {margin: selective awareness age sex occupation tradition Patterned perception signals signs symbols} We must also assume that there are important similarities in this process, as between different individuals, despite variations of temperament, class, and culture. if there are such similarities, if given city elements or patterns tend to be generally rejected or absorbed, to cause discomfort or delight, then it is vital that we should know this in preparing our designs. {margin: Just rounded to travel-work, play, etc.} The ultimate consumer of the city scene is the man in the street, and, to heighten the pleasure of his consumption, we must either know how to change the scene, or how to change his way of looking at it {underlined}. {margin: f advertising} Both of these changes require knowledge of what the individual now commonly sees.

While we have much material on how city scenes have affected particular individuals, these individuals are generally of special training and interest, and are analyzing their reactions at long remove from the immediate experience. The areas they refer to are too widely scattered to be comparative, and we have no systematic description of the environment to which they refer. Therefore an inquiry is needed which will focus on the same physical area both a careful description of the perceptual environment, and a good sampling of how a number of people see it.

The objection may first be made that subjective {underlined} reactions are so colored by individual class or temperament, or by momentary concern, as to exhibit no usable consistencies. We believe however, that basic similarities will appear, since it is the same objects {circled} that are being viewed {??} {margin: novels Plays Paintings Movies}, since the process of perception is basically the same between {underlined}

all men, and because our particular subjects will possess a common culture. Important class differences will undoubtedly exist, and might be the subject of further studies. {F\_\_\_\_\_ a\_\_\_\_\_ on steps foundation, J curve as model – normal curve} This inquiry, however, should concentrate on fundamental similarities, and simply report the range {circled, with arrow to margin: normal curve J Curve} {see diagrams in PDF of original} of individual differences without attempting to correlate these differences without attempting to correlate these differences with other factors. That similarities exist is supported by our first tentative tests.

Secondly{underlined}, the problem of communication may be raised. Our perceptions and our reactions follow in rapid succession, and tend to defy verbal communication, or to be lost when attention is turned upon them. We therefore cannot hope to make an “analysis in depth” of subjective impressions, nor to disentangle all the threads that weave through our experience of the city. It is nevertheless undeniable that people have numerous reactions to the city that can be communicated, and we would assume that these feelings, which lie as it were on top of the pile, are also of importance. An understanding, even to this depth alone, will be of value in checking the standards used in the process of design.

It may further be objected that a study of “average” reactions to the cityscape will be like learning about color by talking to the blind. Most people are too preoccupied, too insensitive, to be much aware of the visual scene in the streets. Standards of taste set by popularity polls lead to chromium and borax. Yet this commercial emphasis put on finish or streamlining in itself simply illustrates the importance that people set on appearance. Most people, in fact, seems to be quite responsive to the look of their surroundings. It may be that they do not see clearly nor with good discrimination, but they see {box around} nonetheless. If they were but little affected by {underlined} their environment, there would be little reason for this program of study as a whole. {margin: Blotting out environment, Walter Mitty}

A designer must understand both the present loom of the city, and also the common view of it, if he is to change its look successfully, or if he wants to change the way people see it. If the results are understood in this light, there can be no danger of setting them up as standards to which we should build. As a further balance, it will be part of the study to get the reactions of several highly trained critics or designers to the same scene. {margin: Of industrial interiors – light color spatial anys}

During the past two or three months, some test studies have been made in this direction. A series of photographs has been made of the neighborhood of Copley Square, showing all the approaches into the square at intervals of fifty feet. This is being supplemented with coverage of the facades, details, pavements, activities, and view in various directions. These photographs document the visual aspect of the area in great detail, as well as showing very clearly how the city shapes change and flow one into another as they are seen in sequence.

Secondly, a number of interviews with a tape recorder have been run, first in Brattle Street and later in Copley Square. These were conducted in many different ways, but have now settled into what appears to be a promising technique: a recorded interview while moving through a predetermined path in the city, followed by a second one taken shortly afterwards in the quiet of an office. In the first stage, subjects are asked simply to talk about what they notice and how they feel about it. In the second they are asked to rehearse again the experience they had just gone through, and are then asked a number of more specific questions, such as what areas did they pass through and how would they characterize them, do they remember noticing this or that specific element, and what did they like or dislike. They are also asked to draw some quick elevations of the areas passed through.

These interviews are beginning to turn up useful material. Despite tremendous variations of background, and a wide range of feeling towards certain features, yet there is surprising consensus on some elements, such as spaces, which are of strong impact, and others, such as street furniture, which are rarely noticed. Even more apparent is the effort {circled} to group and organize the scene {underlined, margin: of Gph.4 p.17}, and the resistance {underlined} of the material to this grouping. {margin: fact of coherence continuity blocks organization?} The technique of study seems to hold promise when it is applied systematically and compared carefully with a detailed objective description.

A brief exploration was also made of the child's view of the city scene. Groups of third and sixth-graders were conducted on a tour of Wellesley Square, then asked to draw "something they liked". The choice and the distortion of subject gave an interesting picture of their specialized and detailed view of their surroundings.

It will therefore be our assumption, in this inquiry, that individuals sense a given urban scene selectively, with simplification, distortion {deletions? additions?} and irresistible efforts toward organization {underlined}; {margin: striving for coherence & Closure which scene resists} and further that this selectivity and these attempts to create a coherent picture, as well as the {margin: signals received but not awareness, Empathy \_\_\_\_ally} emotional reactions arising from these sensations {underlined}, will show a significant degree of similarity between different individuals. {left margin: \_\_\_\_\_ on test objects to explore field} The objective of the study will be to uncover such similarities in relation to a given scene, and thus eventually to give us a basis for judging the perceptual impact of a piece of urban design. It will also be our objective to learn something about the process of perception of the city, which might be applied in educating citizens to observe and enjoy their city surroundings. {margin: what \_\_\_\_ } And finally it will be our purpose to make a detailed and systematic description and analysis of the objective {circled} character of a small urban perceptual environment. {margin: mutations of perception} It is expected that the method developed will be one which can be applied of other cities, including those of quite different physical and cultural settings.

The study will be carried forward in the following manner:

{margin: mood approach usefully d\_\_\_\_\_ character of area. Times Square Scollay Square Fifth Ave Shoppg} 1. Several area will be chosen: an intown shopping district; a "bright light" section; a city park; a more outlying residential area, suburban in character but 20 to 30 years of age. These will be relatively small, nor more than two or three blocks in each dimension. They should be reasonably typical of our metropolitan cities in their basic physical character, and yet have some elements of interest, and a certain amount of coherence or character. They will be studied in sequence, beginning with the shopping district. This latter area has tentatively been chosen as a block on Boylston Street in Boston. The subsequent description of method applies to all areas:

2. A careful photographic survey would be made of the district, documenting the approaches and other sequences; the elevation, the floor, the sky; and the significant spaces, colors, textures, details, and other elements of the scene. {margin: Different hours of day – ch\_\_\_\_\_ weather} This should be supplemented by aerial views at different scales, and views from high points, and from the windows of buildings.

3. An exact base map, and drawings of building mass will be required, as well as a recording of land use and of historical development. A careful model of the area, at 1/4" or 1/8" to the foot, will be prepared.

4. Further visual description will be made of the rhythm of daily activity, and of seasonal and weather changes. Movies will be employed to convey the impressions received while moving through the area, by various means and speeds. Recordings will be made of typical street noises.

5. The material will be correlated and presented as a systematic description. The objective quality of this perceptual environment will be analyzed; in terms of coherence, for example.

6. A series of some fifty recorded interviews will be made, using

the techniques described above. Subjects would drive as well as walk through the area. No attempt will be made to cover a "cross-section" of society, but we hope to get a balance of certain categories, especially in regard to familiarity with the area, design competence, and, perhaps, childhood background. A few interviews with special groups such as urban designers, children, or postmen should throw some interesting sidelights. Children's drawings of the area, made after a conducted tour, will be collected and analyzed. Interviews might also be conducted, not with prepared subjects, but with individuals who have recently passed through the area while preoccupied with other concerns.

7. Finally, motion pictures will be used to study the movements of groups and of individuals in the street, and to detail the motion and expression of faces. The street background will have to be prepared, so that the exact location of individuals in the space will be evident, and telephoto lens equipment will possibly be required.

8. These studies will be coordinated to gain a comprehensive picture of the area "as it really appears", and to analyze the relations of subjective impression to objective environment, as discussed above. {margin: figures of speech in a\_\_\_ }The scale model will be used as a general key for all the visual and verbal material. Various coordinations can be done, such as setting up the photographs in sequence, assembling recorded comments of various people which refer to the same point, and tying comments to photographs, or distorting photographs in line with the comments. The model may be further employed as a testing arena for the development of an optical device which would simulate the experience of moving through the same area in reality. If such a device can be developed as a by-product of the study, it will be of great value for practicing designers. {margin: " \_\_\_\_\_ a \_\_\_\_\_ is clearly of Design Metering/clos \_\_\_\_\_ }

This inquiry is thus searching and descriptive in nature, rather than directed to a pre-determined goal. It may be noted that all the techniques

suggested above have been tested and are felt to be relevant and workable, with the exception, however, of the use of motion pictures to suggest the sequence of impressions, and to record the actions of people in the streets. We feel that this latter method will prove to be revealing, but it has yet to be tried.

This project will require a full year. the areas should be dealt with sequentially in the beginning, and may then be pushed simultaneously at a more rapid pace. Two half-time assistant will be required in addition to the principals: They will, of course, support each other where need arises, and it may occasionally be necessary to call in additional temporary help on such stages as model-making, motion pictures, or the development of an optical device.

{Perception action transactional process}

### Section 3 – A STUDY OF THE MEANS OF ORIENTATION AND RECOGNITION IN THE CITY

The general subject of this inquiry will be the form-qualities which facilitate perceptual organization at the urban scale, the extent to which a city or city-section can be conceived or felt as a totality, and the physical means which support this sense of coherence. The problem will be approached by an application of the principles of visual unity to the city, as well as by a study of how people think of their city as a whole, and by what means they locate themselves in it or guide their movement through it to a goal.

At the first {underlined} level of reception-the pattern of the visual field – our immediate response to the impacts coming from the environment is to group them {underlined}. {margin: perceive them as a whole?}  
 {margin: We analyze, f\_\_\_\_\_ & d\_\_\_\_\_ total-wholes are perceive first} Colors which are similar are connected, as are shapes and sizes. From the infinite variety of separate impacts we create a continuity of pattern {underlined}. {margin: ?} On this level the process of perceptual organization moves from {circled} {from whole to parts?} individual data to more comprehensive shapes, groups and finally

complete images {underlined}. {Or we see large configurations and then break them dn into smaller units}

The second {underlined} level is based on this first level of organization, and operates in terms of spatial experience. The shapes are translated into indications of spatial positions related to the beholder and to other forms. This has the purpose of orienting ourselves in our surroundings, and with our own horizontal-vertical orientation as a reference, we create a continuity by referring the variety of appearances to a consistent framework. {Equalizing the whole c\_\_\_\_\_ of s\_\_\_\_\_ goldstein} {Individuals may each spatial orientation eg –female} Up-down, left-right, before-behind, helps us to evaluate our world. New types of experience, size and complexities of form, high speeds, have made this process of orientation much more difficult today.

On the third {underlined} level, we are no longer involved solely with direct sequences of sense perception, but with patterns of memorized experiences {we become – oriented so that we see each p\_\_\_\_\_ in a frame of reference}, and with conceptual structures as well. Here again we must organize and create continuities. {A\_\_\_\_\_ }

{margin: Good to be achieved a f\_\_\_\_\_ }

Our basic assumption in this study will be that a good environment is one which presents itself in such a coherent way that it can easily be grasped in the mind, is continuous in nature, and allows an individual to orient himself easily within it. This quality becomes increasingly important as the size and complexity of our urban environment increases. {margin: Of old villages & towns eg Deerfield Coopertown Vienna Moscow} One practical effect of such good organization will be that both newcomer and old resident can keep their bearings easily and find what they want with a minimum of effort. This practical effect will furnish one avenue of attack for the study but is by no means its sole object. A city or a city section is a very large and complicated thing, and there is much emotional satisfaction to be gained from the ability to apprehend it as a whole, to assign it a character, and to relate one's self to it easily. Simple illustrations are the excitement of the famous views of cities from water or from high places, or the pride with which people attach themselves to a city of strong character such as Florence.

{margin: Bldgs reinforce traditional or in turn ar perceived as traditional monumnts}

Such coherence does not arise only, or perhaps even mainly, from physical features. It is based equally on the accumulation of personal or group experiences which associate with the environment, or on names and other intellectual concepts, or on mere familiarity, which, to a surprising degree, allows us to organize even the most chaotic surroundings.

We assert, however, that the physical form plays an important supporting role in forming organized wholes. if it does not inhibit, still it may strongly resist such organization, and exact a psychological strain on the organizer. {margin: Is organized perception facilitated by w\_\_\_\_\_ to cope with scene? Of \_\_\_\_\_? } Even when such conceptual organization has been achieved, it will lack the emotional richness that comes from a parallel organization in the physical world. It is evident that certain cities are more difficult to orient in, even to old inhabitants; have less "character"; or spring less vividly to mind. These considerations of physical organization and character hold not only for a total city, but also for the fragments to which our lives are closely related: home neighborhoods, work-areas, etc.

{margin: Organization requires differentiation}

Based on these two assumptions, therefore, of the key importance of an environment which {has been organized!} can be organized as a whole {underlined}, and secondly, of the important role that physical shapes play in this ability {underlined}, our study will try to uncover the physical means by which such large-scale organization can be facilitated. It is clear that the answers will not be simple ones: that it will not be sufficient, for example, to impose a huge conceptual order on the city, such as a detailed number-file system, or a rigid standardization of shapes. {margin: field concept – each component reinforces whole which in turn governs each component} Such techniques would be empty of significance, would lack the differentiation {and transactional relation of} of parts that allow us to take hold of a large whole, and would defeat the purpose of orientation by creating an order which does not point to the complex and varied details of reality {circled}. {organization order from differentiation.}

{margin: who's reality? or actuality {underlined}}

It is also clear that each person will see his city in a different way, and that his organization will differ from others according to his class, {age, sex}

temperament, activity, experience, etc. We must search for basic similarities that run through this organizing process {underlined}, {margin: not perceptual product {underlined} from which processes \_\_\_\_\_ some p\_\_\_\_\_ produce different products in different individuals & locales} at least among individuals of our common culture and time, and who live in our great metropolitan centers.

No direct work has been done in this direction, to our knowledge. Many designers have, however, struggled with this problem indirectly as they strove to give "form" or "unity" to a large city environment. {externalized organization or beholder organization?} From this source we have a number of intuitive techniques, such as the use of axial lines, dominant landmarks, unified materials or details, or sharp boundaries. {Theory of Proportion} The scale of our cities, and of city-projects, has grown tremendously, however, and many professionals have given up the possibility of unifying large {foci} centers {circled} in any physical sense.

Psychology has documented the importance of the process of organization in perception and in dealing effectively with our world. Perception psychology is full of this theme, and more general psychological systems have been built on it as well. There is material available, therefore, on the process in general, but no more than two or three direct studies of orientation to large physical environments {underlined}. {sequential process – space-time sequence sign symbols Rejection of non-significant cues} All of these, properly enough, concentrate on the nature of the human process rather than on the significant characteristics of the physical world to which response is being made. {D\_\_\_\_\_ or re\_\_\_\_\_ world} {and which evokes response of perceiver}

Artists have developed from experience many techniques which facilitate the making of visual wholes. They know the importance of similarity and contrast in crystallizing form; the use of the devices of grouping, continuance and closure in the organization of the visual field; and the employment of scale and coherent spatial form in the unification of the three-dimensional world. We now face the problem of maintaining continuity in a changing flow, structuring the change itself by means of rhythm, progression and counterpoint. This is particularly appropriate to the analysis of the city experience, with its duration and movement. The techniques of motion picture

composition have some relevance to this, of course {Succession of images – pointillist (Serial) sounds – noises words - \_\_\_\_\_ } All of this material, however, must be transferred only with caution to the medium of the city and its vastly different scale.

We conducted early in 1955 a test of a method for the study of orientation in a city. The following techniques were tried:

Some ten people were asked to make a quick sketch map of central Boston, roughly of the peninsula within Massachusetts Avenue. They were then asked to describe in detail how they would walk from some given point to another, describing both the route and the direction-clues that they imagined they would use. there were some five pairs of such points, crossing central Boston in all directions.

Secondly, the routes between these same points were walked on the ground by the experimenter, noting in detail the sense of direction and the sense of the whole, as well as the clues and the points of confusion. Finally, a part of this central area was mapped in detail for the objective location and visibility of various types of guidance clues.

The results of these studies were collected, mapped, and analyzed -- noting on the sketch map, for example, the elements shown, the distortions, and the sequence or drawing; in the imaginary walks: the routes taken, the clues given, and the sense of confidence or doubt; and so on.

Results of this fragmentary study, which are only quoted as examples of the kind of answers that may be expected include a list of basic means of orientation in the city: internal dead reckoning of direction: lines of communication; distinctive spaces; linear barriers; point references; use-areas with distinctive functions and form; slopes; and an over-all grid system. {margin: Disregard of \_\_\_\_\_ cues & signals} The study revealed, in this small sample, a consensus on areas of confusion and disorientation, pointing both to certain

difficult features and also to a common tendency to organize the city into a series of relatively well-structured sub-areas, which often fail to interlock. The results, if fragmentary, indicated the value of a thorough study on these lines, which would be deepened to consider other fundamental aspects of large-scale organization, and which might conclude with design studies based on the analytical results. {Pedestrian B\_\_\_\_\_}

It seems clear that a unified, if simplified and distorted {circled}, {map. schema which ignores much} picture of a city is a necessary accompaniment to the efficient activity within it of a mature person. It furthermore forms the symbolic base to which he can attach his local pride and loyalty. This unified picture may come from long association, but is all the more powerful if it has the support of some clear form, of some harmony of shape or texture. The symbolic image of the city that we carry in our head is the {a transaction process – how we relate ourselves to world} product of the objective physical surroundings as well as the associations {circled} of our mind. {Tradition of city Folklore – image of city as symbol of our people}

{margin: g. p21}

This is the background for our inquiry. The basic assumption has two parts: that the ability to be organized easily {& dealt with effectively ?} is a key feature of a good environment, and that the physical shape of the city plays an important part in such ability. The study will not proceed to test this normative assumption, except incidentally, but will go on to discover the physical means facilitating organization.

The questions for which we will seek answers, therefore, are:

1. To what extent can a city, or a city section larger than can be perceived in one brief, direct sequence, be sensed as one physical whole having continuity {underlined}? {Coherence – field properties} {margin: map schema}
2. What are the physical shapes which facilitate such recognitions? {margin: signs symbols}
3. What forms allow the inhabitant to orient himself, the total city, and his goals, with minimum effort?

The following methods would be employed in the study:

For two separate large central city areas, beginning with Boston and following, on an abbreviated scale, with a newer, more "regular" city, a study of orientation and unity of character would be made. A similar inquiry may be made of an area at the scale of a metropolitan region:

1. Perhaps 50 subjects, drawn not necessarily from a "cross-section" of society, but insuring at least a variety of habitual paths and familiarity, will be asked to:

- a. Characterize the city very rapidly, and say what first comes to mind when the area is mentioned.
- b. Draw a quick map of the area.
- c. Name, roughly delimit, and characterize the subareas within the whole that are thought to be distinctive and nameable.
- d. Take a series of "imaginary walks" (and drives), as described above.
- e. And, in a few cases, be taken out in the area, asked to go to certain goals and to describe the clues en route, and, intermittently, to point to or otherwise locate other features out of sight.

{margin: of London[T\_\_\_\_ D\_\_\_\_]}

2. Special questioning would be made of traffic policemen, taxi dispatchers, firemen, and others who must develop a special knowledge of locality. The study may be supplemented by asking directions from chance persons in the streets.

3. A careful subjective analysis in the field will be made by personnel of the project of the sense of orientation and recognition in the city. Studies will be made both in day and in night, and while moving at various speeds.

4. Following an analysis of this material, a detailed map and series of photographs would be made to record the objective location, visibility and character of all the important orientation and recognition elements.

5. The complete material will be analyzed to build up a "collective picture" of the city area, to find the elements most commonly used for organization and what their optimum qualities seem to be, and to locate the orientation difficulties. the general implications of these studies for city form will then be developed.

6. It will also be instructive to analyze a number of cities or urban areas which have, by common consent, strong unity and character. Analysis can be made by aid of photographs, personal memories, recorded descriptions or by volunteers in the field. Here again, we will attempt to find the physical qualities that reinforce this sense of unity.

7. To these results will be applied the principles of visual unity as developed in other visual arts, with the aim of developing a consistent, if personal, theory of coherence in city form. The application of some of these principles may be illustrated in motion picture form.

8. Design studies would be made to illustrate some alternatives for enhancing strong features and removing the problems of the particular areas studied, and then be broadened to develop city-forms which have potential for organization and orientation.

The project will require a year's time for completion, with extensions or deepening of the inquiry, and presentation of the material, going into the second year. In addition to the principal, a half-time assistant would be needed to carry out the analytical work. An urban designer will also be needed on the team, for consultation in the first half of the year, and on a third-time basis in the final year.

{margin: S\_\_\_\_\_ – city on communication network stable manager a\_\_\_\_\_ traffic of unable manage  
Industrial Images}

#### Section 4 – A STUDY OF THE COMMUNICATION OF MEANING IN THE CITYSCAPE

That the physical environment should be meaningful to the inhabitant is an essential element of the normative quality expressed in our first criterion. Upon the ease and accuracy of the conveyance  
{underlined} {Imputation – investment of meang - transactual} of meaning hinges

both the efficiency with which the citizen can act {circled}, and the sense of comfort {underlined} he {margin: city accepts her input \_\_\_\_\_ meanings} experiences in his surroundings. The cooperation and interplay of city life, the sense of community, depends heavily on communication, and a significant portion of messages are carried by the material cityscape. These messages have become so complex, so rapid in succession, so redundant, so disorganized in form, as to impose a heavy stress on the reader, who is bombarded by them. {margin: Noise Encodg Decodg} We have here a situation corresponding to a traffic {"Noise"} jam in transportation. In certain intensively-used areas, moreover, the formal signs and symbols {underlined} have become the dominant features of the visual field. {Instrumental as esthetic}

Such disorganized communication cries for reorganization. Not suppression, since many of these messages are essential, and since a landscape without signs loses vitality as well as meaning. Rather we must maximize communication while minimizing stress, allowing the attentive observer to extract the greatest possible meaning from that which surrounds him: both the direct verbal meanings and the more indirect conveyance of status, function, or group feeling. It must also be within his power to shut off messages {margin: visual auditory olfactory tactual} when they are not desired, or pick out easily the particular one that concerns him. We may try to approximate, for example, the richness and flexibility of meaning conveyed, to a learned and sensitive naturalist, by the forms in a familiar woodland. This quality of meaningfulness is, {enhanced by} of course {circled} {generated by} firmly anchored {underlined} in the quality of perpetual coherence, and the emotional significance of the forms.

The inquiry will concern itself with communications which are made via material elements of the urban landscape, and which are received by some observers, in however distorted a form. {margin: Patterned signs-symbols configurations of letters and words} It will not be confined to lettered signs nor direct pictorial symbols alone, but will also include shapes, colors and textures, such as the shape of a fire hydrant or a church spire

or the details by which individuals attempt to convey their position in the world: screen door ornaments, for example. It will be concerned, in other words, with the "readability" of the cityscape.

Some tests have been made on this subject. A single block on one side of the street in Central Square was surveyed in detail, noting every communication, whether by verbal sign, pictorial symbol, or symbolic shape. This amounted to some 650 messages in this small space, including perhaps 4000 words in written portions. Almost half of these were simple statements which located or identified features, or named the goods or services available. A photographic coverage was made of the same block front, and was studied for the efficiency with which the messages were carried. {margin: Photo blurred to give outline} A brief analysis of the relative visibility of the messages was made in the field, and several subjects were walked past the block and then asked to repeat the messages they remembered seeing. The amount of information conveyed was extremely low, particularly in the more congested area. {margin: coherent – Interest congruity connections orgnzed} It also became apparent that certain signs or objects with strong pattern qualities, or those which had prominent spatial positions, were the most easily recalled. {margin: Gestalt}

The Central Square experiment can be carried further by studying the relevance of general design principles. The attention-values of known techniques may be applied to the problem, Such are the effects of size, intensity, motion and novelty, and the contrast effects of color, brightness, texture and shape: light-on-dark, strong symbols on a plain surface, and so on.

We may further investigate the possibilities inherent in simplification. Today our shopping areas are jammed with an infinite variety of shapes and colors, which make attention, reading and memory extremely difficult. {margin: Noise Reducing} Certain systematic coordinations -- of shapes for example -- will help to carry messages more efficiently. As an illustration, where billboards have standard shapes, their difference of message are accented. similarly, a synchronization of day and night advertising would also simplify the perceptual

surroundings. The sloppiness of our urban environment is considerably increased by advertising devices which function either only at night or only in the daytime.

A third important step would be to work out principles for "coding" our environment: that is, to find common denominators of color, shape, or texture to which accepted meanings might be attached (underlined), but which could be used without sacrificing the individuality of the discrete elements. this coding could include not only signs, but also surfaces and forms not previously considered as intentional communication: the texturing of pavements in front of hospitals or churches; or the color coding of shop fronts in a big commercial area. Color or shape keys might be used above and below ground at particular subway stations, keys which relate to significant features of the areas served. Here we have a direct tie with the techniques of facilitating orientation in the city. Such heraldic patterning of our city environment, spreading out from our little cluster of presently accepted symbols, is a realistic and challenging possibility today (sentence underlined). {margin: Or Fire Postal P\_\_\_\_ Police Traffic Schools Hospitals} And the emotional significance of our cityscapes, the sense of connection with human activity and feeling, will be greatly increased thereby. {margin: Transactional relationships provide for fulfillmnts}

Finally there is the issue of location, of spatial position. The possibilities of concentrating or dispersing the signs and symbols in a city must be studied. There are, indeed, strategic locations in terms of visibility and esthetic significance. Just as the expressive potential of the various human features are different, eyes meaning more for us than forehead or hair, so in the same way there are certain areas of the environment which can carry a more concentrated message than others. Many signs are lost because placed in the same context. An analysis should be made of such locational advantages, taking into account the changing manner of perceiving the city (underlined). {?}

It is proposed, then, to study the process of communication in the city, in so far as the communication is carried via the material elements of the urban scene. It is assumed that this communication is an important process both for the efficiency and satisfaction of the individual, that it is inefficient and disorganized today, and that design techniques can be found to improve this. {margin: Connection theory} The study must cover what is said, what is received, and how it is done. from this should be drawn certain principles which can be illustrated and embodied in urban design or urban regulation. The objective as stated above, will be to find physical means of maximizing meaning and minimizing the effort of reception {underlined}. {provdg foci of perception}

The following steps are foreseen:

1. A survey of selected areas of the city of Boston, using verbal and photographic descriptions to convey the typical character of communication in the American city: what signs and symbols are used, what is being said, and how well the meaning is organized and presented. the study will be general in nature rather than detailed, and areas will be chosen to illustrate the typical parts of a modern metropolis.

2. Two detailed studies will be made. One or both may coincide with the areas chosen in the small-area study (section 2). The first will be a part of an intensive shopping district, inventorying the messages in detail, their form and visibility, and how well they are received by both the preoccupied and attentive observers. This would follow the method of the pilot study discussed above.

{margin: Rowhouses}

3. The second will deal with one block in a single-family residential area. A similar verbal and photographic inventory of intended messages will be compiled. This will be followed by the testing of a succession of subjects, asking each to tell us all he can about what he presumes to be the nature of the inhabitants of each house. Replies will be correlated for consistency within themselves, for relation to the physical clues, and

perhaps for relation to the nature of the people in the houses as they themselves like to think of it.

4. A search will be made for examples of effective city communication in contemporary American and foreign cities. A kind of sign-writer's handbook" will thus be compiled. this may be amplified by a survey of how other cultures have conveyed meaning in the forms used in their settlements. {Cf. Nat. symbols}

5. A study will accompany this, analyzing the role of meaning in the city, and considering how meanings may be structured in an effective way. The latter would follow out the implications of ideas mentioned in the introductory discussion above: attention-value, simplification, coding and context.

6. Finally, this material will be correlated as the basis for a design study, which will suggest general means for improving city communication, and will also illustrate the basic principles by the communication re-design of a central commercial area. Suggestions for urban regulation of outdoor communication may also be derived from this analysis.

The first four parts of this inquiry can be accomplished within a year, and the last two parts can be initiated in this time, but will run into the second year for completion. One of the principals and a half-time assistant will be necessary in the first year. A designer must be brought in for consultation during the first year, and employed full time during the following summer, or perhaps the principals can take over the design work in the second year.

{A To whom it may concern Message . n\_\_\_\_\_ for (b)\_\_\_\_\_

B Directed Messages

Enhance messages or receptive awness & \_\_\_\_\_ - \_\_\_\_\_

C\_\_\_\_\_ studies by forms which locate characters, amounts[?] etc}

The first four months of the project were described in our letter of January 6, 1955, to the Rockefeller Foundation, but this will to some extent be repeated here, so as to give a total picture of the effort during the first academic year.

The early months were spent in a free way and on a modest scale. The first step was a series of walks and drives through the Boston area by the principals: the impressions and ideas arising from these walks were recorded and discussed. This material has proved to be basic to the succeeding work, and to have contained the germs of many ideas which developed later. The original research project was at this time also circulated to some forty professionals for comment.

At this early stage a small reference library was collected, and systematic reading begun in the form of the city and in the psychology of perception. This is continuing, although at a reduced rate. Group discussions were held on three occasions with psychologists and with artists who had an interest in the city: Dr. Arnheim of Sarah Lawrence; Drs. Bruner and Tagiuri of Harvard university; John Cage, composer; Andreas Feininger, photographer; James Farrell, novelist; Boris Kaufman, cinematographer, and Ben Shahn, painter. Similar discussions were held with the M.I.T. staff in planning and in architecture, and with Dr. Licklider, psychologist. The condensed transcripts of these sessions have proved a fertile resource of material. While such seminars have stopped for the present, they may be begun again at a later date, when the project is producing concrete results for discussion.

From this material we developed a "framework for study" in December. This sketched out a loose organization for the research program, on a normative basis, and listed a great number of possible "topics for study", largely undeveloped and unevaluated. This statement was circulated to a number of interested planners, designers and psychologists for comment,

as had been the original proposal at an earlier date. among many replies, some dozen were received which went into the proposal in some depth. These comments, in general either strongly for or strongly against the program, proved to be very useful in testing and clarifying our ideas. The strongest (and in our eyes most justifiable) criticism was leveled against the rather loose character of our initial attempts. Other attacks questioned the immediate applicability of our studies to current design problems. Since we look on this program as one of basic research, we are less inclined to be moved by this latter criticism. Many comments, in addition to supporting the program, contained original ideas for directions or techniques of study, and we have made use of a number of them.

Since January of 1955 we have been engaged primarily in exploring a number of possible studies and study methods and in evaluating these experiences as a basis for a concrete program of action. Some of these tentative studies opened up new avenues, while others came to bad ends. They may be summarized as follows:

{margin: w\_\_\_\_\_ fm U\_\_\_\_\_ Au.}

1. The collection of a photographic library on the city was attempted. the principal result was a useful card-index summary of the kinds of city photographs available at a few major sources. Such indexing might be continued for a dozen additional major sources, but the main objective of the trial proved to be elusive. The pictorial material is so vast in extent, and the classification of it so difficult if it is to locate the right photographs for any given study, that the attempt at building a true library was abandoned. Photographic collections will in the future be done for a given specific study, rather than for general purposes.

2. A study was made of the process of orientation in the city, and the objective means used. This topic was tested from several different angles, including having subjects make a sketch map of Boston and describe the routes they would take toward certain destinations; a subjective analysis of the

{top margin: Begin & e\_\_\_\_\_ of travel – in between of little significance} {top margin: C\_\_\_\_\_ trouble d\_\_\_\_\_ who notes whrl be ignore[?] at Rome.}

process of orientation in the field; and an objective mapping of orientation clues. This study proved to be quite revealing as to the mental image that people hold of their city, and will be used as one of the basic techniques of the proposed major analysis of orientation next year. Results if this tentative efoort, and its meaning for the larger scale study is developed more fully in section 3.

3. Several attempts were made to develop a method of analyzing spatial sequences in the city, and of recording the structure of space over large urban areas. One attempt was the construction of a negative model of a portion of Beacon Hill, that is, a solid model of what is in reality the empty spaces between structures. This proved to be a failure in communicating the spatial sensation in the area. Spatial structure is still felt to be one of the basic elements of urban perceptual form, but a good method of analyzing and presenting its interrelations, over a continuous district, has yet to be found.

4. A photographic analysis of Copely Square was made, including a sequence for each approach at fifty foot intervals, a recording of the “walls” of the space, and a time sequence of photos showing the rhythm of activity over a twenty-four hour period. These proved quite valuable as a trial of method in the careful description of the perceptual form of an area, and were also very revealing as to the nature of the sequence of perceptions in the city. These techniques will form an important part of the proposed study of a small urban area. See Section 2.

5. An interview technique, using a tape recorder, was developed to study the subjective reactions of individuals to what they see and hear in the streets. The results, if yet too limited to be conclusive, proved fascinating, and will also be used in the small area study. See Section 2.

6. A few sound recordings were taken of typical street noises. These

{top margin: To Whom It May Concern messages or Directed messages}

form a part of the description of an area, are sometimes surprising in their character when heard in isolation, and have a certain importance in giving a district its distinctive character for an observer. They will be used as mentioned in Section 2. {Sound differential analyze to reveal signals & \_\_\_\_\_ not perceived alone but actg on individual}

7. A tentative study was made of the city as it is recorder in various paintings, to see what this might tell us of its perceptual form. The work soon proved to be of great interest, but to be principally an analysis of the painter rather than of the city; it was abandoned as inconclusive for our purposes.

8. {paragraph bracketed} A similar result was reached with two attempts to analyze the city as seen through the eyes of the novelist. Although a sequential extract of descriptions of the city scene taken from a given novel presented a very interesting subjective picture, yet the applicability to the proposed program was too certain to warrant further effort.

9. A brief study was made of perceptual communication along a shopping street (Central Square, Cambridge). Here one block front was carefully surveyed for all the messages, {directed – general} distinct and indistinct, that it was trying to convey, and some tests were run on various subjects to determine how well these messages were being received. The block proved to be carrying a staggering number of messages, and of these staggeringly few came across to the people in the street, even when they were on the alert. Some brief analysis was then made of the characteristics of messages successfully conveyed, and of the value, or lack of it, of these messages for the observer. The tests provide one basis for the proposed study of communication in the city {underlined}. See Section 4.

10. A few interviews were conducted regarding the memories of subject's childhood in the city, with reference to the physical surroundings. The results from this tiny sample are quite interesting, show some surprising similarities between widely separated places and cultures, and are, as might be

expected, heavily charged with emotional meaning. Although this particular study is a rather non-directed, open-ended search, with little immediate connection to the major focus of the program, the results have been sufficiently intriguing to suggest a sideline project to be carried on during the coming summer. The results may throw some interesting cross-lights on our major effort.

11. A start has been made toward developing an optical device for use in studying small-scale models. Development has hardly begun, but, if successful, it will be a part of the small area study. See Section 2.

12. Finally, another view of the city was obtained by having a number of third and sixth grade children make drawings of "something they liked" in Wellesley Square. When compared to accurate drawings of this shopping area, the children's special and detailed view was quite apparent. Choice of subject and distortion both seemed to be revealing. This technique will probably also be employed in the small area study, Section 2.

In the latter part of this academic year, we have principally been engaged in evaluating these experiences and in formulating the framework of our program and a concrete research proposal for the two years to come. This program, converging, it is hoped, on certain major ideas, is developed in the basic report to which this Appendix is attached.

#### Appendix B – SOME SUGGESTIONS FOR STUDIES ON NATURAL ELEMENTS IN THE CITY AND ON URBAN CIRCULATION

The following proposals are for studies which center on two vital features of the urban environment, features which have taken on key importance in the course of our preliminary investigations. Such studies, which have as their focus a physical fact rather than a normative principle, can make extensive use of the more general findings of the work proposed for 1955-56. Therefore, these areas are only outlined now, and are tentatively proposed for development

in the final year; or at least they are given as examples of the kind of studies which the research program may then move toward.

#### I. A Study of Natural Elements in the City.

Roughly speaking, city life has made two major contributions to civilization: it has facilitated the production of material goods, and also that of cultural goods. The closely woven economic and social network of city life contributes to the efficiency of material production. The concentration of such cultural forums as museums, theatres, restaurants, and concert halls, and the many other facilities for communicating ideas and feelings, stimulates the production and distribution of cultural goods. But these favorable conditions were bought at a sacrifice. Recreation, the activity which helps us to replenish our used-up physical and psychic energies, is to some extent inhibited by the concentrated urban existence, with its intense tempo, and exclusion of the natural world. Today many of our leisure activities camouflage our fatigue rather than eliminate it.

Looking back in the past to ages of urban concentration, we find expressions of the need for a broader, more complete existence. the poetry of Coleridge, Shelley and Wordsworth gave voice to the need for relaxation. Constable and Turner, and the "Grande Jatte" by Seurat or Manet's "Picnic" are parts of the same general trend. The open spaces of the Hellenistic landscapes or Giorgione's "Concert" are typical examples. To reconcile the opportunities of urban life with the chance to touch again the rhythm of the seasons and the colors and shapes of the natural world is a task which must be taken on without inhiviting technical progress, nor obscuring the genuine meaning of urban existence.

It is significant that those who can afford the choice will select one of two solutions: they go up or they go out to reach some relatively congenial setting. Inhabitants of cities like Chicago, encircled by a sea of blight, are typical in their attempt to find some islands of recreation. The skyscraper

with their penthouses overlooking the lake, rising above the smoke, dirt and noise under them, offer for a few people the basic natural spectacles, without giving up the positive aspects of urban living. The movement out of the city is more often chosen, but it too has its price: the strain of commuting and a certain schizoid attitude toward city and country. The common denominator of both of these attempts is the acknowledgement that for genuine recreation one needs a continuous contact with the living, changing features of our natural environment. For the less privileged, there are flower-pots in the window and weekend rides in the country.

The most dominant factor in our experience of the urban environment is the perception of motion {underlined}, but the character of this mobility is by its nature different from the character of the changes we customarily associate with experience of the natural landscape. In the natural landscape most major changes have a legible, predictable direction. The concentration of clouds in a darkening sky indicates storm or rain. We can judge the time of day from the position of the sun with all its light and shadow constellations. Nature is a continuum of experience which we can rely upon. The changing color of leaves, the stages of growth in plants from buds to flowers all point with regularity in a certain direction. Characteristic of the natural environment is this suggestiveness of growth which continuously opens our eyes to an understanding of its regularity, rhythm and connectedness.

In the urban environment, mobility is in large degree illegible both in its meaning and in its direction, and very rarely can it be put in terms of regularity {underlined}. {margin: Statistical or Perceptual – Rush hour Holiday-weekend} Here mobility and change are too out-of-scale for the individual to grasp, and offers only an exciting mobile texture, a tickling of the senses. But the density and mobility of our technical environment is necessary and, so far as can be seen, is definitely on the increase. One of the essential tasks of urban reconstruction, therefore, is to re-establish this

lost combination by allowing the natural elements of our surroundings to reassert the deeper rhythm of the environment {underlined, ??}.

Certain key features should be recognized. The first {underlined} one is the natural contour of the land. The broad form of the topography, so wonderfully retained in some early cities, today is blurred or entirely concealed by the one-sided functional order that has been superimposed. The topography of each city has its own natural rhythm, at times almost hopelessly forgotten, but frequently still within the range of recovery. The fascination of cities like San Francisco comes primarily from the accidental but fortunate dominance of its natural context. We should investigate the relationship of a number of cities to their natural settings, analyzing the factors which conceal, inhibit or facilitate a collaboration between the man-made and natural environment. Simple details such as the location of buildings, or the direction of streets, could open vistas enabling the city dweller to sense the contours of the land. Broader patterns of use and city form may likewise cooperate with, or work against, the topography. It would be illuminating to make a comparative study among cities similarly situated in mountain regions or flatlands, in order to decipher whether certain configurations facilitate this awareness of the surroundings.

Another key {underlined} is the climate of light {underlined} and color {underlined}. London, for instance, has a different color atmosphere from that of Venice or New Orleans. Some early cities made a skillful use of the changing light upon their own characteristic color scheme. Early civilizations, for various reasons, acknowledged the significance of the sun, the sunset and the sunrise, and many of the world's most beautiful cities were patterned to catch these great spectacles. Peking, for example, was designed with the definite purpose of framing within the man-created world the wonderful play of the rising sun. In a city which consciously frames the sunset, the city dweller would be aware of the natural rhythm of the broader world. a comparative study of cities

might thus be made, in term of their light atmosphere and the manner in which they receive it.

Water, with its living play of light and movement is another important element. This feature of our environment has a vitality different from that of motor car lights or the sparkling spectacles of the city. Rivers, lakes and oceans are counterparts on a large scale of the experience of a fireplace: we participate in the interplay of light and sound at its natural rhythm. Yet most of our rivers are bottled up by industry or they are framed by traffic. A systematic study of the role of water -- rivers, ponds, lakes, oceans, and fountains -- and its aesthetic contribution, comparing its use in different cities, may offer suggestive material for future master plans.

Finally, the role of greenery could be studied in its many ramifications and implications. In our present central cities, trees and gardens are often only the remnants of an older urban life. An analysis of the role trees in various cities might suggest possibilities for using green areas as a complementary contrast to built-up areas. A network of green areas could be the connecting tissues between the active areas of the city. {margin: C\_\_\_\_\_ Vienna Ring} The very paths by which we move could in this way be considered in themselves as recreation. Such walks could be important in synchronizing kinesthetic joy, visual pleasure and the psychological value of exploring things at leisure. Which surroundings, for example, are conducive to walking slowly for enjoyment, and which force us to fight our way through? {Pedestrian traffic exploited for business – sales} We should try to learn about such commonplace choices as the route to work, or the site at which people gather. Once we have a better understanding of the natural and the man-made environments in terms of change of pace, density of events, legibility and regularity – we can bring these differences into contrapuntal sequence in the city's landscape. People could move through a variety of areas, no one of which assumes in its size or in its impact more dominance than is necessary

to balance any area which precedes or follows it.

These green places in the urban environment must be designed, not only for walking, but for contemplation as well. The city should have small cases in the mechanical setting of concrete, steel and glass, which can help people to shift gears in terms of tempo and interest. This does not mean a ruralizing of the city, but a carefully worked-out texture, in which areas balance each other through their variety. There are numerous pioneer solutions: Hyde Park or {Green Park} Kensington Gardens in London, Central Park {Madison Square Ba \_\_\_\_ } in New York or Lincoln Park in Chicago, Copenhagen's Tivoli, the Rina Prater in Vienna, the {Tuilleries} Luxembourg Garden {or the Ars \_\_\_\_} of Paris, or our own Public Garden. They offer a fine landscape setting within a clear urban frame, but are often isolated, mammoth areas which are not easily accessible for short periods of time. We can develop similar solutions, equally potent, but smaller in scale. Factories, offices, or such monuments to the economy of the city as the wonderful grain elevators of Minneapolis, could be consciously framed with natural surroundings, amplifying the qualities of both. {pattern of industrial bldg of P \_\_\_\_ Obsolete factory}

Therefore, we may analyze the shape pattern of landscape units, and their relation to other uses: enclosed squares, dendritic or radiating green areas, parallel strips of park, and so on. The detailed visual impact of such shapes should be investigated: the structural connectedness between one type of area and another, the factors of contrast and complementarity.

To summarize then, this study will concentrate on the following 4 areas:

1. The expression of natural topography by the urban pattern;
2. The relationship of the light atmosphere to the colors, shapes and forms of architectural features;
3. The role of water in the cityscape; and
4. The place of green areas in the built-up environment.

## II. A Study of the Perceptual Quality of City Circulation.

The flow of persons and goods is a fundamental function of urban life; indeed, a case may be made that this, or communication in general, is the basic aspect of a city, and its principal reason for existence. Circulation systems may be studied in many fundamental ways: in regard to their technical efficiency; speed and capacity; or in terms of their social impact; or of their economic effects. Here we propose to study the perceptual consequences of circulation systems: their direct impact on the individual. He is affected both as a participant in the circulation process: as a driver, pedestrian or subway rider; and also as an observer. Our experience of circulation in today's cities, emotionally dominant and taking much time and attention, is typically exhausting and disorganized, meaningless and "empty", one of the most common complaints of life in cities.

We should study the experience of being part of the flow: the sequence of impressions received while walking, cycling, driving, riding boating; and how the scale, tempo and quality of these sequences differ. The basic problem here is to give coherence to all these different sequences, without mutual interference, and yet without complete separation between these modes of experience. From the standpoint of the observer, we have the same problem of giving continuity to what he sees, and preventing the flow from destroying the coherence of the urban setting. The great transportation facilities -- elevated tracks, subways, highways, airfields, harbors -- which have become dominant features in our cities, must also become expressive forms which have emotional as well as intellectual significance for the observer.

A key moment is the act of transfer {underlined}: the perceptual quality of the parking area, the railroad terminal, or the bus stop. here we must carry the individual smoothly through the change of speed and scale. With the automobile in particular, this is linked to the visual problem of the storage of the unused, "dead" vehicle.

Finally, the circulation system must be considered in a larger reference. It can be an important unifying element, a spine or network which links up and gives form to a large complex urban area. The characteristics which facilitate this large-scale linkage must also be investigated. This will be an obvious overlap with the study on orientation.

What is being proposed, therefore, is a broad study of a functional sector of the city, but a sector which will be analyzed only from the special viewpoint of its perceptual and psychological impact. Much work has been done on the technical aspects of traffic, but little on its perceptual results. Many designers are aware of the problem, and have done a good deal of intuitive, rather unsystematic, thinking on the subject, which has nevertheless had important results in their proposals. The problem itself is widely recognized, by professionals and laymen alike.

{margin: Vision oriented by motion of objects figure on ground} Our basic assumption, then, is that circulation is a dominant perceptual experience in our cities today {underlined} {many eye shiftg foci – no one perception}, both for the observer and the circulator, and that this experience is typically disorganized, meaningless and exhausting. We would attempt to describe the nature of this experience systematically, and to propose certain guides for the organization of the circulatory system from the viewpoint of its perceptual impact. The following studies are among the possibilities:

{margin: motion picture glimpses to show sequences that are continuous or discontinuous}

1. A detailed analysis might be made of the sequence of impressions received while traveling along a few principal paths in central Boston by walking, by automobile, and by subway. Still photographs, subjective impressions, brief interviews, and perhaps motion pictures could be used {underlined}. The object would be to contrast the quality of these three experiences, to explore the forms that would improve their coherence, and to consider the problem of coordinating the perceptual requirements of each mode, when all operate in the same area.

2. The perceptual interrelations between the major types of urban transportation -- foot travel, conveyor belts, busses, street cars, subways, elevateds, automobiles and trucks, bicycles, boats, light aircraft -- might be considered by finding existing examples of different combinations of these types in the same channel. These combinations would be analyzed on the spot, or, when necessary, by photographs, to uncover the perceptual influence of one type on the other and on the bystander. Particular attention would be given to the degree of contact or segregation, and to the physical devices used for this.

{margin: Date de P\_\_\_\_\_}

3. Shorter studies could also be made, such as:

a. An analysis of the moment of interchange, which seems to be psychologically critical; the bus stop, parking lot, rail terminal, dock, subway station and airport. How can we preserve continuity {circled} in this experience? {margin: rules of perception?}

b. An inquiry into the visual problem of the storage of "dead" vehicles, not in use -- of parked automobiles in particular. What means can be used, within functional limitations, either to camouflage or to make meaningful these inert masses? {Why inert.}

c. A comparison of the perceptual qualities of two means of transportation toward which we hold divergent emotional feelings, such as automobiles and boats. {margin: C\_\_\_ London water busses[?]} What factors make for this divergence: length of tradition, use with which they are associated, design of the vehicle itself, form of the channels in which they move, intensity of traffic?

The study as a whole should culminate in design recommendations illustrating the general principles arrived at and presenting new alternatives. Designs would be kept at a general and illustrative level, of course, rather than being applied directly to a specific case.