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**AESTHETICS VALUES IN URBAN DESIGN**

**(CASE STUDY CONSTANTINE)**

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### **Abstract**

This thesis Attempts to present a coherent approach to the urban environment and particularly to its visual qualities and psychological perception and functional importance in constituting its identity,, its aesthetics values( **attractiveness**). The urban environment is perceived through its visual appearance, therefore, the emphasis would be made on the makers or the designers of the urban environment that neglect the visual qualities, and thus are not emphasizing, the importance, a visual qualities as a major element in the design process .such neglects of the urban environment result in poor environments without meaning or visual qualities.

However the main objective of the designers should be to improve the visual qualities of our urban environment and overcomes monotony. Designers should be dedicated to enhance the visual qualities of the urban environment and enriching places for peoples who live in them. The recognition of the visual elements as an urban necessity must not be neglected or avoided because they play an important role in the creation of more meaningful urban environment.

Chapter one, on one hand examines the meaning of the act of perception, as well as how the brain functions and divides his work. While on the other hand different theories of perception to unable us an understanding of the psychological part.

The second chapter deals on one hand with the perceptive values as well as the environment preference, what seems to be preferred by people's .while on the other hand, it is quite important to mention the aesthetics qualities. And this will help us for a better understanding.

This research will examine throughout a comparative study between the old and new town of Constantine we try to understand what makes the urban environment monotonous?

Different theories which are pertinent to the design of the urban environment. And discuss fashions and style as well as education and training.

In the light of all the previous study, the result is related to the aesthetics guidelines.

Key words: perception, aesthetics, environment, complexity, variety, Constantine.

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## introduction

### **Introduction**

Most of us when walking through an urban environment are affected in one way or another by the look of the environment we pass through .Today visually successful urban environment are rarer than they were in traditional cities, modern urban environment has been simplified to such an extent that all it has to say is revealed at a glance a large range of possibilities and meanings has been eliminated ,also it becomes a standard whose character is gone for function and profit .faster response to the human needs ! just sheltering them .some suggested that the neglect of urban quality is due to the unprecedented pressures for change of the present day, but here we say that change is always present, it affects everybody and everything .the way people live and the facilities change with each generation but where once the visual image of our urban environment becomes without meanings, as well as without visual qualities, there lies the problem.

Modern urban environment is to some extent monotonous ,without values and it does not give its users any joy of seeing .there is no tension ,no surprise ,nor a challenge to the brain apart from trying to remember the number unit .even the total experience is less satisfactory .Urban Environment which were once compact are being opened, and where they were of recognizable human scale, they are tending to become impersonal and brightened .The standardization of Building methods is accelerating, this process and individual identity is being lost.

Modern urban environment has been criticized as being monotonous and ugly .this disease of monotony with consequent loss of urban values .we are in great danger of losing the best qualities of the visual qualities that exist, and creating little of comparable quality .One of the detrimental cause of ignoring the design of the visual environment is to create monotony .

The rational of modern urban environment design does not allow UN functional elements in the design process. Those which can be seen in traditional built milieu which had led To simplified buildings and layouts to cater efficient vehicle movement which has as well

Robbed the potential to create a good visual urban environment by in large dynamic urbanism.

Having said that the rationality does not allow un functional elements here ,but to say that the object of all the planning and building design must be the production of an environment for efficient and happy living ,the starting point for the designers are of course the natural and man made environment as it exist and the needs and desires of people who live in it .the physical environment and its mental ,emotional effects result in the main from perception ,through sight .therefore the appearance of things and of different buildings is of great importance practically and psychologically.

Thus we could say that visual design must be considered not neglected by all concerned from the beginning of the planning process through to the minor items .visual design can not be considered successfully as an after thought although remedial or cosmetic .Kevin lynch says that, appearance and aesthetic qualities are not final touches, they are fundamental considerations that enter into the design of the object from the beginning.

More clearly, let us say that visual qualities in the urban environment are not like decoration, it is not the last thing to consider or to think about when the work is virtually complete. It can not be achieved as in wall painting .it is more than surface deep and only when we plan for the visual quality from the outset can we expect to achieve results which will evoke satisfactory human response .

Urban environment must be efficient in organization, servicing and ought to be more than this, it should have an individual personality that makes it different from others and allows the inhabitants to identify themselves within the urban environment ought to be a reasoning place where people can feel they belong and where the recognize not only other people as being familiar but building and spaces as well.

The gap in the development process, to be bridged by urban design is essentially that between two dimensional planning, with non specific clients, and its three dimensional

Architecture realization, generally with specific clients .in other words, the creation and/or control of a three dimensional framework providing a planned context for individual building projects. In manipulating or creating a framework for relating associated adapted spaces and channels in three dimensions a major consideration must be the resultant aesthetic. Miller (1973) however, contends that as a designer, much of our time is spent in manipulating spatial components to satisfy aesthetic criteria .yet while we can understand functional, economic and social factors influencing the spatial design the operations of aesthetic criteria are poorly understood.

In fact the problem was born out of the awareness of the deterioration of the visual qualities of the urban environment of our day when compared to examples from the past, here we are not saying that we have to copy it blindly but understand why we enjoy such building and environment.

### **So, what is environment aesthetics and what does it mean?**

As a working definition aesthetics is intended to mean an arrangement of elements of a phenomenon to produce a pleasantly heightened intellectual and emotional awareness. The mechanism of this response is a continuation of or an interaction between the psychology of perception and a language of association.

If it is accepted that environmental aesthetics are a desirable goal what then are the factors influencing their creation.

The aim of this study is to examine these factors and work towards a possible theory of aesthetics to be used in the practice of urban design and in the production of urban environment.

## **Structure of thesis**

The thesis is divided into nine chapters

Starting with concepts and definition, however, The Importance of perception is implicit in the very notion of urban design .the object must be perceived and evaluated but by in large it must provide pleasure in the design of the visual environment; the perception of space and relationships between buildings and space must be as such that it gives pleasure to the person who is amongst it.

### **Chapter one, concepts and definitions**

we would like to concentrate on those aspects of perception involved in the act of environmental perception and such examination will enable us to understand on one hand the meaning of the act of perception as well as how the human brain function and divides its work while on the other hand, speaking about theories of perception **in chapter two** will enable us to see different experiments and experiences.

### **In Chapter three**

Attempts in general terms on one hand to show and explain the perceptive values in urban environment design. And which can be defined as being those values which are derived from relational perception that is to say coherence proportion cosmic integration internal external.

While on the other hand ,having said that modern urban environment does not give a pleasant image ,and this is due to its limited contents .as a result it seems evident that people do not prefer such situations .therefore ,one could say if it is the case so what do they really prefer ?.

The answer to this question is provided by many research and experiments such as psychology and other sciences.

### **Chapter four**

Examines, the aesthetic qualities which make a building or an urban environment attractive. Since we are dealing with the definition of monotony

And its effect on the urban environment. To understand the problem of monotony a comparative study between new towns of Constantine and the old town was used. In fact a main question was behind such study which is:

**What makes an urban environment monotonous?**

**Will be studied In chapter five**

**In Chapter six** discusses the approaches and principles adapted long different scholars on design of urban environments and aesthetics values.

On one hand a number of authors have expressed their thoughts on the design and the resultant aesthetic and non aesthetic of our urban environment .some have illustrated approaches to design and others have advocated design principles but a theme common to all of them. Is how the urban environment is seen (perceived) by the users and how this is to be used for improved design results?

The aim is to analyze each theory and try to see those elements which have been studied for the insight of a visual good environment while on the other? the perception of the outside world does not only occurs by walking throughout the urban environment but it can be done by driving as well ,and the two perceptions are quite different that's why the designers have no right while designing to forget one of them .

To be much more clear we are going to explain views from the road. In **chapter seven**

**In Chapter eight**

In which we tried to explain fashion and style as well as education and training and see what their influence in the design process is really. Reality.

Good theories and good intention alone does not create an aesthetic environment other criteria have much to say in the process of the design, economics and politics as well as controls and regulation.

## **Chapter nine**

The last chapter deals in general terms with the aesthetic guidelines by which we understand the elements which can create a visual good urban environment .but here as we have seen the difficulties throughout the study .we have to be very careful .it seems very difficult and perhaps dangerous to isolate any one elements but since we are (architects urban designers, town planners) the choice of this elements is some how related to the urban design. thus in the light of this ;one could say that if they are taken into account from the beginning of the design process and expanded as well as combined to somehow they may create a visually good urban environment .

General conclusion.

Chapter one  
Precedent and judgment

## **1/ Precedent and judgment**

### **1.1 Introduction**

Knowledge is historically cumulative .innovation or invention is rarely if ever unique .it is based on a slight forward development of our recognized body of knowledge .while breaking new ground it is dependent on that which has gone before as theory represents the cumulative experience of successive generations. Our knowledge or our ability to realize through science and art of built environment is manifested in all points in time, in streets, spaces and buildings, of our villages ,towns and cities .Our exposure over time to particular experiences .that which is there or that which has gone before is therefore of particular importance in the judgment of the present and future environments .

Assessments of functional requirements are (room, size circulation services). Can be fairly objective ,relating needs and desires with that presently offered ,or that previously offered and with current expectations or standards .However ,the sensuous assessment is often found more difficult .matters such as physical comfort ( noise, warmth etc).Can be assessed but the aesthetic judgment is more difficult or liable to individual interpretation .There appears to be a greater dependency upon well established forms or precedent .it can be further suggested that there exists a greater human flexibility to functional changes than psycho- sensual changes .the average human being can physically learn or adapt to most situations that is. He can operate a net sophisticated machine., live in new housing ;learn to drive a new car accept new systems but, although the function can be physically accomplished in a competent manner, the psychos sensuous satisfaction may be lowered ,which ,in turn may have some effect .f

To illustrate this point ,a survey of residents housing preference in the quarter of Boussouf revealed that residents were willing to accept changes in service access, house layout .while there was apprehension about using the out side spaces answers

were said to make houses look like a flower in a dirty place .Another example in the increasingly hypermarket which the majority would seem to enjoy using but object to the resultant visual dereliction created by acres of car parking surrounding what is usually and essentially a rather 'dull and oversized box'. In the old town.

Architectural competence could be questioned in the latter example but it would be deviating from the rather obvious point that is sought to make; which an essential reliance upon precedent judgment of aesthetics is. This reliance can be apportioned to both creators and recipients (professionals and designers).

In general the recipients are more conservative and dependant upon established precedents than the designers or professionals within whom two main streams of thought can be identified. As follows:

- **The precedent conscious.**
- **The precedent rejecters.**

### **1.2 The precedent conscious**

Embrace two sub groups, **extremist puritan**, and **contextual conservative**. the former is typified by the extremist architectural **historian** ,still in existence ,but common in the 19<sup>th</sup> century ,who acclaimed the merits of the isolated Greek temple ,the single cell ruin of indeterminate purpose ,the ancient forum ,and resulted in neo- revivalist movements and patterns appreciable only on paper ( bacon -panathenaic way ).while not decrying history ,Collins (1971) questions the extent to which precedent can usefully be studied out context and point out that "the sole value of architectural precedent is to illustrate principles ,therefore it seems highly desirable to concentrate on the most recent precedents (on recent examples which confirm older precedents) and to pay less attention to buildings constructed in ages so remote, that the social customs, organization, and technical resources, bear little relation to our own and again in so far as the theoretical writings of **pseudo historians from le Corbusier to Venturi**, are occasionally misleading, it is because their historical precedents are often seen, on

Closer inspection, to have little genuine relevance .this is presumably because they Deduced the precedents after elaborating their theories, rather than proceeding the other way round. But their writings are valuable because they recognized intuitively the validity of Lord Mansfield's assertion that

**" precedents serve only to illustrate principles and give them a fixed certainty .the reliability of a precedent is less important than the reliability of the principle".**

History as the only source of precedent ,brings to light truths that serve to illuminate higher truths ; and though ten thousand precedents are incapable of producing one infallible judgment they are the only guides we have to make judgment of law and judgment of taste .

### **1.3 The contextual conservative.**

The other precedent entitled the **contextual conservative** .the majority of the public would fall into this category, which also embraces the precedent conscious local authority planning officer and a considerable number of sensitive creative and original designers or form givers (**Frank Lloyd Wright**).

They are concerned with the environmental status which is not radically disrupted; that form follows that of its neighbors without great (perceptual) deviation .integration being achieved, by repetition of important external features or by accepting' **that a building should belong to its terrain and its purpose whether in city or country.**

The essential principle is that the new fits as part of the greater whole and not as a non related statement .If this principle of sympathetic relations and harmonious buildings are adhered to the architectural expression and resultant 'aesthetic ' of any geographic area will alter slowly over the years .Resident groups ,or indigenous population would appear to find this method more satisfactory than rapid change ,particularly in the environmental context where an old adage is more correctly read as familiarity breeds contentment .

The precedent conscious group seems to ignore the rapidly increasing pace of technological change shortage of resources ,increasing and changing user demands, the psychological need for shock contrast to be perceived .the precedent rejecters claim to meet today's demands by adopting a functional and futuristic approach with today's aesthetic .the constraints implied by precedent are dismissed with the attitude that the old will soon be replaced leaving the new as the precedent, therefore, there is little need for sympathy .The archigram experiments with media orientated non architecture illustrates this philosophy ;their contribution while dynamic was however largely academic. Their contribution to philosophy was accepted without the worst excesses being physically realized a less dynamic and contributory example however, would be the many places of modernist architecture and planning realized in the cities of the world. **ARTHUR KUTCHER (1973)** lucidly expands this philosophy which he entitles the deductive approach.

“Living in an age of materialism of unprecedented economic growth ,and of scientific and technical wonders .our visual arts are abstract and highly idiosyncratic ,having long since broken with the past .Our architecture must not only continue to reflect these characteristics ,it should continue the attempt to give unified expression to the diverse tendencies of the spirit of the times .Just as baroque architecture embodied the baroque spirit ,its mathematics ,its music ,its paintings and sculptures ,so Modern architecture can perform the great service of bringing the gap between science and art by giving physical, artistic expression to the rationalist tendencies of our age, and thus become its unifying symbol. Large, high density, high rise complexes, traffic architecture and ‘mega Structure ‘schemes are all evidence of a new age being born, of a new way of live and of a new priorities and values. It is our duty to help bring these courageous new projects about.

Even if they do not appeal to us personally, we have no right to question their validity and necessity .the general public with its lack of historical perspective and it's sentimental, reactionary taste, does not appreciate the grandeur of this vision. Was the

Eiffel tower was condemned in its time, as was probably the Parthenon? Great art which is ahead of its time has always been attacked by the insensitive and the short sighted.

The opposition philosophy of the precedent conscious is called the intuitive approach. Whatever we build will express our age .we are certainly under no obligation to impose alien and unworkable forms upon our cities in order to facilitate future historians analysis of the forces underlying our times .the concept of historical determinism by which the deductive approach justifies its architecture was inherited from a group of 19th century Teutonic dialecticians ,and is itself time bound and of limited application .if it is possible to discern a fundamental tendency of our age ,it is perhaps the freedom of choice and action which the technological inventiveness and economic resources of our time give us the supposed inevitability of modern architectures of forms and of the economical and technical forces behind them ,often effectively silences criticism ,but is perhaps the most questionable feature in the deductive approach .

The attitudes, policies and decisions which have produced this architecture are not natural laws, nor they do represent historical inevitability .they belong to the man made world of choice and they can be changed. the contemporary awareness of history differs from those of the past .the renaissance and the nineteenth century in particular took certain periods as sources of inspiration ,while ignoring or sometimes depreciating others .History for us represents an interrelated continuum .the cumulative built record of this continuum ,which is expressed in the contemporary city's fabric of ordinary buildings as well as in the monuments ,deserves to be treated with some measure of respect .the great surgical operations now being performed upon this fabric are unprecedented in their scale and character ,...these operations are tearing out the hearts of living ,functioning cities and replacing them with randomly related complexes whose purpose is ,in any event ,not the realization of a new aesthetic vision ,but rather of maximum return on investment .

From technological point of view, the current large-scale efforts of modern architecture are hardly *avant garde*, or even particularly courageous .the structural concepts involved are thirty or even fifty years old, and their technical execution represents a kind of mindless grin ding out of thoroughly familiar elements .the dismal and dispirited quality which these projects often convey probably reflects the lack of excitement involved in their design.

It is the latter philosophy with which the vast majority of designers, and professionals would most probably identify. Furthermore ,we can not ,nor should we wish to ,escape our heritage ,for as it is lord Mansfield asserted ,they are the only guides to judgment we have ,however ,what appear ubiquitous and aesthetically unsuccessful schemes continue to flourish in the urban areas of the world.

**Modern urban man is surrounded by buildings every hour of the day, and usually every day of the week. How does he perceive these buildings?**

## Chapter two

# Theories of perception

## **2.1 INTRODUCTION**

We perceive the world by means of the senses of our body which all contribute by sending information to the brain; thus enabling us to form an understanding of our environment. **Amos Rapoport (1974)** says that "Before elements can be organised into schemata and evaluated, they must be perceived. Perception is thus the most fundamental mechanism linking people and environment. The all pervasive process involved in all man-environmental interaction. People experience environments through the senses and all data comes to us through perception, our's and some one else's".

Thus for the environment to act as a medium for communication it is necessary that the individual read it and this involves the process of perception. Before cues can be understood and obeyed they have to be perceived. On one hand an examination of perception will inform the designer how cues are noticed and enable him to encode the environment for particular forms of behavior, referring back to Amos Rapoport, who pointed out that "The visual aesthetical experience can only be gained through the act of perception". Thus one could say that the importance of perception implicit in the very notion of urban design.

### **2.1.1 HOW DO WE PERCEIVE?**

The question how people perceive forms have been extensively studied, starting with **Fechner (1871)** and **mach (1886)** a growing number of psychologists have experimented In this field, although these experiments did not give rise to one single, complete and Coherent theory of visual perception (zusne 1970, pastore 1971), there is sufficient Agreement (de Groot 1961) between different schools on important areas in the field to Allow a number of scientifically objective statements to be made the human being are Equipped with sensitive receptors to perceive the outside energy which is emitted by the surrounding. It has the ability to transfer these various modes of energy to Another type in nature of energy to the human brain.

What we see is determined not only by what there is to be seen ,but also by the qualities of our eyes ,our optical nerves and our brains, the visual perception of our environment is carried out by our eyes and the part of the brain to which they are connected ,the Visual cortex .

Human eyes are adapted primarily to the discovery of changes in the environment and particularly of movements. Indeed, if we study somebody else's perceptions through his reactions to some visual stimulus, we can never disentangle perception and memory, for there is always a time lapse between the onset of the stimulus and the reaction.

Architects are aware that the buildings they have designed have an effect on other people's perception .they speak and write about crisp facades, lively masses intimate effects and hard forms .the use of such terms is based on the tacit understanding that everybody will experience these forms in the same way as the architect .but the beliefs and attitudes of the architect are products of his professional training and practice. Such beliefs have grown and been developed primarily within the subculture of architects and architectural critics .it may well be that such terms as crisp ,lively ,refer to a system of norms and beliefs that is valid only within that subculture ;a sort of professional lore that is handed down from generation to generation in the architectural schools.

The problems of architectural design and aesthetics can be approached from various angles.

### **2.1.2 THE VISUAL SYSTEM**

First of all let us say that the value of understanding the mechanics of visual sensation is of course obvious. Knowing how the eye works and transforms retinal images of constantly shifting light patterns into the visual world makes it possible for the designer to eliminate distracting situations. Here we are not going to explain the process in detail, but just a general brief explanation. As it is known light comes to our eyes, is focused by the lens, and hits the retina, there it sets up nerve impulses which travel over optic nerve

to the brain, the eye changes light to impulses that start a whole set of chain reactions. The optic nerve delivers the message picked up by the rods and to the visual centre in the brain. Here sensation becomes perception. The brain must learn to correctly analyze the impulses received from the eyes. The brain controls the voluntary muscular function of the eye. Also it is able to connect our experience and associations with what we see and thus our impressions and reactions are formed from this point on. Psychological influences are imposed on the physiological facts. The entire visual system is adapted to obtaining a maximum of information with a minimum of effort and means. Human eyes are adapted primarily to the discovery of changes in the environment, and particularly of movements, such adaptation is obtained through function specialization of the different parts of the visual system.

### **2.1.3 ENVIRONMENT PERCEPTION**

Animals operate within a closed stimulus reaction schema. Pavlov's conditioned reflex" experiments have established this, however human intelligence and awareness are such that we are not limited to experiencing our spatial and social environment purely in terms of reflex actions, but are able to interpret it. Our thought process enables us to grasp the significance of the most diverse components of our environments. Significance is not contained in the components, in question as such. One can say that, perception is a more complex process than just seeing. Through it people select, organize and interpret sensory stimulation into meaningful and coherent images of the world. Sensation shades into perception as experience goes from the isolated and simple to the complex interactions characteristic of an ongoing awareness of the environment. Since the act of perception is not only making sense of the outer world, but also to find our way through it, as well as interpreting it. Kevin Lynch (1960) in his book "The Image of the City" explains the urban cognition process and its importance in forming and identifying the

environment. He says "structuring and identifying the environment is a vital ability among all mobile animal s".

#### **2.1.4 MEANING OF PFRCEPTION**

The term of perception embodies a multitude of definitions and meanings; perception is an information gathering process whereby the individual orders the environment according to preconceived notions or goals. In effect it is a process of being aware.

Awareness or interaction with the environment is achieved through visual experience such as auditory and so on. Therefore perception refers to more than direct apprehension of the senses, as the perceived environment is more than the sum of sensory experiences. by definition, the term perception which is derived from the Latin word "**PERCIPERE**" which means to take, hold of, feel, comprehend, and as it was mentioned previously that perception embodies a multitude of definitions. The most useful among the many dictionary definitions seems to involve the awareness of objects or data through the medium of senses. Thus we can say that perceiving the environment is divided into three fairly distinct stages As Amos Rapoport pointed out, perception has been used in the environmental context in the general sense of "seen" whereas three distinct meanings are really involved and which may be clarified as follows:

- (a)** Perception is used to describe the evaluation of the environment, i.e. the perception of environmental quality and hence preference, a better term might be better environmental evaluation or preference.
- (b)** The term has been used to describe the way in which people understand, structure and learn the environment and use mental maps to negotiate it, this might better be called environmental cognition
- (c)** Finally, perception described the direct sensory experience of the environment for those whom are in it at a given time. This is the least abstract and is the

Process for which the term environmental perception should be reserved.

These three aspects of contrasting a perceived environment should be seen as phases of one process rather than separate processes, but since there is a distinction between cognition, evaluation and perception, because as we have seen they are different phases in perceiving the environment. So it seems to be useful to point out the difference between perception and cognition which is based on the role of direct knowledge, messages and information from the media, in cognition, through this non-experiential way people know and evaluate places which they have never seen. "Gould and White (1968) (1974). Perception is more sensory more related to direct experience and involves the individual in the specific environment. As experience becomes less immediate, and the amount of inference made increases, we can speak of cognition.

Thus as I said previously, the distinction between an environment as experienced and described, remembered or schematized. It is important thus we can say that what is remembered and what is experienced differ profoundly. For example, an aesthetical experience is not only a direct response to the objects perceived, but it is a matter of interpreting it. In his book "The Intelligent Eye", R.L. Gregory says that

***"A central problem of visual perception is how the brain interprets the patterns of the eye in terms of external objects".***

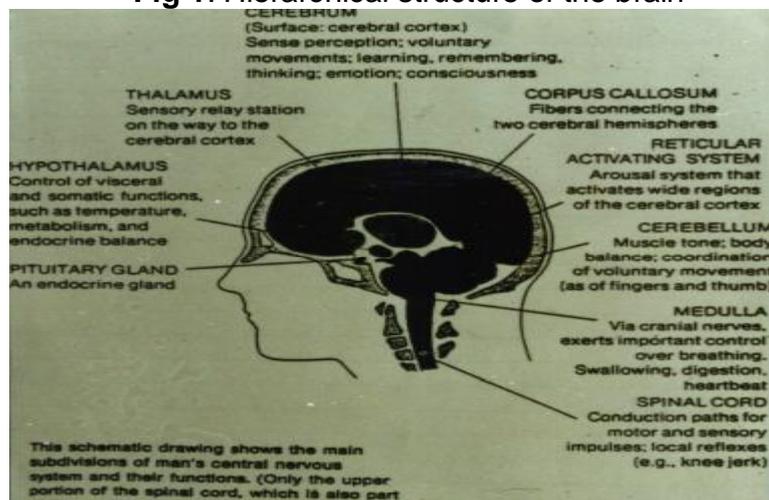
*But what we perceive is far more than patterns, we perceive objects as existing in their space and time, one could ask what relevance has such statement in relation within the urban aesthetical experience, the thing we can say that since the aesthetical experience is a sort of evaluation process as much as an instinctive response, and does not only depend upon the visual stimuli from the environment, but also the cognition as well as societal values and symbols.*

Indeed perception is a process of being aware and it is this process which has been the focus of attention for the psychologists. Perception is a holistic experience in which all senses are acting simultaneously. However, for the purpose of understanding the process of perception it is necessary to explain people's brain function. By doing so, I think this enables as urban designers to understand much better different needs as well as preferences and such understanding may enable us to design a much better visual environment.

## 2.1.5 CEREBRAL ORGANISATION

As it is known the human brain is a complex organization, but in general terms one can say that in the human brain there is a definite hierarchy based upon the functions. The lower part is basically in control of body functions, the mid brain is concerned with emotion and the cerebrum is concerned with the perception of environmental and complex creative thinking (see fig.1)

**Fig 1:** Hierarchical structure of the brain

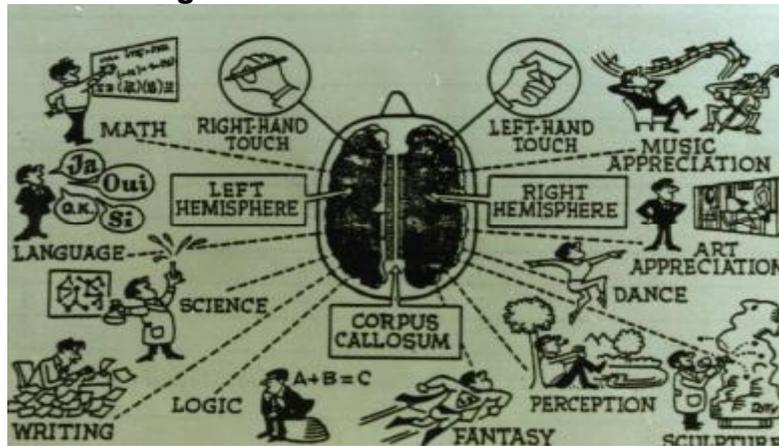


Source: The dynamics of urbanism (1974)

## 2.2 The brain and system of perception

The **limbic** system which contains the emotional subconscious response has a highly sophisticated capacity for perception; it is able to attach symbolic meaning to particular images. Color or configurations of light and shades. The neo-cortex or higher brain system where rational processing occurs is divided into two sides. In the left neo-cortex happens the progressing of the stimuli. In the right neo-cortex the searching for patterns of meaning in all phenomena responding to integrated events. Both the left and right sides operate on a dialectic basis and each side looks for particular kinds of relationships in visual events.

**Fig 2:** how the brain divides its work



Source: The dynamics of urbanism (1974)

The range of perceptual responses to the environment from different parts of the brain is not only varied but quite unique. On one hand the limbic system controls emotional responses and has a strong preference for exotic stimuli, variety of colour, light and shadow, basic rhythm, one can say that all these qualities are evident in the medieval towns, while in the other hand the neo-cortex, being the centre of rational processing, prefers visual relationships and proportions, with this bias, it searches for patterns of meaning in all phenomena and so is nourished aesthetically by events which cohere into a whole much greater than the sum of the parts, rhythm and rhyme, teleological and ambiguous spaces, and anything which is challenging to comprehend.

aesthetic response derives from the simultaneous and harmonious involvement of both aspects "limbic and neo-cortex" and it is through this involvement that Peter F. Smith claims the dialectic of "neurosis" is transcended and a deep emotional response attained

As we have seen before that the act of perception is not only making sense of the outer world as it is, but also imposing our values and judging it. Arthur Koestler says that:

**"What we perceive in the present can be isolated in the mind from the influence of past experience. There is no perception of 'pure but meanings seeps in and settles on the image".**

Therefore, the motivation, learning, memory as well as symbols plays a great part in perception of the environment, and all of them contribute to the totality of perception.

### **2.2.1 Motivation**

Without motivation there would be no perception, perception is largely a learned ability, the external] environments only has reality because the brain has specific needs and has learnt that certain combinations of light and shadow, texture and perspective have a three dimensional] probability in relation to those needs. Here we are not going to explain the process of seeing because it has been explained previously. As E.J. Murray says that "A motive is an intellectual factor that arouses, direct and integrates a person's behaviour into action".

In general terms we find that the brain has two opposed tendencies, one promoting analysis and order, the other seeking new combinations of patterns such as novelty, surprise and so on, which we will explain later on in another chapter.

**Peter F. Smith** says that:

**"Perception is as positive as creativity. Space is not seen but inferred and the inference is an interpretation of the sensory information transmitted to the brain, influenced by the personal homeostatic intrinsic motivation, meaning is imposed on a situation."**

### **2.2.2 Memory**

As we have seen, perception is based on memory and it is impossible to perceive phenomena which are not partly related to past experience. For example, judging distance, size. . And so On is not an instinctual response but a learnt skill. This skill is developed on the basis of experience. Perception is a process of making intelligible environmental energy and stimuli, the information contained in this stimuli is absorbed by means Of the optical system and interpreted and stored in the brain. In addition, in memory system there are three kinds of storage of memory, short, medium and long term.

### **2.2.3 Learning**

In the early years of human being patterns, schemes are formed throughout time, they are extended but do not change their structure. After a certain time, learning goes below the threshold of consciousness, this is called subliminal perception. The stored information works as an unconscious motor response. Learning tends to go underground when there is no novelty, for example in many new towns and especially the new development, and due to their lack or low frequency of visual events they make it easy for the mind to slip into subliminal gear.

### **2.2.4 Symbolism**

When an appearance gives rise to an aesthetic experience it always represents symbolises or expresses something underlying the visual image exactly as the pigment on canvas always refers to something beyond its frame or as architectural forms express something beyond Themselves .The English dictionary describes a symbol as something that stands for, represents or denotes something else. More information is

Necessary if the significance of symbolism in built environment is to be appreciated. A true symbol performs a function similar to a catalyst in a chemical reaction which enables two chemicals without itself undergoing any change. Without the catalyst, the reaction would be impossible, similarly, a symbol brings the conscious mind into contact with a hidden object or idea, and sometimes liberating emotion symbols are intermediary objects which have an attributed meaning. A symbol may be defined as an object, sound, smell or 'texture, which imparts meaning to the brain. Peter F. Smith in "Dynamics of Urbanism" says that "Symbolism may link up with actual memories, but equally it may reinforce myths.

Quantifiably symbols help to reduce the impact of impressions to manageable proportions and this is what often results in myths and oversimplification.

Symbol implies system, even when that symbolism points to revolution certain symbolism communicates by analogy, as it is mentioned by Norberg-Schultz

**"Symbolism means a representation of a state of affairs in another medium by Means of structural similarity".**

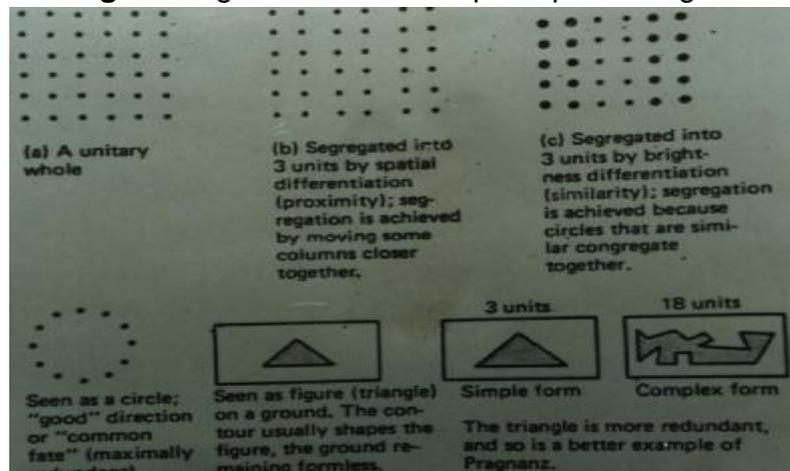
Finally, the last characteristic of a symbol is economy. These symbols also have a certain paradoxical quality. As stated, there may be some points of correspondence between symbol and object. At the same time, there must be a degree of polar contrast in a sense the symbol has, in Koestler's term, a bisociative quality. In so far as it is polarised with its object, the symbol is a source of energy, it generates a psychological spark analogous to an electrical circuit. The most important symbols are those which release energy. Having mentioned previously that perception is a holistic activity, because while the task of the perceiver is not only involved in seeking the relationships

Between the objects as well as buildings, but imposing a new dimension which is space and symbolism. Having said that, we can say the perceiver perceives the urban environment in all its forms and shapes, if it is the case we could ask does the simple definition of perception suffice to explain the process by which we make the patterns which are not evident in the reality? Since the basic fact of visual perception is the relation of figure to ground and perception of motion or action is figural in type. Thus the simple definition of perception is not enough. In this case, the gestalt theory may explain this point clearly.

The theory was formed in 1912, in the work of **Kohler** and **Wertheimer** in **Germany**, the central idea of this theory of perception is the idea of wholeness. The theory maintains that what is perceived is always from the start as a whole.

The second basic laws of the gestalt theory is that perceptual totalities tend to take on the best form possible "good" forms being simple, regular, symmetrical, closely packed. Thus shapes which in themselves exhibit these qualities are easily and accurately perceived, while shapes which do not possess them to become modified. And to be perceived more goodness, that is to say, more simplicity, regularity than they actually possess. With regard to the study of the perceptual tendencies by the gestalt psychologists the thing we can say is that we do not in general, attempt to perceive accurately every detail of the physical structure of the shapes and objects viewed. Indeed, it seems probable that the visual mechanism of the eye and the brain are incapable of providing us with sufficient information to do so, but quite apart from the physiological limitation on vision, we are as a rule concerned to perceive only as much as will enable us to identify what we see. That is to say, to allocate it to a particular class of objects or shapes with which we are familiar (see fig.3)

**Fig 3:** the gestalt laws in the perception of figure



Source: arnheim Rudolf art and visual perception (1965)

### **2.3 Conclusion:**

As it was mentioned earlier perception is a holistic activity. It involves motivation, memory, learning as well as symbolism. The three brains are participating in the act of perception. The cortex's are concerned with higher mental activities which leads to the appreciation Of the environment. The limbic system is responsible for the emotional responses and symbolisms. In this chapter I tried in general terms to give an understanding to the meaning and aspects of perception which are involved in the act of environmental perception.

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## Chapter three

# Perceptive values in urban design

### **3.3.1 Introduction**

WE will go through briefly some basic ideas connected with perception, and then Return to a more general level of analysis which is more directly related to kind of Experiences we need to utilize, so urgently to our eroding environments. The starting point for this analysis is that the production of ideas and conceptions of Man are directly interwoven with his material activities and social organization Since the material intercourse of man is the basis for the production of ideas, the Urban visual environment and the meaning built into it must correspond, and create Facts which can be experienced with a certain unity of expectation .Thus the visual Perception field becomes a reformation and adjustment process Within Which the World is projected establishing a historic conjuncture. Expressed in this Way the visually perceived environment is a field of action.

(Expectation, exploration, anticipation pronostic etc.)

Difficulties arise when we discover soon that there are many levels of visually detectable information .There are the unspoken meanings of motion that is expansion, deformation, social range, facial expressions, to actions between men. A simplistic view of the perceptual field would probably be expressed by two basic units, one end Will be the sensory perception and on the other, symbolisms.

J. HOCHEBERG, (1964) in the mind's Eye.

First ,a question that would not have been necessary forty years ago, and would not have been possible 20 years ago when should we talk about form; perception, let anole analyze it the question was unnecessary 40 years ago; because a formal definition in terms of introspective observation was not available and acceptable. In structuralism terms perception could be analyzed into fundamental mental units and there was good Reason to do so since what one perceived was in it self used to predict other mental

Events. Hochberg goes on. The question would have been impossible or At least in bad taste; 20 years ago because by then two points were well established.

### **3.3.2 Gestalt**

Gestalt theory first arose in 1890 as a reaction to the prevalent to the psychological theory of the time .atomism .atomism examined parts of things with the idea that these parts could then be put back together to make wholes .atomists believed the nature of things to be absolute and not dependent on context .gestalt theorists, on the other hand, were intrigued by the way our mind perceives wholes out of incomplete elements. To the gestalt's, things are affected by where they are and by what surrounds them. So that things are better described as more than the sum of their parts .they believed that context was very important in perception.

#### **Basic concept.**

- 1/ similar objects tend to be grouped together
- 2/ proximity favors grouping
- 3/ common movement favors grouping
- 4/ meaning, and effort. Effective meaning

Cognitive meaning - perceptual units

Relationship systems - building blocs

Constructing devices is to satisfy our needs.

Coding the universe is the conversion of sensory stimuli into manageable form.

gestalts point .the basic introspective units -the sensations and images into which it was once thought percepts could be reduced ; and in terms of which they were to be defined turned out to be useless for that purpose even in principle.

**3.3.3 The behaviorist** point no causal status could be attributed to a mental event; and in any case introspective reports about what one perceives are only verbal responses Not mental events; they are depended Variables not independent variables. When perception acquired a casual status; psychologist in order to check whether or not a

Subject sees some object or event; they usually ask Him a question that they do not expect him to be able to otherwise answer. And this means; using perception as a construct; based conjointly on the subject reports and on the physical stimulus.

The manner in which people perceive their every day environment is of obvious importance to urban environment.

**In human behavior:**

The use of concepts ; is essential .When we perceive a familiar object or event ;we rarely attend on its idiosyncratic characteristics because if this was so then a considerable amount of time would be lost in allowing the senses to play upon the stimulus factors .Instead we quickly catalogue what we perceive in a matter of seconds ;that is we do this as a response ;a kind of system which is endeavoring to organize and interpret data which became available by Perception .The perception model of Bruner, as described, involves two kinds of Information sources.

**1/ Sensory input.**



**2/ associations from past experience** (stored memory) we observe that “the problem is that:

**Usually one’s associative input interferes with the input from the sensory sources.”**

In other words, important sensory data enters the nervous system but that due to Overactive associative inputs exclusion of incoming sensory data takes place .This is because these concepts are predictive and as it has been mentioned earlier , man reacts to what he interprets the stimulus to be .According to Drake -two consequences follow this phenomenon.

**1/** the associative category may not fit the sensory reality

**2/** Awareness of the associative category even if it happens to correspond to reality is

Still over dominant and is in effect mistaken for reality. If this is the Case however, then it must be concluded that there exist two types of realities .One a Finite and a static upon which we base our perception of environment. This Phenomenon of this suggested non alignment, a particular problem. That is, a solution to a problem of a certain category may in fact exist, at a completely different level .In particular the designer being unaware of his own levels of experience is consequently totally unable to design for others. Although I believe that the conclusion of this hypothesis is correct; the framework of this phenomenon is as I already have suggested in the opening of this work, merely that the material intercourse of man and his social organization causes the production of ideas. Thus there exists no infinite number of realities, but such reality which is established by the particular organization, of man and nature. For the perceiver there is a interplay between his social, operational framework and expectations, his idealism and perception, as these factors, change as well as the development of the” design “ changes , the manner by which we establish the perception of this environment is consequential .The predictive nature of the perceiver ,allows this concepts -DESIGN- to be amended as the results of the hypothesis that he formed became known .Judgments may also be connected with such factors ,as grouping ,size, shape ,and are also likely to include personally derived influences fro; this characteristics which will also contribute towards the perception of the environment .These expectancies are rather determined at the input into the system rather than being aspects of the output .Further, these expectancies are not haphazardly organized, they interweave in a coherent manner so that by making of attributes of judgment it is

Possible to make a predictable range of other ones. The issue of intelligence in term of perception is not discussed in this paper .So generally when a person perceives an environment ,this forming a network of characteristics of it ,he assumes a set of expectancies about that environment : those expectancies acting as feed -back to influence the input information which he will later processes in subsequent judgments . When we form these impressions of our perceived environment, certain aspects of the information is processed .Therefore the previous model can be modified to

### **Sense preceptors - input selector - perception - memory store**

G.A.KELLY-(1955) was responsible for the introduction of the personal construct theory .Essentially it arose from his observations of the work of other psychologists when it became evident to him that these psychologists where pursuing two separate theories of perception in the execution of their work .The first dealt with the fact that the subject either organism ,people or events, behaved as if by drives ,incentives ,or appetites and are generally ruled by conscious or unconscious drives and whims .The second course of events that the psychologists appeared pursuing dealt with the behavior of the scientists themselves Both events , however , were monitored and performed by the scientists who operated by constructing theories ,from which he divided hypotheses ,he put these under tests and modifies his theories accordingly .As far as KELLY is concerned there is no difference between scientist and the subject ,in experiments concerned with human behavior .All mankind can be categorized as scientists on the basis of this theories ,and particular hypothesis can be tested and consequently modified .KELLY states: Abstraction and generalization of human activity are not

exclusive prerogatives of professional psychologists what they do, any person may do .Indeed any person does .Thus psychology of personality is not simply a matter of disinterested psychologists ,asserting a disinterested organism , but of professional psychologists who in his part is intimately and urgently involved with the job of making sense out of the life upon which his existence depends. Thus in contradiction to many

Psychological theories, as well as general theories of social organization, mankind is continually structuring and restructuring his universe in order to understand, and predict it. Man's perceptual process are psychologically channeled by the way in which he anticipates events. It is in fact that human behavior is basically anticipatory rather than reactive, a view shared by many psychologists. The manner by which man can anticipate the future is through the use of a conceptual framework. These are what Kelly terms constructs, and are defined as.. "bi-polar concept, a way of categorizing similarities, and differences, which we perceive in our environment. They are means by which we can interpret our situation.

Rather than assume that each concept is a unity in itself, Kelly believes that these constructs are organized in complex networks, each person having his own personal construct network or system. A second difference is that concepts are treated as if they are labels or categories into which objects could be placed, whereas constructs are essentially means whereby we can predict the outcome of our hypothesis. "A person anticipates events by constructing their implication." Thus although it does not follow that what has previously happened will reoccur; we do expect certain aspects of our previous experience to happen again. Therefore all constructs systems are personal that is that people have different approaches to the same event not because there are any differences in the events themselves, but because people anticipate differently any roles that they have to play in it.

The hypothetical anticipation of events are subsequently revised in the light of experience, consequently the personal construct is undergoing constant evolution." Constructs are essentially predictive, thus when we construe a man more honest than dishonest we are essentially predicting if we lend him money we shall get it back. «Kelly, constructs then according to Kelly are not merely ways of labeling our universe, they are ways of trying to understand and anticipate with given information. It is because our system of constructs is exclusively predictive that we are continuously reassessed, as fresh evidence is presented. Kelly is arguing that "...no man has ever reacted to a stimulus ...". He reacts to what he interprets the stimulus to be. From this Kelly argues that:

**Every construct has a focus and a range of convenience this been the group of elements which the construct was designed to make predictions about, and the maximum number of elements the construct can include.**

### **3.3.4 Structuralism:**

the man who brought structuralism to the open, after malinowski, the polish émigrés, was the social anthropologist Claude Levi Strauss .Malinowski's founding version was basically that different institutions within a society were made-up to serve the psychological needs of the population, It was a tantalization without contradictions .That is the analysis developed from the fast of a principle, that society is a series of fragments a theory incapable of dealing with Structural antagonisms. Accordingly were conflict was concerned , it was treated as conducive to order THIS Kind of analysis fit perfectly the pre- war 11 political orientation of Britain LEACH

On the other hand, after the war 11 attacked the equilibrium assumption of classic functionalism leach on Levi Strauss, writes of I-Strauss

### **3.3.5 The Basis of Levi Strauss's**

Work has been formed on his love with as he calls them his 3 mistresses" geology, psycho-analysis, Marxism. And he says: all three showed that understanding consists in the reduction of one type of reality to another, that true reality is never the most obvious of realities. In all these cases, the problem is the same the realization between reason and sense -perception. » Leach argues that "in practice the relevance of Marxist ideology for an understanding of L.Strauss (1966) is difficult to determine .Levi Strauss's use of dialectic with the formal sequence of thesis -antithesis -synthesis, is Hegelian rather than Marxist and his attitude to history seems to be quite contrary to Marxist dogma .But the picture is greatly confused by the dialectical interplay between the existentialism of Sartre and the structuralism of L .Strauss. » He goes on. "But then Sartre is a Marxist and so also from time to time is Levi Strauss or so he says!" however, existentialism, and structuralism, have common roots with Marxism, and it is generally

Agreed that the distinction beaten the two is by means as sharp as some tidy minded critics would like us to believe. » I will close this rather interesting subject with Leach's words: » what we know about the external world we apprehend through our senses .The phenomena which we perceive have the characteristics which we attribute to them because of the way our senses operate and the way the human brain is designed to order and interpret the stimuli which are feed into it.”

Marxism although in agreement on a biological level it maintains that the mechanism of interpretation and categorization, are developed through mans past experience with the material and social world. Thus these mechanisms are developed according to the level and kind of organization that man operated within as well as the past conditioning of man and his future projections, which are part of his present social consciousness. Structuralism, however, does not accept this continuum of space and time so that, **”we are predisposed to think of the environment as consisting of vast numbers of things belonging to named classes, and to think of the passage of time as consisting of sequence of separate event .”LEACH.**

He goes on “correspondingly , where as we may construct artificial things (air facts of all kinds ) or device ceremonials or write histories of the past we imitate our apprehension of nature : the products of our culture are segmented and ordered in the same way as we suppose the products of nature to be segmented and ordered.

The general case of structural analysis starts from:

- 1) “Define the phenomenon under study as a relation between 2 or more terms
- 2) real or supposed
- 3) Construct a table of possible permutations between these terms.
- 4) Take this table as a general object of analysis which at this level only can yield necessary connections the empirical phenomenon considered at the beginning being only one possible combination among other the complete system of which must be constructed before hand” the issue of nature and the emphasis

that Strauss put into the dynamic of nature ,must not be misunderstood as LEACH says

with the notion that Strauss is therefore an “idealist” in the “ style of bishop Berkeley ;” he is not arguing that nature has no existence other than in its apprehension by human minds .Strauss ” nature is out there “ and is governed by natural law ,accessible to human scientific investigation. Furthermore Strauss is not attaching great importance in the recurrence of detail in different parts of a map but he is more preoccupied in qualities of the constructing elements and their significance in relation to the other parts that make up the map.

A basic aspect of our perceptual world is time. Time is as R.E ORNESTEIN observes one of the continuing, comports and universal experiences of our lives, All our perceptual intellectual, and emotional experiences, are interwoven with time. And yet the difficulties of studying such important phenomenon are enormous. For an analysis of the experience of time, one can point neither to an organ of perception, like the eye, nor to a physical continuum like the wave-length of light for study by objective means. There is no immediate point of departure for a scientific analysis of time experience.

Man however has created larger number of time keepers from candles to calendars ,to time units connected to the time it takes to boil rice and so on .In terms of urban environment the importance of time is obvious Time experience can be looked from different levels of experience and thus, the general aspects seems to be very important as Ornstein points out by saying There is a popular saying that time is money ,time is not money but the concept of time is similar to the concept of money in that each refer to Many different sorts of things .Expanding this general idea, an amount of money 10000 dinars at a given period of a man s life will have a set of meanings related to his circumstances. Ornstein identifies 4 modes of time experience.

**1-**The perception of short intervals Rhythm of timing

**2-**Duration, the past -long term memory

**3-** Temporal perspective -philosophical, social, cultural, constructions of the world and their effects of the interpretation of time experience .becoming the future.

**4-**simultaneity and succession.

The first mode, according to general opinion, that short-time experience is around 3 or 4 seconds, while long is somewhere about ten seconds. It has been found that within the short interval there are two processes one is the immediate \* perception \* of short interval or apprehension, the other is the rhythmic -motor aspect of time termed timing. A basic difference between short- timing interval and duration is that the first always exhibits the quality of fading where as the later of permanence the experience of duration seems most keyed to remembrance of things in the past to retrospection. The relation between, the present as short term storage and the past duration as long term storage is high since each involves memory storage. Ornstein is saying that there are two major approaches to the analysis of this direct experiences of time, an approach based on the sensory process idea, and one more cognitive, based on information processing. The three aspects have already being discussed. The four modes are concerned with what is the same time?

We are not going here to expand of the theories behind these approaches the purpose is show that time is a basic component by itself a complex problem, a necessary element in the study of perception. Time complexity: there are several procedures for quantising complexity of line figures, for the problems of the urban environment however, the experiments of Attneave- Garner 1966 Provides us with some interesting findings. Instruction " on a sheet, given a line which represents length of the first

Interval, into which you looked at a fig. please indicate how long was the second relative to the first interval.

First experiment, showed that, an increase in to the  $n^{\circ}$  of stimuli filling a given interval lengthened duration experience. As the complexity of a stimulus increased lengthened and the further increases above that point no longer increased duration experience. following experiments confirmed this results it has been established further that "successful" experiences were estimated to be shorter than unsuccessful ones. This seems to indicate that successful urban environment if they are to be Successful - the containment of elements to sustain such state must be far greater in

Number as well as at different levels .So far we have only dealt with experience of perceptions for adult's .children provide us with countless lessons of perception of the environment that can be usefully employed.

J. piaget(1971) child learns to distinguish... sensory-motor stage from a dualism to dualism: child learns to distinguish between self and not self ,and begins to build up a permanent inner image of outer objects ,both people and things .main gains are in motor development .child discovers “joy of being the cause .”

Infantile realism, egocentrism, pre causality, animism, authoritarian morality: child sees himself as centre of universe, cannot conceive others to have a different view point. conversation is usually a monologue .child has non -realistic ideas of causality e.g. idea of immanent justice that the punishment arises out of the crime .rules are good given and un modifiable .everything is alive and has wishes and feeling .main Gallus are acquisition of language ( symbolic function ) but child is not yet able to compile and haws of physical causality .stage of realism , concrete operational logic: child develops notions about physical causality ,and the rational world .discovers rules to be made by consensus of opinion .discovers he has a right to his own opinions and can take part in decision making .Abstract thinking : develops child now begins to work out problems using thought along (in his head) and is no longer dependent on concrete operations.Piaget -existential space -Shultz schemata We have not touched specifically on the question of intelligence and perception as yet but it seems that a great many people avoid the area as well .The general opening statements of this study indicates that there exists a strong relationship that is through the social organization and Circumstances, man is given or deprived of important elements which contribute to increase some aspects on his mental capacity .the “psychology of study, on perception.”c.a.mace.By c.a. mace: leaves as with no doubt about the relationship of intelligence and perception .he sets the problem as follows: «what happens when someone makes an observation? If we could begin at the very beginning in the study of what happens when a living thing becomes sensibly aware of changes in its environment? We might have to begin with amoeba? But we do not know what if anything an amoeba feels .the

Development of perception is one of those processes which have to be studied backwards .He then proceeds to construct the elements of perception as follows.

**1/ content.**

**2/ span .**

**3/ speed.**

**4/ organization.**

**5/ selectivity.**

**6/ accuracy.**

**7/ objectivity.**

This highly intelligent systems thinking , defines the question of what appears ,how much and how quickly as being the first stage of comparison .then “we have to note ways in which human perception differs from mechanical process ,and other criteria .of efficiency are discovered .note that up to here the system is quite simple .“Observation is motivated perception ““it is goal directed, and the efficiency of a process of observation is essentially a matter of the degree to which the several features of the act perception contribute to the expedition of the attainment of the goal. » Thus he adds on, **4/**“that, what is perceived is always organized ...”

**5/** that perception are selective and that some selections are better than others.

**6/** that perceptions or observations vary in occupancy.

**7/** that perception can be more or less objective and that although all observations require being objective in one sense, subjective factors in perception can contribute to good observation.» there is no doubt that from this classic analysis of perception ,the deprived environment of western social organization ,the lack of information and the distorted reality of things through the education of man ,from such kind of analysis as the above ,if children are lucky to get at all the media ,produces a man with a very special perception capacity ,perception span.“ the physical and mental personality is conditioned by the environment .” **the word conditioned** “ has different levels of cruelty and inhumanity according to an individual political orientation .environment however means

Not just the physical environment , but man's organized life within a physical structure. that is because as a city cannot be imagined without its people so does environment cannot be conceived without its people operating it ,and so on .the roles of man within the organization of the environment thus under varying conditions produces different reflexes ,or perceptual constructs or even mental disorders. The urban environment as described by Kevin Lynch ,with his five (5) point methodology still leaves out the physical facts of the environment .the(5) point methodology of what designer think ordinary man interprets the environment to be ,may be useful to the designers ,but cruel to the people and the environment since apart from anything else the transformation of quantity to quality is been conditioned by a design method .Changes that take place within the urban environment are not simple occurrences of design acts but reflect much wider issues . thus a cluster of buildings can be attributed as being significant because it stands out from the rest of the urban fabric .the same group can be associated with a concentration of activities or some historical event .these properties are what Shultz refers to as "schemata are cultural determinants and comprise of qualitative properties resulting from the need for effective orientation in the environment."

The dynamic of the link between culture and social and physical organization of man requires him to construct mental images of his environment .cultural idealization results to, as well, to the abstraction of some of the mental images of the environment ,to symbols.

Symbolism occurs when particular experiences are generalized and associated R.ARNHEIM. Gestalt psychology and artistic form .describes the phenomenon of isomorphic, symbolism as something that "does not depend on alleged association of one object with another but on perceptual qualities inherent in visual form itself. While in the case of metamorphic symbolism one concretes thing is said to stand for another concrete thing." he illustrates the case of isomorphic symbolism."

The Eiffel tower in Paris is an example which transformed from isomorphic to metamorphic that of specific use. The metamorphic symbolism is depended on the

Immediate use -specific- the isomorphic relays on the meaning rooted and expressed in the actual form” lenauduc urban form -the visual environment. in this sense, Gordon Cullen’s work is isomorphic and in this sense a romantic ideology and symbolism .on the other hand this isomorphic quality it is argued can be transformed to metamorphic through it’s immediate use by man .the phenomenon of metamorphic symbolism can be used to explain for instance the rebuilding of Warsaw of house of commons -that is that if the visual distinctiveness and image is lost there is a fear that the activity significance will be lost. On the other hand if the activity significance is lost the image can disappear as in central areas and so on.

Symbolism is a limited and dangerous because it is primarily based on an abstract reality and dangerous because it leads to misperception and back ward ness. We shall describe briefly the following:

The work of Carl Steinitz (1968) meaning and the congruence of urban form and activity .the basis of his approach is that “viewing the physical environment as a field of Communications, about activity systems gives the urban designer clues for the achievement of a more meaningful urban area .congruence: is the suitability of fitness of urban form and activity .his starting point is of course the debate of what is significance.

**1/** the type of activity.

**2/** the relative intensity of the activity to adjacent activities.

**3/** its significance to the adjacement activities in order that we obtain good fit which is Alexander’s system. The basic preoccupation is to fill the gap “meaning “ left by lynch in his first hypothesis for the project which is described in the article , steinitz defines congruence as “consistency between physical form characteristics of an environment and the attributes of its activities .”It is however significant to note that the way congruence is defined by steinitz there are many kinds of congruence ,as there are meanings ,further the “specific validity of congruence ,is limited in context and time .”so that the individual has to relay on the past experience .it could in fact be suggested that

congruence in this sense can be associated more to perception and the aspects of the man's interpretation of other man's actions which form the urban fabric .Thus the second hypothesis " the more a form type is common ,intense ,and highly exposed , the more often will activity characteristics be known ".The third hypothesis is " the more an activity type is common busy and important ,the more often will activity characteristics be known ." basically quite similar observation have been made by other people .

Steinitz(1968) observes that to fill the gap "meaning " left by lynch ,is essentially otherwise ,the creation of "highly accurate and wide spread sense of the physical form of an environment without "activity meaning " this knowledge is of little utility ."These theoretical go on." The value of formal clarity seems to require in common the ability to obtain meaningful activity associations from the perception of form. At the other, it is possible to acquire a sense of the organization of activity in an area without visually experiencing its form. Yet in the real world of the city simply knowing the activity pattern the content without the form is also of little value.

**4/** hypothesis .meaning tend to be reversible .ability to describe form characteristics of a place are highly related to the ability to identify its activity attributes and visa versa.

**5/** hypothesis. For any (of the above mentioned) meaning the higher the lever of congruence of a place the greater will be a persons knowledge of that place.

As a point of view to this theoretical approach, it can be said that the difference between lynch and steinitz is that where as Lynch's methodology is basically oriented to be a design tool for urban designer's and not necessarily of what people see, steinitz approach is based on to exposing as such as possible to the eye so that a more meaningful mental picture of the urban environment can be constructed s Kaplan  
Through cognitive mapping we get to the point of an integrative frame work which deals with human needs underlying environmental preference.

The cognitive map makes possible recognition -prediction -evaluation -action and includes human needs and capacities .the environment which contains such requirements, thus is possible

1/ to make sense

2/ novel and challenging

3/ permitting choice

Cognitive mapping is “about how people experience and how people know the environment.”

“ the purpose is to extend cognitive mapping to the area of environmental preference .”  
the argument is ,the same informational processes that the cognitive map makes possible exist as essential human needs that require environmental support .”

Cognitive map assume

1/ people are aware about their environment which is a simplified form in relation to other information that they have.”

2/ information is coded in a structure in the head and that this structure corresponds reasonable to the environment it represents .this map is schematic sketchy incomplete distorted simplified idiosyncratic. The king of information that would necessarily be contained in a cognitive map is:

1/ recognition (knowing where you are -recognize, demands)

2/ prediction (knowing what might happen next-familiar, what leads to what)

3/ evaluation (knowing next thing to be good or bad-to anticipate favourable actions)

4/ action (knowing what to do, be able to think alternatives)

### **In terms of human needs**

- 1/ to make sense out of what you see .interpreting familiar and new things.
- 2/ the enjoyment in guessing (betting? creation of interest)
- 3/ the delight of dividing the work in good and bad guys.
- 4/ the exercise of skill...choice.

A well structured memory, a cognitive map of the special environment is essential for our survival .a cognitive map is an approximation to continuity .such map is unsuitable when one is on the chase.

### **Coherence variety and choice.**

- 1/** an environment one can make sense order
- 2/** must offer novelty challenge and uncertainty lack of order coherence
- A/** multiple features to aid differentiation.
- B/** repetition of a given element.

**C/** structural basis underlying arrangement of elements. Permits predictions it shows that idiosyncratic nature can support prediction apple yard examples of strong imagery making easy the task of remembering .Thus to make sense on the environment does not depend on extreme simplicity but on coherence And variety .

**Coherence** can be -a distinctive character.

The uncertainty favoured by most humans is temporary.\* it must permit choice Man's need to be original, but people don't require Disneyland outside their doorsteps.

### **3.3.6 Conclusion**

As it is known The Importance of perception is implicit in the very notion of urban design.

The object; must be perceived and evaluated and should provide pleasure.

In the design of visual environment, the perception of space and relationships between buildings and space should give pleasure to the person who is using it. For that purpose

The designer must unavoidably deal with factors that touch deep and ancient human concerns .it is hard to escape the conclusion that variety can only be appreciated in the

context of order and that order is lifeless and useless without such variety .given the difficult task he faces the designer in particular, needs a map of the dogma in his

struggling with a model of the process with which he must content,. A platonic dualism maybe?

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## Chapter four Aesthetic qualities

#### **4.1 Introduction**

Besides features which enable buildings to be categorized, there is a system of perception which responds to the relationship between the elements of the visual array. This system includes an aesthetic of the environment which is based on certain principles, which are:

**A/** the principle of relationship of an object to others.

**B/** the dominance of the whole over its parts.

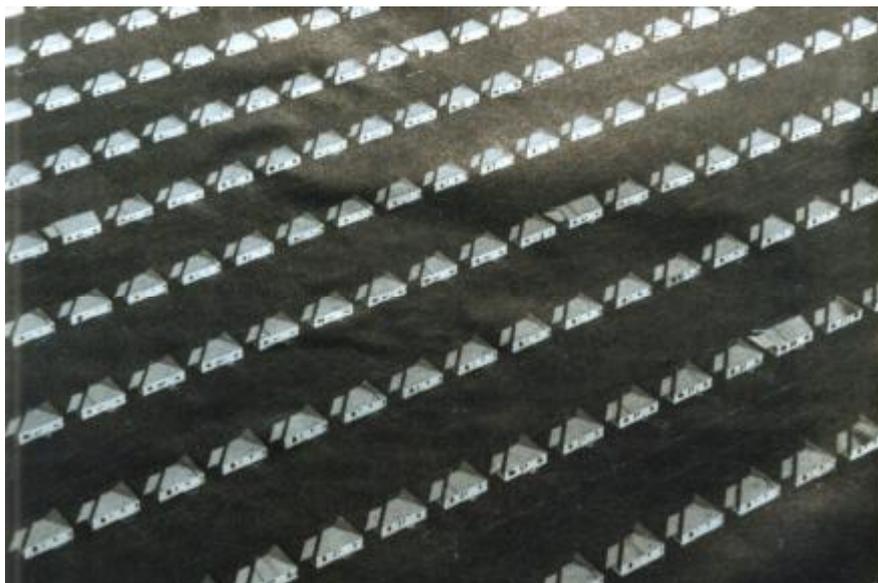
**A/** the principle of relationship: is common to all value systems, for example, a motif or object only has significance because it is related to other motifs or objects. Peter F. Smith in his book "The Dynamic of Urbanism" mentioned that "a single note in music has an aesthetic potential. This only emerges when it is followed by a sequence of other notes to make a tune, or it is supported by a sequence of others to make a chord".

Here by comparison we can say that an environment which enforces one concept, without other ingredients, has no meaning. To be much more clear, see the following figures' n4 in which we see only one note. Monotonous, boring, and uninteresting,.

**Fig 4:**The façade of the Rotterdam concert hall on one hand poor in form ,low information content , because of its rows of equal subdivisions and the simple rectangular overall shape can be described as dull monotonous ,uninteresting while on the other hand it goes on the same note



**Fig 5:** Urbanism we take to be the science and art of building for social interrelationship  
Wilmington, California, view of an American suburb a magnificent and useful note of  
urban design! Remarque the only note



Mere juxtaposition does not inevitably produce aesthetic potential, the aesthetic response occurs when attention fragments are combined within the brain to form a pattern which has both coherence and elegance .the element of surprise is an important but not essential contributor to this area of response.

**b/** the second characteristic of value system is that the parts of visual array cohere in ways which produces a whole, which is of much greater significance than the mere sum of the parts .it is akin to the principle of holism in nature .in vitruvius's statement "beauty consists in a rational integration of the proposition of all the parts of a building, in such a way that every part its fixed size and shape and nothing could be added or taken away without destroying the harmony of the whole.

Both of the previous principles refer to a first stage of development where a style is born and completed presenting coherence, Proportion, internal integration and cosmic Integration in very close relation to sometimes philosophy. Thus we can say that aesthetic response depends on harmonic relationships. Harmonic value systems usually display four characteristic as it was previously mentioned, which are:

-coherence

-proportion

-internal integration

- Cosmic integration

### **4.1.1 Coherence**

the principle of formal coherence or wholeness is characteristic of all the classic eras, Greek, roman, medieval, renaissance and twentieth century .this concept can be apply

to buildings or larger urban sequences. A coherent group of visual events comprises a visual gestalt or holon which may be defined as an assembly of elements bound into a coherent whole by certain over-riding features such as rhythm and proportion. A critical factor in determining "wholeness" is scale. The visual holon must be capable of perception in a limited time. It must fall within certain psychological and critical limitations. A determinant in the sphere of Visual holon is the extent to which its perception involves eye and head movements. The desire of wholeness and pattern is fundamental to the human psyche, and seems to stem from the right hemisphere of the neo-cortex. One of the principle motives in perception is the need to establish relationships and discover hidden patterns of meanings. Perhaps because they imply that ultimately everything will be revealed as contributing to a cosmic coherence.

### **4.1.2 Proportion**

Proportion is one aspect of the relationship between two or more entities which form part of the same visual system. Systems of proportion which have been more or less axiomatic tend to lay down relationships in which one entity exceeds the other by an amount sufficient to cause acceptable tension but not domination in a complex system of such relationships. The various contrary accents would be balanced out to produce harmony. If the longer side to the sum of shorter and longer sides and produces the ratio **1:1.618**. There are many systems of proportions and they all derive from the golden section which means the ratio of the shorter side of a rectangle to the longer side shall be the same as the ratio.

Finally, in general terms good and bad proportions does not exist in the abstract, a building is well proportioned, or badly proportioned, in relation to the parts of which it is composed. The appreciation of proportion is derived from analysis of good buildings in various periods. For example, the heights and widths and proportions of doors, windows and so on, have been determined by custom and any marked departure from such proportions may prove visually disturbing.

#### **4.1.3 Internal integration**

The aim of aesthetic architecture in all eras has been to eliminate conflict between the constituents of the artifact and reduce to a minimum the contrast between diverse elements .for example the Greek architecture has become the archetype of this philosophy .reduced to its essence, a Greek temple is a rectangular room on a raised base and capped with a tiled pitch roof .out of this raw material the geeks created the most sophisticated piece of architectural sculpture

#### **4.1.4 Cosmic integration**

This type of integrations describes a need frequently expressed in art and architecture to relate the work to some wider order. The link between man and the universe has most commonly been achieved through mathematical order in which philosophical and theological reasons were employed such as water, fire, earth....etc. Pythagoras affirmed that “perfect harmony lay in squares and cubes and that the integration of the two progressions **(2.4.8.)**, **(3.9.27.)** produced the secret rhythm of the universe .This has aesthetic significance in that it is all associated with the elegance of numbers .man derived satisfaction from feeling involved in this elegance which pervades the universe to its limits.

Finally, to sum up the last two points, we can say that it is the spiritual need within man to relate himself to the cosmic supreme being which has created the need to integrate internal and external cosmic powers in built form and such involvement has been a pre-occupation of philosophers, theologians, artists, architects and so on since the earliest time.

## **4.2 Proportions in urban space**

As we have seen previously ,it seems that in architecture the relationship of the parts to the whole is of great importance to achieve proportions which are pleasing to the visual system , in the urban environment scale ( which refers to size and proportions ) as well as space are concerned with relationship .on one hand ,scale is the relationship of people to buildings ,that is of people to the whole man-made environment .man is the measure of all things .but scale is also the relationship of buildings to each other , of buildings to the street ,square ,plaza and so on .to mention here that if we use the

proportions which are derived from architecture without any consideration of the human being to relate himself to the space ,thus we could say that we did not succeed to create the space which has the human dimensions .for example ,a big space is impressive because it makes us feel small .but if an open space or square ,plaza in a city is too big it only succeeds in making us feel lost rather than impressed .because no space body can be framed when the floor area is so great that the walls of the surrounding building bears no relationship to it .there is a practical limit on building height but none on floor area and we find that much urban spaces fail because they are so large that the buildings appear to stand on the edge of the space .The walls and the floor of the space become dissociated and there is no sense of spatial enclosure .

A larger space can be less impressive than a small one in fact beyond a certain point. The larger the square the less impressive it is, it is only on plan that we can appreciate a larger area .the greater the void around us the less we feel the sense of spatial enclosure.

Thus we could say what should the size be? Camillo sitte as well as Kevin lynch says that the average dimensions of the greater squares of the old cities are (150m)-(60m). Both considers that the length of the squares if it does exceed (135m) loses its impact because the bigger the space the less impact it will have on human mind .

And as it was mentioned by Edmund bacon that Brasilia failed to create an impact on the human mind and this is due to the bigness of buildings which are too large to produce an architectural effect, he thinks as well that in Brasilia they missed the opportunity to create a unique space. (See fig n°6...)Proportion presupposes some kind of scheme but one consisting of multiples and sub-multiples, from the relationship between which the rules governing compositions can be deduced. Thus it seems that proportions have a direct relation with rhythms since no proportions can exist without any scheme.

**Fig 6:** Brasilia: the major civic axis,  
Note the scale and the vast gap between the buildings



Source: architectural review

### 4.3 Human dimension in urban design:

It is worth while to find out why people feel certain spaces are inviting and others are not. The field of view normally has an **180°** angle of peripheral vision horizontally and **150°** vertically with a clear field of vision **27°** high and **45°** wide, although these angles decrease as speed increases. In his book "The Human Aspects of Urban Form" Amos Rapoport mentions that "figures can be derived for what can be seen and recognised at various distances, although these change with speed. For pedestrian **20/20** vision and Under normal lighting conditions an angle of at least one minute must be sustained.

Thus we can see **90cm** at **300 m** while at **139m** an object **13 m** can be seen that is facial features, at **120 m** to **150 m** one can tell it is a man or a woman and discern gestures, at **22, 5 m** to **25 m** a person can be recognised, his face becomes clear at **13, 5 m**.

Thus outdoor spaces are intolerably close at **0, 9 m** to **3 m**, Intimate at **12 m** and still at human scale at **24 m** .as it was mentioned previously, most successful urban squares of the past rarely exceed **135 m** 0for example st.peter square in Rome is **120 m** see fig

We could say that the proportions of urban space depends on the relationship of distance and height or degree of enclosure .thus due to the limits of the angle of clear vision and to the rapidity of scanning an object whose major dimension equals its distance from the eye is difficult to see as a whole ,but tends to be analysed in detail when it is twice as far as it is seen as a whole ,when three times as far it is still dominant in the visual field but is seen in relation to other objects .as the distance increases beyond four times the major dimension ,the object simply becomes part of the general scene.

**Fig 7** saints Peter's square in Rome: the grandeur of colossal scale and formal symmetry, the assertion of men's belief in their destiny.



Source: Edmund bacon design of cities1974

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## Chapter five

# **What makes The urban environment Monotonous?**

## Environment preferences

### 5. 1 Introduction

Many modern urban environments have the problem of causing monotony (especially in The new development) and lack of stimulation on the part of the user's .because it has Been simplified and cleaned up to such extent that all it has to say is revealed at glance. A range of meanings and possibilities has been eliminated and this loss obviously leads to a loss of interest, due to such reduction in the sensorial fields, this has led to several effects, which are as follows:

**A/** a reduction in the number of elements necessarily reduces the number of Interpretations which can be put on one's environment and thus tends to enforce one's concept of environment.

**B/** the expression of personality in perception is largely reduced as sensorial Field Becomes simpler and clearer.

**C/** the ease of perception clears away the exploring urge .the input to the learning System does not exist in the way that keeps the mind occupied, therefore meaningless. To us a meaningful perception is the constant induction of new information into the system.

Due to the rejection of such environment» monotonous “as we have defined it previously, still a main question in which we could say if people do not prefer A Monotonous environment, what do they really prefer? The answer to this question may be provided by different experiments in psychology as well as other sciences.

## **5.2 Perceptual preference**

Psychological research and experiments shows that humans prefer ambiguous, complex patterns in their visual fields and that seems a fundamental perceptual preference, applying even to infants. the study of Fantz who felt that the unlearned infantile perceiving patterns would be clearer indicators of basic preferences ,likewise Beryline who reported when he presented infants with a choice of three patterns ranging from simple to complex ,the visual attention was initially directed to the most complex.

Similar studies have been done to see whether people's preference in the visual environment is much more related with environment which is complex or simpler. for this purpose Kaplan and Wendt set out to find about people preferences, after which they found that people's ,after which they found that people's preferences are based on a number of factors such as coherence ,complexity ,mystery, texture ,identifiably and so on .these finding are by and large similar to those of Beryline especially coherence and complexity.

So it seems that human beings have deep needs for a kind of combination of different visual inputs from the environment, thus the environment must generate a set of visual inputs of varying complexity defined by different levels of visual orders .environments which are organized on low level order, they would not result in satisfactory qualities but in sensorial rejection of a monotonous image (see fig8). The same thing can be said about environments which are organized on high level, they would not result in satisfactory qualities ,but lead to sensorial rejection of chaotic image (see fig 9 ).thus we can say that both visual inputs need each other for a satisfactory performance . But the problem nowadays is that most designers do not base their design on a combination of visual inputs at different levels but tend to be influenced by kind of pendulum law. Stressing an exclusive low order organization, neglecting the importance of variety, which has been recognized by social scientist and many of the research reports on the

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Problems of an environment without variety, are stressing the negative effects of monotony.

There are also findings asserting positively the human needs for variety .novelty and variety appeared as qualities enjoyed by man, necessary for psychological development and sensorial stimulation, indicated in the human choice for changing and interesting environments.

As we said before, monotonous environments result in sensorial rejection to a degree that they are partially unperceived, the study of Evans and piggins explain this phenomena by saying that “biological systems particularly those equipped with specialized receptors and complex nervous integration centers respond primarily to a changing environment”.

Thus preference for the new or changing is an essential mechanism of any system which is to survive for long in the physical world as we know it

**Fig 8:** monotonous image. See the repetition,  
There no interesting object to see



Source: the author (2005)

**Fig 9:** Chaotic image. Find your self in such situation



Source: the author (2005)

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Monotony can be considered as a sensorial deprivation, since human senses tend to reject such visual conditions .one of the most common experiences in a monotonous environment is to pass a place regularly without being aware of the physical elements in it.

According to hall “as we moves through space, man depends on the visual messages received from his body to stabilize his visual world then without such body feed back a Great many people lose contact with reality .since the vision is the main guidance Mechanism through space “.

Also it has been found that environment which is over stimulated is preferred to the one which is under stimulated. In general terms, environments which have been evaluated positively and are found interesting and pleasing, all of them, create a complex perception and stimulation because they provide much information .thus we could say that the greater the degree of complexity, the more ways there are of moving in it.

To mention here Jane Jacobs , when she describes the difficulty people had of describing the plan of Ritten house square ,Philadelphia ,”.....from memory ,even after fifteen years of daily use ,due to the complexity of uses .this place could clearly retain one’s interest much longer than a simple unchanging place .an equivalently complex place is san Francisco where the grid having been complicated by changes of level ,provides a much greater perceptual information than a grid on the flat .it gives different views and sets up different relationships depending on the direction of travel .paths taken and position achieved ,it becomes more satisfying perceptually than a grid on a flat”.

At this stage ,we could say on one hand , that the environments which are relatively simple are those designed at low levels of complexity ,as a consequence ,they are evaluated as being low in preference ,while in the other hand and due to the limited capacity of men ,environments which are high in complexity are evaluated as being chaotic ,therefore the individual’s rate of information is not only related to the rate from

The environments, but also his interpretations of the environment resulting in what Rapoport and Hawkes call the “rate of usable information”.

### **5.3 Environmental complexity**

Then as we have seen throughout different studies that complexity plays a large role in satisfying man’s perceptual needs. Thus an examination of environmental complexity is obviously important. Amos Rapoport pointed out that “rich and varied environments are preferred because they can induce a greater number and range of perceptions and, such environments have greater uniqueness”. It also seems clear that complexity is necessary for human well being.

Therefore, since complexity and variety are psychologically satisfying qualities of urban spaces and content, an understanding of how they are created mainly around people (bearing in mind his speed of 6-8km/h is necessary).

A simple explanation of form and reaction has been put forward when an individual walks in the direction of the arrow in **(a)** it can clearly be seen that the street ends with a building to the left and trees to the right. At the junction expectancies are confirmed and no significant information is received.

In **(b)** however, the expectation of the building continuing to left and right is not confirmed, the tree is an item of significant information.

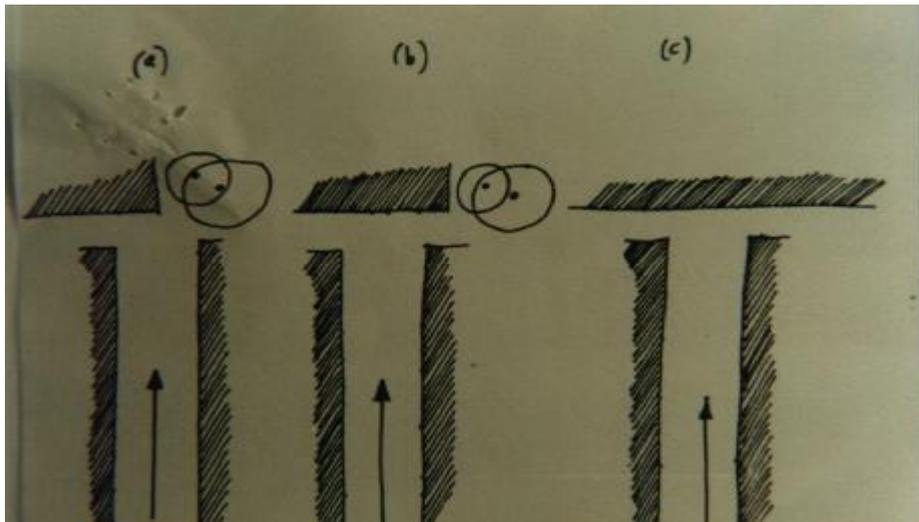
In **(c)** the expectancy of a continuous building is confirmed and again, there is no new information. (See **fig10**).

Change in direction of buildings depending on whether they are seen head on or at an angle a degree of detectable spatial change and so on than in the case of an infinitely

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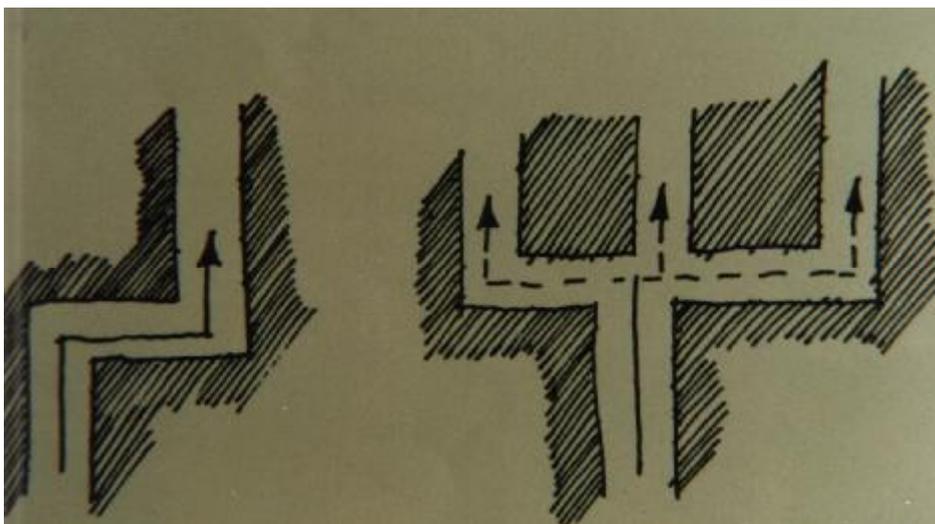
Long street .Jean Paul Sartre observed that the American street is a “straight line that gives itself away immediately .it contains no mystery”.

**Fig 10:** decision points and alternate paths as a form of complexity



Source: the author (2005)

**Fig 11:** complexity and expectations at the pedestrian scale



Source: the author (2005)

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Thus it can be seen that the greater the number of turns in the viewing field ,the greater the amount of significant information available ,sharp turns are noticeable and more of a departure from expectations ,so they provide more usable information and greater complexity than a number of gentle curves .

**Fig 12:** in the curving of a Constantine street it is happening  
A continuous visual revelation.



Source: the author2 (2005)

**Fig 13:** In the curving old town of Constantine

Street it is happening a continuous visual revelation.



Source: the author (2005)

### **5.3.1 Complexity**

Since man has long depended upon knowledge for survival then the promise of further information would be necessarily attractive even though people want to be able to orient themselves correctly in the urban environment .they also wish to have the experience of an environment that has richness of complexity with the stimulation of all their senses ,this complexity is a function of variety as it was pointed out by many scholars .

### **5.3.2 Variety**

Variety is used for a set of environmental qualities, all of which correspond to a higher order that defies full understanding in anticipation of the complete experience of the environmental sequence.

Variety can be defined as the characteristic of an environment made up by sets of similar but not equal elements which belong to a common and recognisable

Taxonomy .perceived by the observer in terms of the rhythmical differences appearing within the commonalities unifying the set.

Amos rapoport pointed out that « since the relationship between the physical world and man is established through the visual psychological process of perception and cognition, however there is a socio-cultural dimension that has to be added, resulting in the subjective and cultural relativity of perception and cognition.

Because selective screening of sensory data admits something's while filtering others ,so that experience perceived as it is perceived through one set of culturally patterned sensory screens is quite different from experience perceived through another .thus the extent to which some things are noticed is dependent on the individual's perception as well as with the experience stored in the human memory .in an other word, his background .therefore ,we could say that the element will be detected differently from person to person as well as from culture to culture .but this does not mean that there is no shared element which most people use .we will come back to this point later on.

### **5.3.3 Notions of surprise**

The quality of environmental variety is closely associated with the experience of surprise, since the complete sequence cannot be apprehended fully in anticipation .the degree of surprise felt by the observer is a function of the rhythm of variety and the range of change as well as of the relative familiarity with the place.

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If the changes occur following a rhythm not discovered by the observer, he can be left unprepared to expect the next stage of visual inputs, constituting a surprise sequence of events, their importance in the total visual experience depends on their relative degree of change. However, these changes can occur following a rhythm which can be understandable by the observer in which a situation of partial expectation would be developing constituting an anticipatory sequence of events. Even in the case of familiarity with the place in which the sequence of varied visual inputs lacks an intellectual surprise .the eye is still easily attracted by changing environments of the memorised experience resulting in an enjoyment in many cases.

For example ,in the colonial city no man saw the college in its entirety ,hence no man saw it unlike his neighbour .because of the nature of the colonial city, each could see only portions ,and which changed continually as the individual changed his position, compelling him to add the parts to form a total image in his mind .the facade as a whole was its own mystery ( see fig14 )

**Fig 14:** we sense that something will happen  
At the widening of the street.



Source: the author (2005)

Thus the notion of surprise is an important element in the gain of new information, because memory is too immediate as direct perception. Even if we traversed the same space a number of times, the notions of surprise still remain with us. A vital skill of the urban designer is the ability to create visual surprise by planning a vista or an orchestrated hierarchy of spaces, he will cause us consciously, or unconsciously, to experience surprise or excitement again and again however the sequence may become.

#### **5.3.4 Ambiguity**

Considered as an important component of complexity and reflects a degree of uncertainty and relates to a great number of possible interpretations of an environment. Ehrenzweig related the human need for ambiguous open ended situations to many of the arts.

Amos Rapoport and Kantrowitz say that « ...**one needs to roam back and forth, either physically or with one's eye and mind, not taking it all at a glance. If there is no ambiguity, the eye is attracted only once and interest is lost** ».

Referring back to Ehrenzweig who suggests that ambiguity leads to greater retention of interest because when the public is presented with it, they have the opportunity to project an ever new articulation and structure. Even Arnheim, a Gestalt psychologist stressing closure as an aesthetic virtue, who speaks of the indispensable need for a minimum of complexity, says that.

**« The visual pattern ceases to what is seen and the subjective factors in the observer become more effective in the presence of ambiguous stimuli ».**

Uncertainty is the result of not being allowed to see a complete view at any one time, for example in his work Gordon Cullen says that « when a building which blocks a vista is deflected away from the right angle, this arouses the expectations that there is a

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Purpose for this and which relates to some place at the end of the street which cannot be seen but the buildings plays a part of “(See fig 15)

### **Deflection**

A variation on the closed vista is deflection, in which the object building is deflected away from the right angle, thus arousing the expectation that it is doing this to some purpose, i.e. that there

Is a place at the end of the street as yet unseen and of which this building forms a coherent part .this is invariably not so, but deflection arouses the thought.

**Fig15:** Explaining the previous point clearly.



Source: Gordon Cullen townscape (1961)

### **5.3.5 NOVELTY**

People's preferences are for some uncertainty and novelty from the environment because they get more information from it .thus it is necessary for perceptions to become more complex as adaptation levels rise .if the environments are designed in

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such a manner as to allow complex perceptions within an easily grasped order to start with, this complexity will grow with the perceiver as he discerns finer differences and more detail in the urban environment .but such significance does not exist in the urban environment as such.

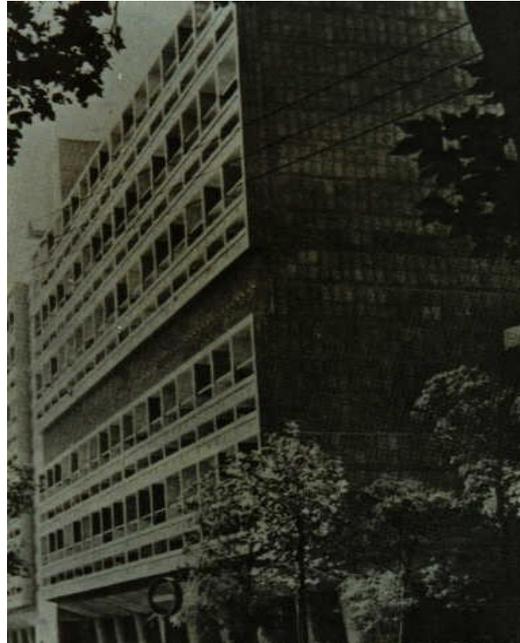
As we have pointed out earlier that modern design in general terms ,involved a sweeping simplification in the understanding of the built environment .for example ,the urbanism of le Corbusier ,as well as the Bauhaus is one of absolute dominance of redundant information ,extremely low order visual organisation and absence of variety at any level ,resulting in an oppressive feeling of monotony .the mechanical repetition of identical elements at all scales all over the site and the lack of complexity in the visual inputs are their expressions .we have mentioned here le Corbusier and the Bauhaus, because they are considered to a large degree responsible for the recurrent failures of contemporary urban design. Since they tended to stress simplicity order, which does not enable the environment to give continuing stimulation and hence facilitate learning (See fig17)

**Fig 17:** Model of le Corbusier plan for Paris 1925



Source: le Corbusier

**Fig 18:** Unite d'habitation, Marseille.



Source: le Corbusier

We could say that the essential point for the designer to take into consideration is by using in his design both simple and complex environments ,as well as the use of different types of complexity to facilitate the discernment of differences between areas by the contrasts which they exhibit . There should be a range from simple to complex environments, this will contribute to the perception of overall complexity on the city scale and since different areas will be more easily recognised, this will facilitate the understanding of the overall structure of the city.

#### **5.4 Element of complexity**

We have to say that complexity is closely related to the number of distinct elements which can be perceived and we think that the extent to which this can be perceived is

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mainly dependent on how well the differences can be discerned between the elements .these elements are known to Amos rapoport as “noticeable differences “and in urban environments they are likely to be as follows.

### **5.41 Vision**

Which is the dominant sense in humans, and its relative dominance may vary in different cultures as well as different individuals. it provides far more information and enables places to be recognised and used much more effectively than the other senses, vision is not pictorial but active and searching . we could say while we are designing an urban environment or whatsoever ,we have to make clear the differences ,differences are discerned in shapes ,colours .their brightness, textures, sizes and height of objects, buildings or enclosed spaces .this will enable us to detect differences in the urban environment .

The use of vegetation and landscaping as well will constitute another difference,order,variety light and shade ,light levels ,light quality .this difference in types of lighting can be used on one hand to emphasise differences while in the other hand such differences may create an aesthetic quality.

### **5.4.2 Sounds**

This has been the only sense other than vision studied to any extent and also extensively described in literacy sources .acoustic space is in fact non-locational, spherical and all surrounding ,has no boundaries .it emphasises space rather than object (as vision does ).sound lacks the precision of visual localisation as well as orientation .but ,nevertheless, even with such difficulties ,designers could manipulate acoustic environments more than they do ,for example ,by contrasting noise from silence so that one moves from a noisy space to a quiet one .

#### **5.4.3 Olfaction (smell)**

Olfaction is a primitive and immediately emotionally involving sense although, being ambiguous, it is not very accurate. It may play a major role in evoking powerful memories of places and certainly can greatly enrich the sense of place. To mention here that cities and places can become memorable through smell. Thus design could help to reinforce olfactory aspects of the environments. Man-made smells such as chemical odours, perfumes and so on, can contrast with natural smells like those of plants or of the sea and so on.

#### **5.4.4 Tactile (touch)**

In addition to visual texture which is important in the perception of depth and space, there is also texture experienced through touch. Since to experience it through our fingers takes a deliberate effort, the major experience of texture is underfoot. This can differentiate between textures, rough or smooth finishes on walls or pedestrian walkways and so on.

#### **5.4.5 Kinaesthetic (body movement)**

The body's movement through space is related to sharpness of angles, curves, the speed of movement and its rate of change of direction etc. People can be made very aware of their bodily movements through the use of different areas of an urban environment can create a noticeable difference.

#### **5.4.6 Areas**

Different areas may be differentiated by their use of signs, gardens, colours, residential, shopping, industry, leisure and so on. Thus having mentioned the previous element, which can be used by the designers as noticeable differences to create environmental messages. To mention here that if such differences are not noticed? I mean that they are

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very slight, this can lead to a lack of information and by and large it may lead to monotony .but if the environment is in itself complex, such differences must be made noticeable to avoid chaos .to avoid such results either in the former or the latter, we could say that this can be made making the environmental rules so strong that very small differences become immediately apparent similarly to vernacular environment or by making the differences as constructing as possible (see fig19)

**Fig 19:** Rijswijk Holland, contrast of directions



Source: architectural review

**Fig 19'** Contrast of directions in pyramid Constantine



Source: the author (2005)

## **5.5 Conclusion**

As it was pointed out earlier that human beings consciously and subconsciously preferred complex ambiguous patterns in their visual fields and that this seemed to be a fundamental perceptual preference .building in open ended complex ,involved allusive ways is suggested to be more psychologically satisfying than the simple one's .many writers in widely differing fields have stressed this innate need for complexity variety and the need to intensify differences .Hemingway, Tolstoy, Baudelaire ,da Vinci ,Venturi expressed a preference for complexity and contradictions in design .for example ,venturi says that “ architecture which evokes many levels of meanings ...forms that are impure rather than clear ,distorted and ambiguous rather than simple and articulated .

Peter f smith suggested that “ architects and planners are too serious .the baroque people understood that the environment should possess qualities akin to theatre .the urban madly should be capable of stimulating images and fantasies and even of evoking shock ”.

Camillo sitte, Jane Jacobs and Gordon Cullen intuitively grasped this need for variety .in fact the need for “here and there”.

Finally, as urban designers we must realise that this environment problem exists (we mean without variations) and what we have tried to exhibit throughout the chapter is that a line of logical arguments exists and we think that the problem is one of psychology. Investigations must then take account of fund of knowledge which is provided by this field and such investigations raise several important points which are likely to be the following.

Since people see the environment in various different ways depending upon the information they abstract from the component .as we know, information is the basis of all perception.

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The more complex an environment becomes and the more ambiguous its element, the greater its capacity for interpretation by those perceiving it and consequently the perceiver's personality plays a greater part in its perception.

The perception of urban environment is a process of constant exploration in search of new relationships. Thus we think to fulfil such requirements, many elements with many Relationships must be presented to the perceiver.

As we have seen throughout this study that environment which allows this to happen has beneficial social and psychological effects, while the environment which does not allow this to happen consequently leads to a lack of interest.

In addition, we could say that the main purpose of environmental design becomes that of creating a highly complex organisation of possible visual as well as functional relationships and the creation of significant elements within this organisation.

Thus ,the designer must inevitably deal with factors that touch deep and ancient human being concerns .to conclude the study of this chapter let us say that still a main point in which really it is hard to escape the conclusion .that variety can only be appreciated in the context of order is lifeless and useless without such variety .

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## Chapter six

# Approaches and principles

### **6.1 Introduction**

Man is a species with inherent emotional needs. Some would have it that we are programmed to seek emotional satisfaction .one of them is Nicholas Humphrey who proposed that aesthetic awareness constitutes an intuitive mental programme which developed by normal selection mechanism because of its survival value .this suggests that one of the programmes associated with the classification facility of the brain form the foundation for aesthetic perception . such principle is supported by the D.E BERLYNE who believes that the brain could well be favoured to certain patterns quite apart from their role in every day experience .Emotional reward is a fundamental mechanism of survival as man evolved into the complex creature he is today .this need for emotional reward stayed with him .Peoples interaction with the urban environment concerning aesthetic for this has been suggested that the requirement for aesthetics are simply the requirements for visual perception. Our grasp and enjoyment of the urban environment rests on two complementary neuro-physical principles which are as follows:

A/ the principle of response to novelty, change and stimulation

B/ the principle of response to repetition or pattern

Thus we could say that our perceptual system demands variety and new information, while at the same time seeking regularity or pattern. the brain as we mentioned previously , is a pattern selecting or pattern perceiving system , can be thought of as a consuming and requiring information , and since the process of this perception was vital in the evolution and survival of the human species , it will still have a strong influence in our lives today.

### **6.2 Aesthetic and emotion**

It is a fact of subjective experience that aesthetic responses often involves some kind of Emotional stimulation, at least four modes of emotional involvement in aesthetics may be identified.

1/ those which are associated with arousal?

2/ those which are associated with arousal moderation?

3/ intrinsic aesthetic emotions

4/ the symbolism.

### **6.2.1 Arousal**

the active emotions associated with arousal are stimulated by novelty ,surprise , complexity and ambiguity as it was pointed out by D E BERYLINE who indicates that the arousal raising capacity of a work depends mainly on information ,content ,complexity ,number of sub-units and details and richness of ornament .

### **6.2.2 Arousal moderation**

the active arousal qualities do not in themselves possess aesthetic potential ,arousal moderation , emotions only exist because of the relief of the arousal and the demands of the orienting response even though the human mind needs surprise in order to stay alert this is not ultimately a matter of aesthetic .

When complexity yields to system and order, the perception of this change is accompanied by those emotions which have to be associated particularly with aesthetic experience .they come into prominence when the mind is no longer faced with the challenge of complexity and uncertainty and instead can relax as information falls into patterns producing redundancy.

### **6.2.3 Intrinsic aesthetic emotions**

As it was mentioned by bell; 1949 that there is a class of emotions which can be termed Aesthetic the involvement of emotions in aesthetic experience is too complex to permit this Term to cover all such involvement but there is one crucial area where this designation might be appropriate. the right cerebral hemisphere appears to have an innate aesthetic sensibility; that is; it can recognise when features cohere in a special

Kind of way to produce balance and elegance, balance is a state of distribution in which every thing has come to a stand still ... no change seems possible and the whole assumes the character of necessity in all its parts. This is in direct line of descent from Vitruvius who conceived beauty as consisting of an integration of parts to produce a perfect whole to which nothing could be added and from which nothing could be taken. This matter will be discussed in more detail later.

### **6.2.4 The aesthetic of symbols**

The underlying usefulness of culturally evolved symbolism lies in the fact that it has enabled man to come to terms with objective reality. Developing rational objectivity brought with it the capacity to establish expectations for the future from the evidence of the past, perception of the city is very much influenced by district images and fantasies which add a powerful symbolic dimension to the whole perception process.

### **6.3 Aesthetic pleasure**

The field of aesthetics is notoriously difficult to define although many writers have not hesitated to do so at the expense of imposing their preconceptions, the term is derived from the classical Greek verb *aisthanomai* which means to perceive, but we can confidently place some matters within it. Aesthetics is certainly concerned with art, but it is not confined to the arts. There are aesthetic aspects to other activities. In fact we can argue that every thing in life has its aesthetic side. The eighteenth century German philosopher, Baumgarten set out under this rubric to investigate the acquisition of knowledge through perception and imagination, as contrasted with reason and logic. He found himself discussing the peculiarities of poetry and arts, which have remained inseparably associated with the word aesthetics. As pointed out earlier, beauty however defined and explicated, is far from being the only quality attributed to works of art and to other subjects of aesthetic value. Others including sublimity, interest and so on. Referring back to Fechner in 1876 defined aesthetics as being related to visually pleasing and displeasing. Continuing with Baumgarten who said the richer the greater a thought is the more correct ... more vivid, more certain and more lively it is, the more beautiful it is.

In this sense we can understand that the richness or multiplicity has to be mixed with clarity. Novelty, originality and variety are needed to make things lively and at the same time to avoid monotony.

Referring back to Berlyne, one could say that much of his work done in 1974 has pointed to the following points.

**A/** complexity which means the extent to which a variety of components make up an environment.

**B/** novelty, the extent to which there is a mismatch between an environment factor and its context.

**C/** surprise, which means the extent to which our expectations about an environment are not confirmed. Discussed previously, but just to mention here that the environment that are intermediate in complexity and novelty should therefore be judged the most beautiful and we have to mention as well that environments which are extremely high or low in these properties should therefore, be judged less beautiful.

Thus the previous findings, I mean those of D.E BERLYNE, confirm those of information theory in suggesting that environments that are complex and ambiguous but not so much as to lead to overload will be found the most satisfying and exciting. Beautiful structure or element of the urban environment are those elements which can facilitate and ease the lecture of the environment without difficulties. And as it was proved by many psychological experiments that the object or the environment which can excite us is that environment which is varied. In this case the variety can be defined as the element which evoke up our emotion, psychologically the feelings are the emotional response to the perceived environment. Gordon Cullen mentioned

**That the vision is not only useful; but evokes our memories and experience, all those responsive emotions inside us which have the power to disturb the mind when aroused.**

Thus the visual pleasure and impact which an urban environment has on those who use it is of great importance.

In general terms, we could say if we really want to create a better environment, in response to the human emotional needs, we must try to understand the fundamental principles of aesthetics and by doing so this may help us to create a better environment.

It is believed that the environment we are producing nowadays is monotonous.

The new town where the designers has the possibilities as well as the facilities in creating a better environment .because we have the tools in modern technology to create a good environment for people but the case seems rather difficult .maybe this is due to the lack of understanding as to why we enjoy and derive pleasure from certain environment.

The term aesthetics is composed of two kinds of aesthetic pleasures .the intuitive and cognitive aesthetic. the former is approximately shared by all people and depends upon the arrangements of the elements of the urban environment ,while the latter in which one must use all his mental facilities .since people have not got the same degree of ability it became more difficult.

#### **6.4.1 Intuitive aesthetic**

The intuitive aesthetic appreciation has at least four distinct components which transcend time and culture .the fundamental mechanism seems to be universal .they may be considered as four aesthetic programmes written by the genes and adapted to environmental circumstances, as it was mentioned by Nicholas Humphrey earlier, and they are as follows:

- a sense of pattern
- appreciation of rhythm
- recognition of balance
- sensitivity to harmonic relationships.

### **6.4.2 A sense of pattern**

Nicholas Humphrey indicates that there is strong evidence that animals derive pleasure from identifying in the classification process. Consequently, they actively seek to exercise this facility .comparative psychologists have found that, in almost all species studied, animals will work to be exposed to novel sensory stimuli. Indeed, stimulus novelty is the most universal reinforce of behaviour which is known, all higher species have a psychological appetite for both familiarity and novelty .to be of interest an object or an urban environment must have a degree of stimulus of differences and as it was described by Nicholas Humphrey, that any objects which manifest both familiarity and novelty, this object possesses the quality of rhyme.

Therefore, we could say that rhyme presupposes the simultaneous existence of complexity and pattern with the latter becoming dominant but not in a way that is obvious, because the pattern that relates to rhyme does not comprise simple repetition. Man has developed a capacity to detect pattern recognition which is a mental capacity and can be exercised in towns and cities ,the best example which can be seen with such principle as it was mentioned by peter.f.smith is Amsterdam, especially in its medieval part( see fig20 )

**Fig n 20:** Old Amsterdam which projects a vigorous contest between complexity and orderliness and that is what makes it an aesthetically, and therefore emotionally rewarding city



Source: architectural review

### **6.4.3 Appreciation of rhythm**

First of let us say that there is a distinction between rhythm and rhyme .the former relies for its impact on strict repetition .it has long been acknowledged that the brain derives particular pleasure from rhythmic presentations, varying from the simple binary kind of complex repeated sub system, which are evident in other activities such as poetry, music as well as architecture.

It seems that there is probably a biological basis to this rhythm demand, because life is bounded on all sides by rhythm of varying frequency .it is a source of security to man that he is bound up in this intricate system of interlocking rhythms. at the same time ,there is an obvious advantage in being able to recognise subtle variations in rhythm or beat ,such variations can indicate the presence of threat.

Most towns and cities are unified by commensurate rhythms at various frequencies, and this is a prime contributing pleasure from extrapolating rhythm from situations in which likeness is tempered with differences (see fig21).

**Fig 21:** a row of buildings in Windsor, England .very rich in contrasts; heights, widths, colours and materials of the facades.



Source: architectural review

The pattern and subdivisions of windows are all different. There is therefore, a maximum of information and a minimum of redundancy which can be expressed in such as “**lively, varied, and interesting**”.

There from visual presentations in which there is no relief from the tyranny of accuracy rhyme overtakes rhythm.

### **6. 4.4 appreciation of balance**

Is one of the easiest situations to conceive and are the hardest to define and this is due to its conceptual obviousness .it tends to be taken for granted, it is a common piece of every day experience and structure .balance is of course a prerequisite of all physical activity, similarly the homeostatic mechanism of the brain works to establish balance throughout the organism, regulating temperature, heart rate and the need for

sustenance. What is perhaps more remarkable is the fact that the human brain is able to perceive balance in visual situations which are not obviously symmetrical, it seems capable of working by analogy with the physical world in ascribing the quality of balance to a purely visual milieu .but even more significant is the fact that there can be a wide agreement about the highly complex organisations of colours ,textures and shapes which cohere into a state of balance .the brain appears to interpret visual events or data according to a kind of code which emerges from the characteristics of neuronal behaviour.

The findings of the gestalt psychologist are right to affirm that the human brain does have a preference for patterns which ultimately balance out, may be this is due to the fact that balance is the most obvious form of order .since the task of brain in its transactions with the sensory world is to discover patterns of order which reduce the gross level of complexity presented by the environment.

Thus we could say what is it that characterises balance?

one of the gestalt psychologists, r arnheim, has described aesthetic balance as a state of distribution in which everything has come to a stand still... no change seems possible and the whole assumes the character of necessity in all its parts .example in an architectural context the components perceived as contributing to balance may include colour, texture, tone as well as mass, even symbolism may be responsible for setting up a force field.

Finally we could say that when balance is immediately perceived, this suggest that the sensory presentation is relatively “pure” balance can also, however be recognised in scenes which at first seem to be quite arbitrarily composed .for example, historic towns lie-in the discovery of views in which every thing seems to cohere to produce perfect balance .here the important aspect of the appeal of such discoveries is obviously the surprise element (see fig22).

Complexity suddenly gives way to a particular kind of aesthetic order in which everything seems to be held in the grip of a powerful gravitational force.

**Fig 22** :Element of surprise, in fact you do not know what is going to happen next .the scene is from the old town of Constantine.



Source: the author 2003

#### **6.4.4 Sensitivity to harmonic relationships**

This is the last intuitive capacity of the brain,its ability to respond to harmony .it is a condition of harmony that there be at least two entities which are not identical and between which there is sufficient difference to dispel uncertainty ,but not so much as to cause excessive dominance .one of the most enduring relationships which is regarded as aesthetically satisfying is the golden mean or divine proportion .

Finally we have been throughout the intuitive aesthetic value system but it seems that aesthetic perception and feeling are inseparable ,since the obvious thing about aesthetic experience is that it is a source of pleasure and this implies immediately the involvement of emotions .it is now widely accepted that the basis of aesthetic experience stems from the interaction between change and order .so an urban environment which comprises a wide range of elements of changes necessary to enable us to cope with the threat inherent in uncertainty . As Nicholas Humphrey said that: » all higher species of animal derive pleasure from encountering moderate novelty, to the extent that they will deliberately search for it .this pleasure associated with the experience of moderate novelty has been related to a particular class of emotions with the sympathetic division of the nervous system.

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## Chapter seven

# **View from the road**

## 7.1 Introduction

By definition monotonous means without variations .the building unit may be proportional but if it is repeated very often without variations then it becomes monotonous .in urban environment monotony sets in when the total environment does not provide any variation, extended sameness and unvarying tone, long vistas, the lack of tension, as well as the lack of rhythmic continuity in the built environment. The logic of the grid pattern over ruled aesthetic criteria. The rationality as well has robbed the opportunity to create an exiting environment, which should not only be pleasing but also be efficient in operation see figure n ...Which can clearly explain our point.

**Fig 23:** Relentless and repetition



Source: architectural review

**Fig 24:** Without any visual focus urban environment  
Becomes utterly dull



Source: architectural review

For example, the variety of environment which are contained in the old town (**in the medieval towns it is possible to find a set of orienteer landmarks**) such as plaza with out standing civic and religious buildings and such elements obviously keeps a constant relationship with the total urban structure. Thus permitting an observer with a personal knowledge to relate the visual inputs to his cognitive mental image and this helps him to find orientation in the place. Variety is found in the maze of secondary streets and alleys that form the intersect ices between the main arteries, resulting in a sequence of more or less surprising experiences to the pedestrian .However, an orientated landmark is always within a shot distance from any place in the town, that means that it is possible to be immersed in the most surprising as well as making the experience more pleasurable. there is continuous change in visual scenery , the place is very attractive and satisfies the need of human minds for variety as we have seen that the human mind derives its pleasure from not only making sense of phenomena but also from novelty, variety as we seen before.

## Aesthetics values in urban design

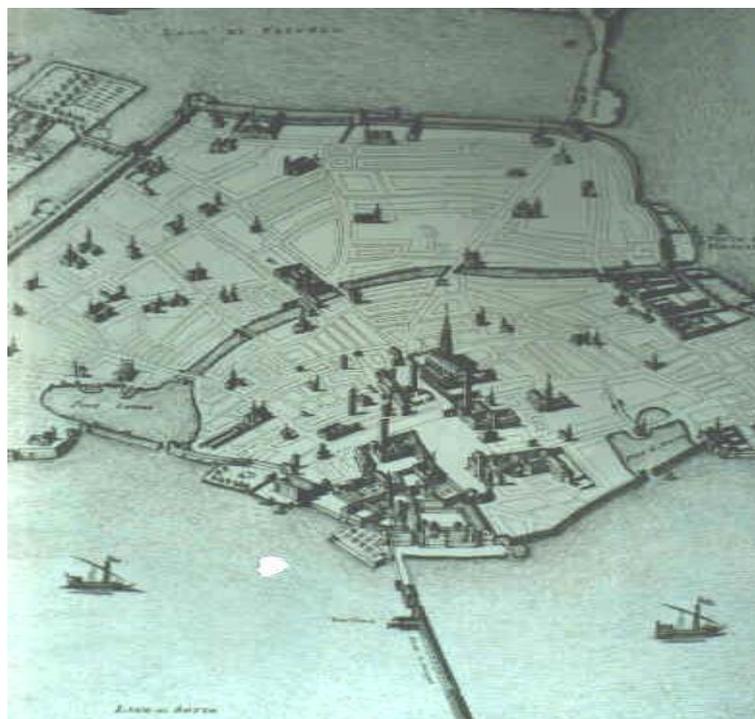
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In historic towns and cities aesthetic experience is usually derived from the arrangement of various built forms which create an environment which will engage our mind on all levels of perception .As we walk through the historic towns our mind is constantly engaged by change in views and finding hidden spaces and rhythmic progression of spaces, all these tricks are in Cullen s work townscape. He continuous change appeals to the mind. The changes challenge the mind and Pleasure is derived from making sense of external environment, solving the problems of Relationship and surprise.

Thus one could say that the range of aesthetic the urban environment has to offer is quite fantastic and it will touch our every emotional chord. There will be varied enclosed spaces

Historic buildings, a range of architectural styles which will keep us interested, symbolic spaces and buildings, variety impact will be varied according to the brain involved in the act of Perception see fig 25

**Fig 25:** See how the image is held together



Source: Edmund bacon design of cities (1974)

In general terms , the capacity of the old town to employ our perception and imagination for a long time establishes a psychological connection between us and our environment ,the latter being experienced as interesting .in comparison ,average modern urban environment offers remarkably little visual information .neither does the modern urban environment repertoire contain any symbolic aspect nor any considerable amount of aesthetic information ,working to a general grid pattern the new urban environment explores the principle of endless addition and The repetition of a few elemental norms. Once we have seen a corner we have seen the whole .normally the effect is; monotony (later on we try explain the effect of monotony upon residential areas) and our reaction, boredom if significance is not achieved by unusual height or outline.

The visual information of a single building cannot be isolated from its context (group, street ,quarter).The trend for example ,to replace old structures by new ones ,has two interdependent results on the visual quality of the urban environment which are to be likely as follows. on one hand this means that these elements with which we are used to find pleasure becomes more and more unexpected .hence the quality of its visual value is steadily strengthened .While on the other hand, the modern vocabulary is continuously extended in quality, its monotonous character becomes automatically more prevalent as well. The greatest devaluation of the modern visual environment is particularly evident where whole parts of a town are rebuilt using standard blocks and prefabricated element.

Thus as in the perception of the single building, the visual image of the whole town has to be built up in our minds as a hierarchy of single characteristic units as streets, squares quarters and districts .it is the amount and quality of visual information that establishes the character of such units even orientation to a considerable extent depends on the clearly structural appearance of town scape element.

We could say that a high level of visual information both symbolic and aesthetic helps to produce the individual character of a place as well as our intellectual and emotional involvement during the act of perception .To understand much better the problems of

Monotony let us make a comparison between two contemporary towns which are the old city and the new city of Constantine. Thus if we compare them, we think that we can have a clear idea about why aesthetic values are important in the design process.

### **7.2 The old town**

Is a town which draws its inspiration from traditional townscape and in particular One of the principle reasons for The old town considers it self as a town for people ,not only for their daily life and for their economic prosperity but also for their delight ,for the joy of living in an urban community .the think we could say ,that it is a place of encounter on a human scale , a place offering options and therefore diversity .the real essentials of a town are more , they are a dimension , a structure , an atmosphere which creates in one place a residential security ,in the other feverish activity and moreover the pleasure and attractions of citizenship .a warm and sensitive physical environment contributes to the indispensable ambience of urban life .

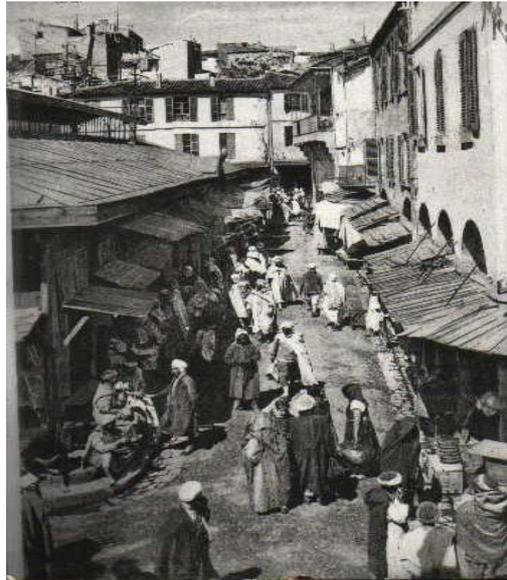
The old town is predominantly a pedestrian town ,with suitable access points for vehicles , compact urban and achieves the spatial quality of the medieval city whilst avoiding its drawbacks , it exhibits the most dramatic concentration of new shapes and relationships that has probably emerged anywhere in such a short time . The old town is mostly executed in brick with simulated roofs. Being a pedestrian town ,great attention has been devoted to the floors cape which is also predominantly executed in stone .also it describes the historic profile of the city with a high concentration of architecture and activity at the centre .on the sensory level play , like consonance and inconsonance, only a subordinate role in the aesthetic experience ,as one among many patterns of unity in variety .the precondition of the experience to occur is once more that the emotive potentials of the matrices participating in it ,should form an ascending hidden reality in the plays of forms and colours

## Aesthetics values in urban design

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The variety in aesthetic experience is achieved by contrast between the spaces in building styles, proportions but above all, there is underlying rhythms which tie the diverse elements in a unity and in variety pattern.

Old town of Constantine 1



City centre of Constantine 2



Source: 1, 2 N D photo of Constantine

**Fig 26:** the old town of Constantine



Source: the author 2005

**Fig 27:** Old town, colonial part



Source: the author 2005

### **7.3 New town of Constantine**

On the other hand the new city in most ways contrast with the old town .it is designed completely round fast vehicular movement, dominated by the aesthetic philosophy of the modern movement, with its molecules of visual interest so rare as to constitute a vacuum .the new town of Constantine has a high incidence of machine -made elements in its buildings

(See fig 28).

**Fig 28:** Ali Mendjli new town of Constantine



Source: the author 2005

The new town of Constantine failed to provide a varied environment in its city centre .in this, we think that the failure of the city centre lies in the embodied rationality which is evident in the planning of the city with disregard to the human values, saying that, there is no better statement of the aims of rational intensive architecture than the misien factory which denotes these centre of Constantine new town.

## Aesthetics values in urban design

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Mere rationality will not provide the environment which can reach our mind and give us pleasure and joy and such straitjacket of rationality does not allow human values to operate in the design process .there is a constant transaction between the mind and the environment which is predominantly a matter of the brain interpreting visual signs .The regular architecture as well as urban space do not conduce to visual tension .the aesthetic experience and satisfaction is derived from metaphor imagery and related character of places depends upon the emotive potential of the environment and to achieve the emotive quality ,the environment should engage all the systems of the brain .compared to the old town ,the new town of Constantine had little to offer to the nature of the mind ,the sterile and hygienic environment and strict segregation of various activities based on sector planning and internal looking architecture which does not spill the streets do not create tension .The same thing can be said about housing ,in the new town the buildings are laid in the strict grid pattern ,the unbroken rhythm which is created by the projecting columns and the constant roof lines (unlike the old town ) with the same tone and such rhythmic constant repetition of course give very little to the mind to comprehend .there is no surprise ,no tension ,nor a challenge to the brain apart from trying to remember the number unit ( see fig 29 ) .

**Fig29:** see the top quality of the outside space I



Source: the author 2005

**FIG 30:** There is no surprise, no tension, nor a challenge  
To the brain apart from trying to remember the number unit



Source: the author 2005



Source: the author 2005

In general terms to finish the criticism on the new town we could say that the new town of Constantine failed to provide prolonged aesthetic experience .taken individually, the buildings are

Pleasing but with regard to their context, it is less satisfactory and this is due to the missing ingredients which are surprise, tension, novelty (which we have explained before).These elements are present in the old town of Constantine.

In many towns series of squares and plazas were laid out not as a mere succession of mutually independent units but in such a way that all together they constituted a rhythmical progression .in such cases we could say that the essential criterion of an urban environment design is that it should exhibit a rhythmical continuity, a coherent succession of spaces or textures, in which each part relates harmoniously to the next, but makes a constant play of variations. Therefore, in the design of the urban environment process is to develop the basic spatial form and to analyse its visual consequences when seen as a sequence.

The main structure of an urban environment design is often created by the use of some sort of hierarchy ,dominance or centrality .thus there may be a central space to which all other spaces are subordinate and related . strong sense of place pervade the heart of things and as we have seen, these are tested structural methods and they underlie most of the successful urban environment designs of the past .With regard to the comparative study between the old and new town of Constantine, and as a final word we could say that the main difference between them lies in the following:

**A/** the contrast and variety in the built form.

**B/** the human scale.

**C/** symbolism.

**D/** the emotive quality of the built environment

finally , it seems that much better logical decisions are evident behind the planning at the old city than at the new city of Constantine which goes out of its way to project an image of immaculate rationality .the choice of the future lies between these two approaches to design , one humanistic and the other rational and scientific .

## **7.4 Effects of monotony**

### **7.4.1 Lack of visual stimulation**

As it is known , the human brain can only receive new information through the stimulation of one or other of its senses and it is only through the intake of new information that the brain can broaden its experience and develop .one of the major forms of sensory stimulation is that which occurs as the result of visual perception and it is ,therefore ,not surprising that in its search for new information ,the human brain will generally prefer a visual display that contains a variety of different visual events , a display is that both interesting and to a certain extent , complex the form of visual display which is most frequently experienced by urbanised man is that which is provided by the built environment and towns which are most liked are invariably those which are perceptually interesting ,rich and complex towns which contain a wide variety of visual events .

The degree of complexity required will, however ,vary according to both the personality of the observer and the context within which he observes .for example ,entertainment activities are likely to benefit from surroundings which contain a high level of visual events offering a maximum amount of sensory stimulation ,whereas activities which require a greater amount of concentration are more likely to benefit from surroundings which contain a lower level of visual events and are less distracting .ideally ,therefore ,the environment should contain not only a wide variety of visual events but it should contain them at various levels of intensity .if the frequency of visual events is uniformly too low ,the environment will be dull and boring .if it is uniformly too high ,the environment may be overpowering and intensive .

Amos rapoport describes how constant exposure to the same environment leads to “stimulus situation “and eventually to” stimulus aversion “, so that the environment comes to be disliked, avoided and other environments sought .According to peter f. smith, if an individual is not to regress mentally he must be confronted at regular intervals with objects and ideas which challenge his schema of experience .the

Challenge comes from things which are ambiguous, complex and open

ended .the maximum amount of material which can process before the natural defences start to operate is called his "ideal "if the individual was never confronted with phenomena which extends his particular ideal optimum perceptive rate ,the ideal itself would decline .

### **7.4.2 Lack of vitality**

Just as variety of forms within a residential area for example will enrich the experience of its inhabitants by being visually stimulating ,so a variety of users will enrich their experience by providing a greater range of activities for them to either become involved in or observe, shape ,libraries public space ,baths, mosques within residential areas and all the previous activities will contribute towards the creation of an environment which encourages a higher degree of social contact ,offers more things to do and to some extent ,enhances the aesthetic pleasure.

**Fig 31:** Without signs of human activity



Source: the author 2005

**Fig 32:** with signs of activity

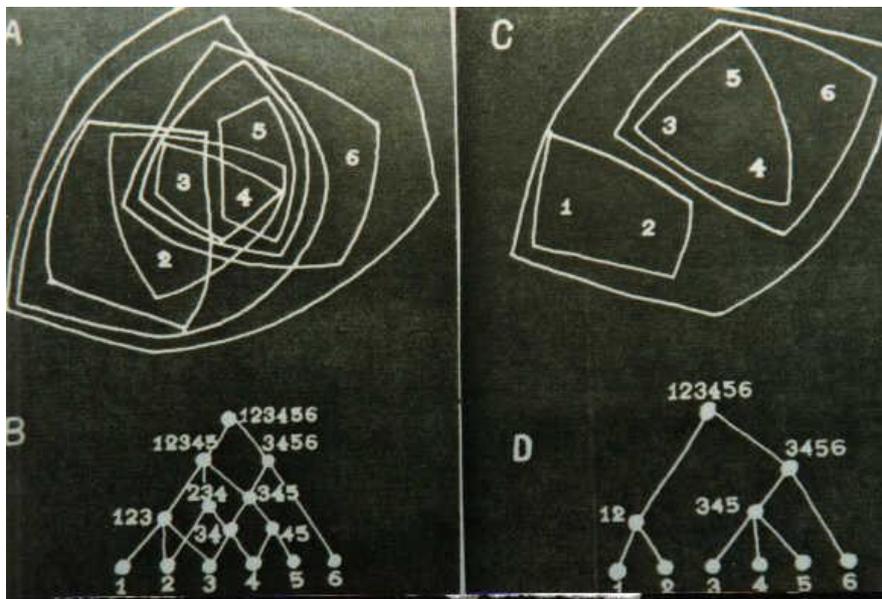


Source: the author 2005

Through these two illustrations we could say that environment which is mixed together is more lively and vital than the one which consists entirely of housing.

Towns which have developed organically over a long period of time will generally incorporate an extremely rich and complex activity pattern .in an article “a city is not a tree “Christopher Alexander argues that the reason for this is that each distinct group of activities overlaps with a number of other groups .it is this overlap linking activity groups together in which Alexander calls a semi -lattice structure

**Fig. 33** : Semi lattice structure.



Source : Christopher Alexander

Which acts as a generator for a wide variety of activities which had the overlap not have existed, would not have been viable .in this way an overlap of say of residential with office use is likely to generate the need for a wider variety of shops, entertainments and other such secondary uses than either of the two original uses could have supported on their own.

In an environment which does not contain this overlap of activities, Christopher Alexander says that “activity groups are linked together in a hierarchical or “tree -like

“Pattern and the potential number of ways in which they are able to combine is greatly reduced .the result is an environment which is substantially less complex, less diverse and less vital.

Thus we could say that an urban environment which is composed almost exclusively of residential development will tend to be less visually stimulating than an environment which incorporates a rich mixture of uses and activity patterns .it will tend to contain fewer visual events in terms of both building form and human activity and by depraving the mind of a sufficient quantity of new information, will be both boring and mentally inhibiting.

A limited range of uses within an environment will not, however, only result in a lack of visual stimulation but in our point of view, it will also reduce the range of activities in which people are able to participating .and partly as a result of this, reduce the scope of social contact within the environment.

The degree of boredom and mental inhabitation experienced by residents as a result of this environmental condition will be increased to the extent that many of the younger elements in the community may well resort to vandalism or other such destructive activities in order to provide themselves with some stimulation.

As we make our cities more uniform by design and regulation we rob exploration of its rewards till we force the young to seek the stimulus of the unexpected in their own unpredictable behavior rather than the too predictable milieu.

### **7.4.3 Lack of identity**

Whilst on the one hand the human brain requires the kind of stimulation that is best provided by the new, on the other hand, it also requires the kind of security which can be Best provided by the familiar.

In physical terms, people need to be familiar with their environment in order to be able to find their way about without getting lost. In emotional terms, they need to be familiar with their environment in order to feel a part of it and secure with it.

Therefore, we could say that an urban environment should be rich and complex on a small scale and should also be both legible and distinctive on a larger scale. Small scale complexity should be contained within a comprehensible urban framework.

An urban environment which is not both legible and distinctive but which instead consists only of a repetitions pattern of the same or similar elements will be more difficult to orientate within and less easy to identify with.

In order to orientate themselves within the environment, people depend to a large extent on mental maps, which have been explained previously.

The cognitive map makes possible recognition, prediction, evaluation, action and includes human needs and capacities. The urban environment which contains such requirements thus is possible.

A/ to make sense

B/ novel and challenging

C/ permitting choice

Cognitive mapping is about how people experience and how they know the environment and the kind of information that would necessarily be contained in a cognitive map are:

A/ recognition, knowing where you are, recognize demands

B/ prediction, knowing what might be happen next, familiar what Leads to what.

C/ evaluation, knowing next thing to be good or bad, to anticipate favorable actions.

D/ action, knowing what to do, are able to think alternatives

### **In terms of human need**

A/ to make sense out of what you see, interpreting familiar and new things.

B/ the enjoyment in guessing, creation of interest.

C/ the delight of dividing the work in good or bad.

D/ the exercise of skill.....choice.

### **Space time and uncertainty**

A/ a cognitive map of spatial environment is essential for our survival.

B/ a cognitive map are an approximation to continuity.

### **Coherence, variety and choice**

A/ an environment one can make sense - order.

B/ must offer novelty challenge and uncertainty -lack of order

### **Coherence**

A/ multiple features to aid differentiation.

B/ repetition of a given element.

C/ structural basis underlying arrangements of elements.

### **Permits predictions**

To make more sense of the environment does not depend on extreme simplicity but on coherence and variety as well as other elements .to mention here that the former element "coherence "we are not to understand the monotony of the repeated simple pattern .this is only too easy to achieve, but pattern becomes interesting, attractive in the proper sense that it attracts and engages the spectator, only when it is at the same time both complex and sufficiently orderly to be readable.

A mental image of the environment and the ease with which mental maps can be constructed will depend on what Kevin Lynch calls" the imagibility "of the environment .if it has a clearly defined structure and contains a variety of distinctive elements its

Inhabitants will find the construction of mental maps that much easier .they will know by reference to these maps the relative locations of all major elements and when confronted with any one of these will be able to locate themselves within the environment.

But if an area of the urban environment looks very much like another , the construction of mental maps will be more difficult .environmental differences will be less obvious and a far greater familiarity with the environment will be required before similar orientation skills can be acquired . as well as needing to orientate themselves within the environment ,people will also benefit from being able to feel a sense of belonging to it or, as **van eyck** has said “**from feeling that they are somebody living somewhere** “.

As environment which contains elements that are distinctive and unique is likely to have a stronger identity than an environment which is composed largely of elements that can be found in a variety of other locations and an environment which has a strong identity will generally be an environment to which people feel strongly attached .

As peter f .smith explains, an individual sense of belonging to a place is governed by both social experience and context. the environment in which his experiences occur will acquire associational values which ,for that individual will transcend its intrinsic value if the environment is sufficiently distinctive then it alone will possess the associational values to which the individual is attached .if, on the other hand ,the environment is not sufficiently distinctive ,associational will not be so strongly place - related and the sense of belonging to a particular place will be greatly reduced .

## Chapter eight Fashions and styles

### **8.1 Introduction**

As far as the visual design of the urban environment is concerned no one can deny the importance of urban design theories, techniques and their impact in an environment design education .let us say that the aim of this study is to try to examine different urban design theories and techniques and work towards a possible theory to be of use in the design of the visual environment.

The designer may ask what relevance has such theories and techniques to the urban environment and what possible effect cans knowledge of perceptual theory has? The thing we can say is that I believe that these theories have some relevance and their relevance lies in their application to the art and practice of town scape or urban environment design.

Since **Camillo sitte** much has been written on the art of the city from the aesthetic or design viewpoint .it seems that very little research has been undertaken to discover the subjective psychological factor which form the individual view of the environment.

The objective of each theory is to bring some sense and pleasure in our urban environment .they seek the examples which give the aesthetic experience .however, they are not asking to imitate it but to find the principles which can be used in present day. Camillo sitte made it clear by saying that:

**“We wish to seek out as technician and artist, the element of composition which formerly produced such harmonious effects .and those which today produce only loose and dull results”.**

Thus of those who have advocated personal theories and techniques pertaining to the design of the visual environment, some of them are outstanding to mention here Kevin lynch, Edmund bacon, Gordon Cullen, peter F, smith, and so on. Arthur koesler Mentions that

**” in search of fundamental truth we often tread on the same ground which was trodden before by others .regardless of the site we choose for our excavation, we shall always hit at the same ancient underground river which feeds the springs of all discovery.”**

A number of authors have expressed their thoughts on design and the resultant Aesthetic or non aesthetic of our built environment. Some have illustrated Approaches to design and others have advocated design principles .but a theme Common to all the authors work selected to be discussed and analyzed is how the City is seen perceived by its users, and how this is to be used for improved Design results

## **8.2 Kevin Lynch and the image of the city:(1960)**

Starting from the problem of perception, his major concern was to obtain an understanding of how the townscape of a particular urban area could be read by a resident or visitor, .he believed that legibility is crucial in the city and that its reestablishment is necessary in order to rebuilt our cities and give them clarity; structure identification as well as orientation.

Believing that a structural image based on past and present sensations not only gives the observer a base but allows him to change that image to fit changing needs. As he states it,” the image can be divided into three components in an environment as being

**\* Identity**

**\* Structure**

**\* Meaning**

The first two plays the major role because they constitute the physical image .but meaning is important as well, it signifies perception.

Image ability is therefore the quality of evoking a strong image in any given observer by

Presenting objects sharply and intensely to the senses.

Studies were concentrated on a central area in three cities, Jersey, Boston and Los Angeles. to test the idea of image ability ;and also a comparison of image with visual reality to sort out what forms make for strong images ;thus to suggest some principles for urban design.

A field survey was made by a trained observer who subjectively mapped the city according to a notation system developed by Lynch .then a simple group of city residents was interviewed ,to evoke their own image of their physical elements in all the city.

These elements were:

### **1 /Paths**

### **2/ Edges**

### **3/ Districts**

### **4/ Nodes**

### **5/ Landmarks**

After which he concluded that group images exist within the city .yet each individual picture is unique in its content.

Form should, therefore, be used to reinforce meaning in design, not negate it and the previous five elements should be employed in determining the city's image.

### **1/ paths:**

These are the channels of movements e.g. streets ,canals and customary travel on then helps to imprint a path's significance they have found to have a characteristic spatial contribution and factors such as direction and gradient lent identity.

**2/ edges:**

These are the boundaries between two phases and as such they act as lateral references .road and rail lines were significant in some respects but rivers and other topographical features are highly important.

**3/ districts:**

these are medium to large two dimensional sectors of a city which an observer can go mentally inside of and with a common character, concepts in size of a district may depend in part on how well a structure can be grasped .the clues may be visual e.g. homogenous facades, or they may be auditory ""noise ""or they may be even historical.

**4/ nodes:**

These are the strategic point into which the observer can enter, they may be large squares rather than small points and like districts, they may be introvert or extrovert, and nodes form a relationship with districts since they are their foci, just as they also form relations ships with paths since they occur at their convergence.

**5/ landmarks:**

These are the point references which are external to the immediate environment such as (buildings, a sign, and a mountain) and so on .they may be isolated single events, or reinforced by sound and smell.

A landmark's key physical characteristic is singularity if it has a clear form is easily identifiable, contrasts with its background or has a prominent spatial location, and then it becomes identifiable more easily.

Lynch believed that the inter relationship of the previous elements within the total pattern and context should be considered.

The environment is a set of images which are more or less overlapped and interrelated. As it is pointed out before," the image of the city "is concerned with legibility and orientation in the city, the psychological consequences of not having these are seen to be considerable .for example, and the effect of simply being lost is felt not only in physical terms but in deeply felt emotional terms also.

Thus, it is through the images which lynch divides into the components of identity, structure and meaning (as we have mentioned previously) that we perceive legibility and consequent orientation.

To be workable an image requires:

### **First**

The identification of an object which implies its distinction from other things. This is identity not in the sense of equality with something else, but with the meaning of individuality or oneness.

### **Second**

The image must include the spatial or pattern relation of the object to the observer and to other objects.

Finally, this object must have some meaning for the observer whether practical or emotional.

To conclude, we can say that lynch's approach concentrates on one particular quality.

The visual quality, the apparent clarity or legibility of the city scape as he states

**"By this we mean the ease with which its parts can be recognised and can be organised into a coherent pattern".**

Thus such techniques can be used to show how people react to the visual elements of the urban environments and as such it might provide a satisfactory basis for assessing the visual and amenity aspects of the environments.

Having mentioned that lynch's theory concentrates on one particular quality, this does

Not mean that it denies the importance's of the other properties in a beautiful environment which are meaning rhythm, stimulus and so on. As he states it:

**“The image is strengthened by symbolic devices which will be retained by the perceiver as long as he can fit reality to the diagram; he has a clue to the relatedness of things”.**

Although useful ,the previous classification of major image on one hand it appears to deny the original and individual interpretation of the indigenous population ,while on the other hand using trained observers and not by interviewing individual . Therefore, it seems that an important part of the original concept is lost. But nevertheless, if we can really as designers realise the absence of the important elements this may help to create an interesting visual environment to avoid monotony.

Kevin lynch's theory has been used by many others such as Donald apple yard who used it in his study in ciudad Guyana in Venezuela .being interested in examining several aspects of environmental perception and see how the individual structured them in his mind to form an image of the city. Apple yard's main objectives were as follows:

- (a) Test the individual's scope and complexity of knowledge of the city.
- (b) What the individual thought were the city's components and attributes.
- (c) How the individual wanted his city structured.
- (d) The individual's needs values and objectives.
- (e) Gauge what the individual thought was significant in the city and the effect of present change on the individual's urban perception.

After which ,in general terms ,he found that perception is influenced by a person's needs, purposes and actions by his past experience ,general and particular ,as well as by his abilities to process information.

In similar way, appleyard and Myers, in further research into the relation of speed, mode of travel and perception in view from the road.

Lynch's theory received criticism. In a paper written by Carl steinitz “meaning and the congruence of urban form and activities “.reinforcing his criticism by the words of gulick

Who says that “people do not imagine cities in terms of modes, landmarks, and so on”. Instead, he says that “image ability has its significance in the mind of the beholder”. In an other word, image ability is determined by the beholder’s perception of the visible form of an object combined with his consciousness of some social or behavioural which he associates with it.

Steinitz believes that the urban form and for efficient human activity within a city, the following conditions should be clearly expressed:

- (a) The type of activity it contains
- (b)Relative “intensity” of the activity in question to others adjacent activities.
- (c)It’s significance.

Steinitz attempts to achieve congruence through similar methods assumed to be used unconsciously by residents in their perception of their city. This fundamental point is levied by Steinitz against the Lynch approach where people are supposed to be aware of modes....and so on.

From the previous three conditions steinitz formulates the theory that consistency or congruence between the independent variables of an environment which form activity and perception should result in an environment of minimal representation .images and relationships which allows the individual to absorb or learn more of the environment than was previously possible .in general terms ;one could say that this theory does not show how it would avoid monotony .and seems to be contrary to the principles advocated by other writers ,such as peter f smith ,Robert venture ,who argues that meaning ,learning and intensity of perception are a direct function of the complexity of the environment.

Finally, to conclude with the two previous theoretical approaches, in my point of view, the difference between Lynch and Steinitz is that whereas Lynch’s methodology is basically oriented to be a design tool for urban designers and not necessarily of what people see, while Steinitz method is based on exposing as much as possible to the eye so that a more meaningful mental picture of the urban environment can be contrasted.

### **8.3 Edmund bacon and “the design of cities”(1967)**

The city as an act of will in bacon’s theory that the form being determined by the multiplicity of decisions made by people who live in it, under certain circumstances these decisions have produced clarity and noble form to our cities.

Bacon believes that we need an adequate design idea, but by doing so a conflict occurs in his theory .on one hand, he claims that the city is people art while in the other his attempt to establish a design idea for cities in an artistic base.

To follow bacon’s theory, we must understand his three stage conceptions which are as follows:

#### **(a) Apprehension**

By which he means that designers must have a mental understanding of the living and constantly changing power which are both dependent on the philosophical, religious and scientific attitude of the time .the first stage is concerned as a basic power which the architect exercises while he is designing.

#### **(b)Representation**

In bacon’s view the means by which spatial concepts are reduced to tangible images

#### **(c) Realisation**

Is the establishment of definite three dimensional forms?

According to bacon, great design is produced only when the previously stages are in harmony.

Following bacon’s reasoning .to realise a three dimensional image ,which could be used by the builder as an element of communication, but due to the complexity of today’s

urban design problems, such two dimensional design has proven totally inadequate .unlike in the medieval towns in which there was fusion between perception and apprehension ,and there is no problem of communication because designer and builder were often the same .even in the renaissance period ,buildings and form of representation were very much in harmony .with its two dimensional representation because design was largely based on form produced by one point perspective and viewed by one individual.

In his book “the city” eliel Saarinen says that it was” this three dimensional approach to the built environment which led the high degree of correlation and success of the medieval towns but with the introduction of scientific perspective in the renaissance, such approach started to decline “

Bacon maintains that today’s urban design complexity negates the traditional means of representations and fail to provide a range of symbols capable of communicating three dimensional urban design concept, stressing the importance of:

- (a) developing new ways of representing present day design concept
- (b) The necessity of achieving a deeper understanding of the actual effect of design on the user.

Taking the previous point as a basis, he introduces the principles of the simultaneous movement systems in order to establish a three dimensional design framework. and to understand the significance of simultaneous movement, three concepts must be explained.

### **(1) relation mass and space**

By which he means that physical space is the dominating force in urban design and we should respond to space as a basic element in itself and conceive design abstractly within it.

**(2) Continuity of experience**

That movement through space creates a continuity of experience derived from the nature and form of the spaces through which the movement occurs, creating a movement system which acts as a dominating organising factor in urban design .for bacon, the success is based upon how we as designers can understand how people perceive or wish to perceive the environment.

**(3) simultaneous continuity**

One must try to see the continuity of space experience in terms of a succession of movements based on different rates of speed and modes of movement.

All the previous concepts are interrelated and contribute to the total living experience in the city, the basis of these concepts will then act as a three dimensional framework within which the design of a city can emerge .bacon states that the establishment of a movement system is indeed a creative process which he explains as being something that can be felt only by those who understand the qualities of being an artist.

Finally, the thing we could say is that in my point of view ,such theory of simultaneous movement based on historical examples is too vague for any practical application .even his primary principle is seen to fail as it is not the public ,but the power groups who influenced the city design .on one hand he tries to justify his theory while on the other he ignores the importance of its very deductive ,that of how people perceive or wish to perceive their environment and the effect that perception will have on their participation in the planning process. In doing so it seems that he ignores his belief that the city is the people art.

#### **8.4 Gordon Cullen and “townscape”(1961)**

Unlike bacon, who feels that the city is the people art, Gordon Cullen is concerned about the actual fabric of the town itself and how we perceive our environment through our faculty of sight, he says:

**“The vision is not only useful but evokes our memories and experiences. All these response emotions inside us which have the power to disturb the mind when aroused”.(1961)**

For him his original aim as an urban designer is to manipulate the elements of the town so that an impact on the emotions is achieved .trying to understand the way the environment causes an emotion reaction ,he made an analysis concerning optics ,place content ,which can be explained as follows:

##### **(a) concerning optics**

The experiencing of a town while walking through it in a uniform speed and discovering the views is known as social vision. for example, the human mind reacts to a contrast of a street, courtyard when they are on the mind at the same time it comes alive through the drama of juxtaposition, in optical viewpoint he splits the element into the existing view and emerging view which can be distinguished in the accidental chain of events, whatever the linking views be full of satisfaction or without any satisfaction (see fig34)

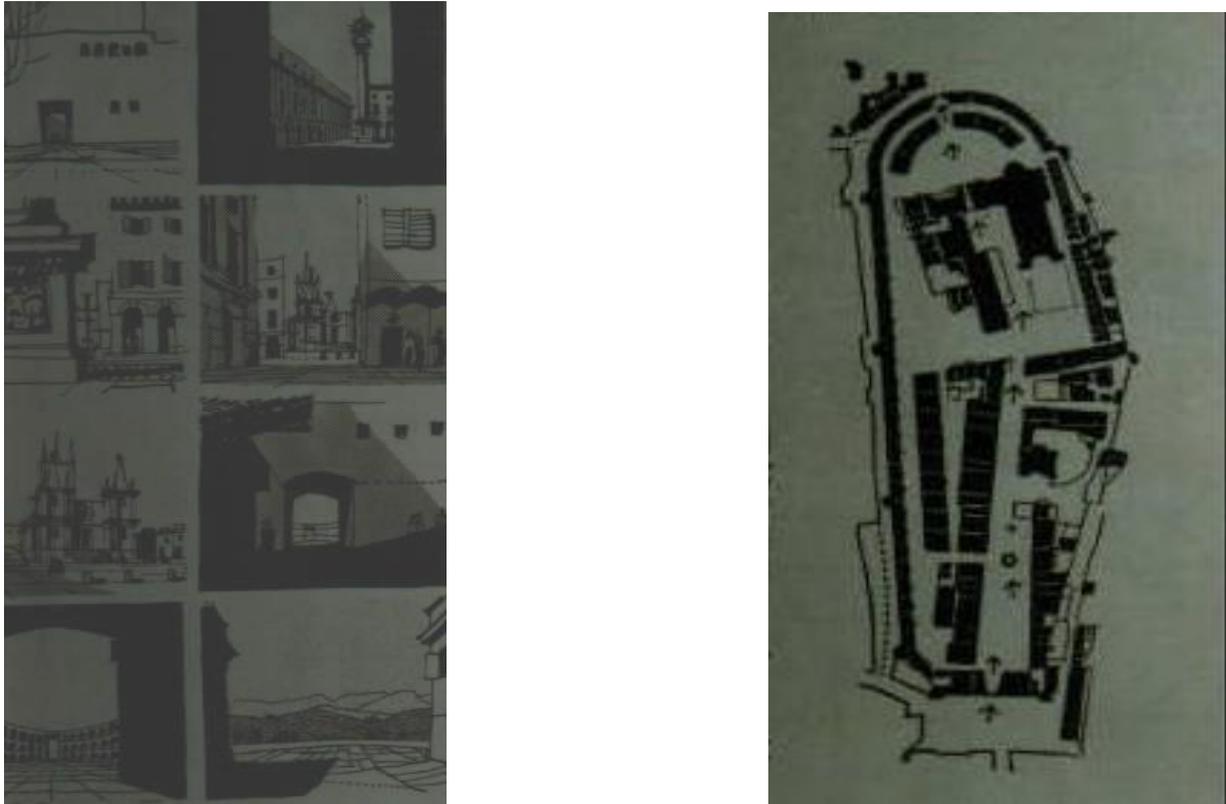


Fig 34: Serial vision, source Gordon Cullen (1961)

**(b) concerning place or position**

concerned with the position of our body to the environment ,we are instinctively relating our body to the environment and we experience it in sequence of exposures and enclosures which highlight our awareness of a place, we are identifying the physical limitations of the open or enclosed spaces whether we are in movement or static .for example, while you are moving you identify the relationship between the place where you are and the place where you will be “here and there” which form a contrast and hence the qualities of locus which results in complexity when seen in conjunction ,for instance ,the contrast between traffic speed (which is placeless because mobile and transitory) and the quite human enclaves ,each in itself is less complex than a random mix of the two , but the totality of experience of the two and the transition between them over time in different orders and combinations, allied to serial vision lead to great complexity.

The type of places is to be likely as follows: with their psychological implications.

- (a) Possessions, occupied territory, enclosure, indoor and so on are all forms of possession.
- (b) Enclosure, space created by buildings or trees to give a sense of enclosure.
- (c) Precincts,(similar to nodal point by Kevin Lynch)
- (d) Enclaves, the enclave or interior open to exterior and having free and direct access from one to another, feeling of security.
- (e) Focal points (same as landmark by Lynch)
- (f) Closure may be differentiated from enclosure by contrasting “travel” with arrival. Closure is the cutting up of the linear town system into visually digestible and coherent amounts whilst retaining the sense of progression ,enclosure on the other hand provides a complete private world which is inward looking ,static and self sufficient.

### **(c) Concerning content**

He made an examination of the environment in terms of colour, texture, scale character, personality, style, uniqueness. He is aware of the beauty of the old towns. Cullen suggests that by understanding those concepts of motion, position and content, we will equip with the rules for playing the game of experiencing our environment on the whole. Cullen’s category of projection and recession is an instance of the more general quality of complex, ambiguous systems. the category refers to the fact that simple recession and projection does not work as well as more intricate ones in breaking up the visual input of the street .the break up due to complex projection and recession results in serial vision ,the eye is caught up in the intricacy of the meander’s ,since one can meander in different ways, and the meander ,particularly if complex ,changes more over time with the light quality and the seasons , than does a flat plane , a much higher degree of uncertainty and hence complexity results. Although it could shown that all his concepts and case studies fit into this scheme.

Cullen emphasise the function of the path and agrees with Lynch in the isolation of the modulating elements .he goes much further ,however ,to show the real elements of townscape may be employed .unlike Lynch ,his approach is subjective .it is significant nearly all his examples are taken from old towns, and the few that are illustrated from the modern environment are presented as cautionary examples .perhaps this is what has tended to devalue much of Cullen's work in the eye of modern urban designers.

But however, if we examine his illustrations in terms of the complexity mooted by Rapoport and Kantor (which we shall explain later on). This is the element which is common to all complexity of relationships in the visual field.

Cullen emphasise the importance of how people perceive their environment ,attempts in a subjective manner as I mentioned before ,to examine the criteria and possible principles that might be used in order to achieve public awareness and appreciation of the environment ,points to the deficient research into human perception , particularly in its application to urban design .

### **Rapoport and Kantor "complexity and ambiguity"(1974)**

Rapoport and Kantor stress the need for complexity in environmental design saying that:

**"simplicity has been the aim of cotemporary architecture and implicitly that of much urban design .the call has been for clarity, lucidity, simplicity while striving for simplicity has always tended to distinguish the designed environment from the vernacular which has been more complex .it has been more typical of recent work than of the past .it is our contention that contemporary urban complexes have failed to answer important needs"**

since it is likely that more and more of our environment will be designed, it becomes important to begin to study how the need for complexity can best be achieved .an

Awareness of this need must exist before it can be achieved in practice, and these needs must be clearly articulated or the danger exist that messiness richness and complexity will not be allowed.

Rapoport and Kantor contend that one way in which complexity can best be achieved is through ambiguity which they define as “admitting of than one interpretation ...duplicity of meanings”.

Perceptually, they describe the gestalt term “closure” as being the opposite of ambiguity. Considering that the criterion by which interest is gauged in the urban environment is the “perceptual note “which can be described as the rate of indication of new information into the conceptual structure.

The theory is based on experimental result. suggesting that they concentrate wholly on the visual aspects of perception .the optimal perception can be defined simply as the amount of visual stimuli that the individual can comprehend over a given time .as it was claimed by the authors “it is indeed a process involving a stimulus and comprehending it in such a way as to organise behaviour around it “.

In addition they state that the individual will have a comprehension threshold for ambiguity and complexity in the environment as he seeks a diversity of environmental stimuli, along his general desire lines .once he has fully digested the environment along one route and each person may experience the same in different ways.

In visual terms recognition of the physical configuration and visual recognition of activities, users are major elements of attention .according to the authors the environment should have a variety of forms and spatial configurations as well as a variety of uses .these two factors seem to be similar to those advocated by Jane Jacobs whose plea for diversity, similarly, the environment should allow for:

- (a) a change of form and spatial configuration
- (b) A change of uses.

Ideally, the constantly changing environment and its visual stimuli would not allow for monotony developing over time and be controlled so that a conflict of interest, confusion or chaos does not occur. Another factor affecting the optimal perception rate is how the urban designer may provide for a certain degree of uncertainty in the visual environment.

For the matter of how one visually perceives an experience a use, an activity, and more importantly, how an ambiguous complex physical environment should express?

In an other word, how it would be designed to accommodate an experience, a use or an activity.

Finally the all important relationship of a visual stimulus and its assigned activity use or experience is somehow not valid in terms of optimal perception rate speaking strictly in terms of visual environment as perception .the authors state “the concept of ambiguity, or even complexity at the present state of our knowledge ,must remain rather abstract and general in physical terms “.here the confusion arises ,when they discuss the effects of activity use and experience on the optimal perceptual rate .

Apart from this short coming in the hypothesis rapoport and Kantor do begin to gauge user perception of the physical environment.

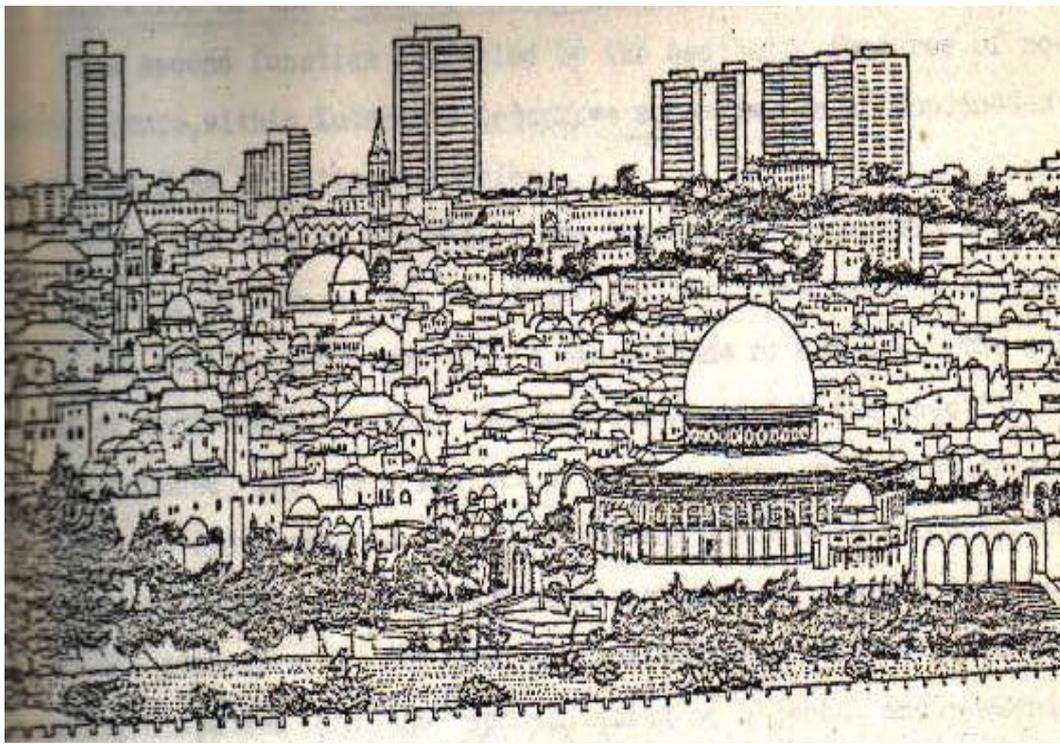
### **8.6 Peter f. smith**

He sees that the most important transaction takes place between the mind and its environment ,claiming that the urban design challenge in providing a rich variety of mind enhancing situation ,saturation ,flexibility ,and exploitation of the universal fascination for labyrinths variability, flexibility and multilayered use, inference and stimulation of the curiosity derives images and symbols setting alight the imagination ,drama ,sparking emotion. referring back to rapoport’s findings as well as to the previous chapter ,that

human being prefer complex patterns to simple ones .stimulation ,variety and change in the environment are necessary for psychological growth .for example ambiguity in the environment is another component of the visually good environment which would satisfy our psychological needs.

Art kutcher 1973 expresses his opinion on contemporary aesthetics by comparing two philosophies of urban design which he has observed in practice. These being the inductive approach, the deductive approach alluded to in the previous section .The context of his writing condemning Jerusalem s planning, and in particular the High building policies, adds a greater bias towards the conservationist inductive approach.

**Fig 35:** Proposed high buildings, Jerusalem kutcher 1973



Source: Arthur kutcher (1973)

Embarking on this section by referring to kutcher's astute observations should give a contextual background to the approaches and principles of the protagonists Referred to in following sections. Kutcher sees aesthetics, with the deductive approach as having to fulfil two Functions.

- 1 /To express in architectural form the essential nature or spirit of the times
- 2 /To allow a new range of freedom of artistic expression to the individual Architect.

The first function is to help make people aware that they are living in a period Vastly different from all previous ones, and by giving architectural expression to Certain abstract notions, these aesthetic devices allow people to appreciate in a Subjective way the great objective facts and tendencies of our age .for example , relativity physics or quantum mechanics are understood by a very few of us , yet they are central features of our scientific thinking .Modern architecture, by devising new was of treating space and structure, has Been able to produce tangible metaphors for these scientific concepts This ideal reflects a statement of SAARINEN 1943 who said:

**“Show me your city and I tell you what the cultural aims of the population are.”**

Further it embodies Bacon’s thesis 1967 that the city is an act of will and the form of our cities is an Indication of the state of our civilization.

The second function fulfilled by the aesthetic features of modern architecture, within kutcher s deductive schemata is an unprecedented degree of free artistic expression. This may seem to contradict the logical and universal tendencies of modern architecture, but the individualistic expressions of the style are wholly consistent with a basic theme of our age the realization of individual freedom .one may disagree with the specific designs Produced, but the principles of self expression in architecture is sacred .It often results in an interesting variety in our city scape.

The progress made in modern painting gives an insight into how space and structure are now used in architecture .firstly; abstract painting dispensed with the representation of objects, and presented instead colours and shapes as the subject matter .a further Step forward was taken when the actual paint itself, its texture and treatment became the subject of the painting. In a similar way, space and Structure themselves are the subjects of architectural expression.

Great architecture of the past has also used space and structure in an abstract manner particularly that of ancient Greece and of the renaissance.

One of the finest characteristics of modern architecture is the way in which their buildings relate to their surroundings. If a large modern building is placed next to older, smaller structures, the very contrast often heightens the beauty and delicacy of the old buildings. But more important, juxtaposition of scales, of the old and new creates among people a new level of awareness about their surroundings. If two objects not normally encountered together are juxtaposition, a kind of creative shock value is produced. The tension brought about by this juxtaposition produces a new kind of reality in which both objects have been transformed in our consciousness and have taken on new meanings. In this way, our awareness of our environment has risen to a higher plane.

Kutcher's somewhat cynical appraisal of the deductive approach to aesthetics is followed by his counter argument for the inductive approach. Based largely on refuting statements made for the deductive approach, his inductive approach appears conspicuously devoid of positive statement and relies heavily on presenting meritorious precedents. Nevertheless valid in illuminating the vagaries of the modernist approach particularly in the context of Jerusalem.

He suggests that architecture through the inductive approach, be seen as a tangible art which defines and creates specific places to be lived in or used. Its aesthetic impact comes from its direct physical presence, from a sense of container, of balance and counter balance, of movement of light and shadow, of mass, of surface and texture, and of scale .its sense impact involves not only visual relations but also touch and sound. The total experience is also bound up with certain meanings .but these meanings are not, strictly speaking symbolized or represented by the experience. They are embodied within it. Because of our verbally orientated culture, this is for many people a difficult point to grasp .traditionally, works of architecture were seldom, if ever, considered as syllogism, to be understood or as puzzles to be solved, but as spatial and structural organisms to be experienced in an immediate physical way. Greek architecture evolved

Over centuries a series of mathematical relationships and physical forms the orders whose purpose was to evoke a visual sense of harmony and equilibrium. The temples were richly carved and brightly colour, they were to be sensed as bodily presences. Not understood as concepts, renaissance architecture is undoubted Neo-Platonism associations did not result in abstractness. The concepts which formed the architecture were themselves tied to sense experience, they were geometric concrete universals; the circle, the cross axis, the central plane.

In contemporary architecture an attempt has been made to communicate concepts for which there is no physical correlative relativity physics or no objective reference the private notions of the architect .beyond this , space or structure in itself are being expressed , purified of all romantic , superficial and associative encumbrances .In its practical effects, the architectural attempt to express scientific concepts simply confuses scientific and mathematical space with perceptual space .the particularly desolate aspect which it usually takes on reflects the emptiness of the abstractions with which it deals. on the other hand , that half of the modern ideology which stresses self expression at the expense of a common language of architecture often produces a visual incoherence which can be even more monotonous than the faceless and placeless results of the more objective ideology the individualistic efforts are usually not only irresponsible from an urban design standpoint , they also express a spacious and superficial individuality .the pragmatic and economic decisions which give a building its essential form are not made by architects , but by their corporate clients . thus , both kinds of monotony stem from the same essential fact, the architect has ceased to determine , except in the most superficial aspects , the form of buildings and the shape has become a mere technician in the service of his corporate and governmental masters.

The last kind of expression, that of space itself, stripped of irrelevancies, has Often resulted in scale less and non human volumes. It was the superfluous Elements, organically bound within the total spatial concepts, which produced the Great spaces of past architecture.

The way in which the products of the deductive approach relate, or fail to relate to their built and natural surroundings points out the approaches greatest lack its inability to grasp the basic notion of a city as an organically inter -connected fabric .the surrealist arguments endorsing the value of shock in expanding consciousness are, like modern architecture s technical concepts, decades old and have not improved with time.

Kutcher concludes that the modern movement has produced works of genius but has failed to produce a common approach to building which in less able hands would result in more sympathetic solutions. Further he suggests that the creations of isolated works of genius are perhaps secondary to the creation of a civilized and humanly scaled continuation of our existing environment.

Individual freedom, and the expression of the times, is exhorted by the deductive approach in contrast to the inductive approach which calls for regard to be paid to precedent and sympathy of fit. While the object of the deductive approach can be embraced within those of the inductive approach the converse would be difficult to achieve. It would therefore seem reasonable to assume that the resultant aesthetic of the inductive approach would be more widely accepted than that of the deductive approach.

**8.8 The theories of bacon 1967, Cullen 1961 and lynch 1960** have had a strong Impact on environmental design education. While there are similarities in their observations, their approaches differ and adopting the principles of any one to satisfy the same brief would probably produce very different results. Their work is however invaluable and serve to illustrate theory and methodology derived through the conflicting deductive and inductive approaches.

Bacon s theory and reasoning of the city being an act of will and the resultant design principle of simultaneous movement systems, supported by references to PAUL KLEE Painting could certainly be categorized as deductive .The city as an act of will, with form

Being determined by a multiplicity of decisions made by the indigenous population, credited us with considerable power regarding our destiny.

In order that the city may continue to develop as an act of will, Bacon believes that we require an adequate design idea. Conflict occurs as a result of his belief that the city is people's art and his attempt to establish a design idea for cities on artistic principles.

To follow Bacon's theory an understanding of his three stage conception of the design process is required. His first stage is apprehension or mental grasp of a situation which he sees as being dependent on the philosophical, religious and scientific attitudes of the times. He claims that apprehension as a three dimensional concept is the basic power which the architect exercises while he is designing in space. The second stage, representation, he defines as the means by which spatial concepts are reduced to two dimensional tangible images. Realization, his third stage, is defined as being the establishment of definite three dimensional forms from his analysis of the design process. Bacon highlights two problems in its application in contemporary design

- 1 two dimensional representation of the three dimensional realization of a
- 2 design results in a loss of its most vital qualities through bad communication
- 3 Within the vast three dimensional design problems at the scale of modern city, the traditional range of two dimensional symbols as apprehended by the designer has proved totally inadequate.

Historical support is claimed in the success of the medieval town where there was fusion of perception and apprehension while representation was simplified by the designer and builder being the same person. Even in the renaissance period of town design, Bacon suggests, three-dimensional apprehension was in harmony with its two dimensional representation as the design was produced by one-point perspective and was intended to be viewed by one individual at one point in time.

SAARINEN 1943 however, claims it was this very design style that instigated the Decline of form correlation to Bacon maintains that the degree of complexity in contemporary urban design negates our traditional forms of representation which fails to provide the necessary range of symbols and fails as a means of communication .his reasoning being that.

1-city scale is so vast that the human mind cannot be expected to develop a complete Three dimensional image of the entire area.

2-The organic growth process of a city occurs over a long period of time and any design would require being flexible and capable of continual re-assessment?

Adoption of simultaneous movement systems in three dimensions in order to establish the essential and non essential components is proposed as a solution .with this methodology bacon envisages the designer establishing a central design structure or three dimensional design framework without actually attempting to cover the entire area. a similar but static principle was advocated by AD MACKIE 1968.

CYBERNETICS tells us that the control of a structure may be affected through the control of only those elements which control the system. Applied to city planning, this should mean exercising control only on those elements which control by their position in the structure and minimizing direct control of the other elements .it is possible that the overlap of urban modulating elements provides us with areas whose control over the environmental image may be maximized. if townscape efforts are concentrated in these areas the maximum amount of relational possibilities will result ,thus by studying the city in this way we may increase our control of the city environment by the applications of effort at selected points rather than comprehensively.

The idealistic principles of control nodes or paths are dependent on manipulators who are a minority recognizing and following the precedent to produce a harmonious aesthetic environment. This however denies the frequently conflicting economic and

Political objectives of developers. Mackie's proposals, although questionable, follow on from an analysis of Lynch's image of the city and related work, however, Bacon's deduction appears to be arbitrarily grasped from thin air. His analysis of the problems confronting urban design does not flow logically into his proposed design idea of simultaneous movement systems.

Bacon's theory sought justification through the work of PAUL KLEE and by establishing the movement system as a dominant organizing force within the structure of historical town design.

There are three concepts essential to Bacon's theory.

**The first**, the relationship of mass and space. He contends that physical space, and not architecture is the domineering force in urban design, consequently we should respond to space as a basic element in itself and conceive designs, abstractly within it.

**The second**, is continuity of experience? this is based on the presumption that movement through space creates a continuity of experience derived from the social nature and physical form of these spaces. Perception of this space experience will, through time, result in a movement system which will act as a dominating organizing force in urban design. Bacon is careful to point out that its success will depend on the extent that we as designers can understand how people perceive or wish to perceive their environment. It is this problem with which Lynch's original research 1960 dealt, and this very point on which Bacon's theory tends to collapse.

**The third** concept is simultaneous continuities with continuity of space experiences being seen in terms of a series of movement systems based on different rates of speed depending on the mode of transport used. These three concepts can also be related to Cullen's 1961 art of relationship and serial vision, but, as will be seen later, with different outcomes. Bacon's resultant hypothesis is that it is possible to conceive the essential form of simultaneous movement systems in three dimensions in space as an abstract design

Or three dimensional frameworks from which the design structure of the city can begin to emerge .bacon s application of simultaneous movement systems to the modern city initially requires the identification of the basic movement systems within the city and having established this the idea must be allowed to grow organically over time.

The dangers of a comprehensive design idea and disastrous effect it would have on city's organic growth progress is promulgated. he states that the establishment of a movement system is indeed a creative process, but modestly suggests IT is not my intention nor would it be possible to explain exactly what this creative process is .It is something that can be felt only by those understand the qualities of being an artist All I can do is suggest how the artistic genius of a designer can be directly related to the city problem. Bacon s analysis is perhaps more fruitful than his solution in

That he highlights the complexity of city perception, the differing perceptual requirements dependent on rate and mode of travel and alludes to the principles of plurism and organic growth.

However it is considered that the theory of simultaneous movement systems based on historical speculation and intuition is too vague for any practical application. Even in his interpretation of its use in Philadelphia a primary principle is seen to fail as it is not the public but the power groups who influence the city design .in attempting to justify his theory he ignores the importance of its very directive ,that of how the public perceive their environment and the effect that perception will have on their participation in the planning process .It is suggested that, in so doing , he ignores his thesis that the city is the peoples art , and adopts an approach which would result in the deductive aesthetic.

Unlike bacon, who feels that the city is the people's art, Cullen believes that the city, as an art of relationship, should be revealed to the people. He believes that this art of relationship is based completely on our ability to perceive our environment trough our faculty of sight but does not mention perceptual plurism produced by differing education and experience .It is in the art of relationship that Cullen sees the city producing an

Emotional reaction. He suggests that this reaction in three ways.

**The first** concerning optics, is the unfolding visual experience called serial vision which, from any optical viewpoint, can be split into two elements - Existing view and emerging view.

**The second** is concerned with place and our reaction to the position of our body in its environment. Cullen argues that claustrophobia and agoraphobia are extreme examples of the body's reaction to environment.

**The third**, content, relates to the actual fabric of a town that is color, texture, scale, style, character, personality and uniqueness. Cullen warns that there is a danger of losing the existing interest in towns by adhering to conformity and suggests that it should be possible to manipulate the nuances of scale and style, of texture and color, of character and individuality yet still achieve a high degree of correlation. Understanding the concepts of motion, position and content will equip us with the rules for playing the game of experiencing our environment although he emphasizes the most difficult part is the art of playing.

Both Bacon and Cullen emphasize the importance of how people perceive their environment, but whereas Bacon tends to gloss over the methods of how people might be influenced. Cullen attempts, in a subjective manner, to examine the criteria and possible principles that might be used in order to achieve public awareness and appreciation of environment. Although advocated over 15 years ago, Cullen's principles of townscape are still valid, particularly as a counter balance to the sterile manifestations of economically manipulated modernist ideology. The theories advocated by Cullen and Bacon are both intuitive but their analysis of the urban environment, impending visual trauma, points to the deficient research into human perception, particularly in its application to urban design.

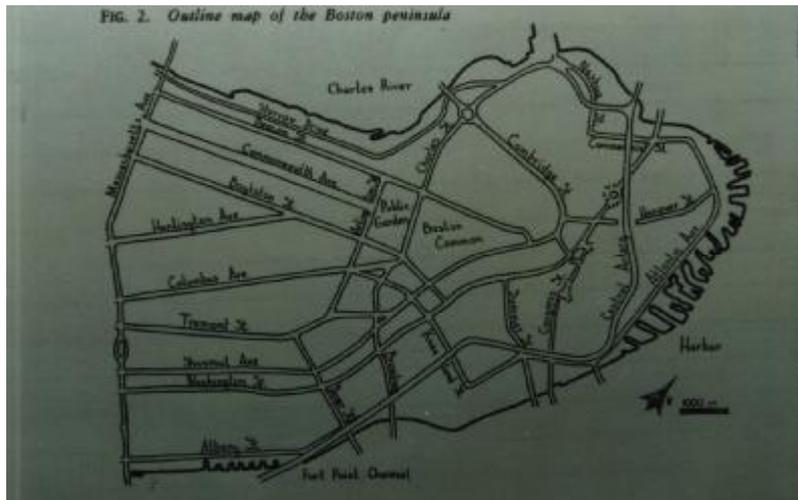
It was on this very problem of perception that Kevin Lynch conducted his original research with funds from the Rockefeller foundation, Georges Kepes and Lynch directed the study which resulted in Lynch compiling the image of the city\_1960, the concept of which were generated from exchanges and liaison with Kepes. From a deductive base there formed an inductive approach. The object of the study was to look for physical qualities which relate to the attributes of identity and structure in the mental image. This led to the definition of image ability which is ....that quality in a physical object which gives it a high probability of evoking a strong image in any given observer. It is that shape, color or arrangement which facilitates the making of vividly identified, powerfully structured, highly useful mental images of the environment.

The analysis was purposefully limited to the effects of visually perceptible objects. There are other influences on image ability, such as the social meaning of an area, its function, its history or even its name. These will be glossed over since the objective here is to uncover the role of form itself. It is taken for granted in actual design that form should be used to reinforce meaning and not negate it. Lynch 1960. In conducting this survey Lynch recognized the three basic components in an environmental image as being identity, structure and meaning. He argues that a workable image requires first the identification of an object and its recognition as a separate entity. Secondly, the image must have a pattern, or relationship, both to its surroundings and to the observer, that is, a structure. Finally, the image must have some meaning to the observer, that is, the symbol must be capable of interpretation. These were the objectives and parameters of the study setting out to assert that legibility is crucial in the city with the thesis that one is able to develop the image of the environment by operating on the external physical shape as well as the internal learning process.

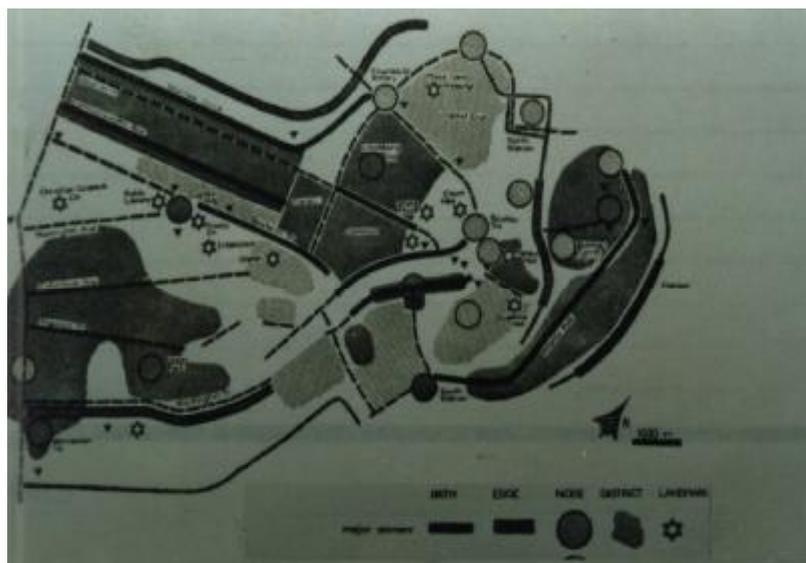
Field studies were conducted to develop and test the idea of image ability, and also by a comparison of image with visual reality to learn what makes for strong images and thus to suggest some principles for urban design. The work was done in the conviction that analysis of existing form and its effects on the citizen is one of the foundation stones of city design and, in the hope that some useful technique for field reconnaissance and

citizen interview might be developed as a by product from these studies it appears that his classifications of path ,edge ,district ,node and landmark were derived probably through the preconception that ...there are fundamental functions of which the city forms may be expressive .e.g. circulation ,major land uses and key focal points .

**Fig36:** the images of the city Kevin lynch 1960(1, 2)



1 source the image of the city Kevin lynch



2 source the image of the city Kevin lynch (1960)

His survey technique adopted two principle methods.

### **First, systematic**

Examination of the environmental image evoked in trained observers in the field and second , but perhaps most important ,a random sample interview of residents .the suggested sample interviews are long and laborious , possibly involving two office interviews and a field trip ,the information from which is classified and mapped into the five major image classifications on a graded scale. Although useful, it appears to deny the original and individual interpretation of the indigenous population.

The technique has been increasingly adapted by employing trained observers and not by interviewing individuals; therefore, again an important part of the original concept is lost. Nevertheless, if urban designers can identify the important elements, or realize that they are in fact absent, it may improve the chances of designing an interesting environment to relieve him threatening urban monotony.

**Fig37:** Photo urban monotony Ali Mendjli Constantine new town



Source: the author (2005)

Peter smith in AJ. February 1973 , sees the urban design challenge in providing ...a rich variety of ,and enhancing situations .variability , flexibility and multi layered use , inference and stimulation of the curiosity drive , images and symbols setting alight the imagination ,drama sparking off emotion ... , accepting ,on a less emotional level ,that interest and diversity are desirable , indeed essential , to what extent can lynch technique assist in the design process ? If the outlined survey is comprehensive? This should render an insight into variable group precepts, while providing the designer with a greater understanding of any area. Theoretically, the assimilated information will assist him in providing the necessary stimulating form, or forms, possibly shaped in many ways so as to satisfy the varied demands of the resident population and also give an opportunity to organise the environment into a uniquely structured, but perceptibly identifiable, geographic area. The decisions and designs will however have to be the product of numerous planning tools , cross fertilised with the designer ability , as the final outcome of lynch's survey is little more than a static descriptive model of images .but still a valid and extremely influential approach to visual classification , and in accord with the inductive approach.

Pluralistic perceptual approach pioneered by lynch has been adopted and adapted by many e.g., Donald apple yard in his study of ciudad Guyana and lynch, apple yard and Myers further research into the relation of speed , mode of travel in view from the road .taken at face value but has also received criticism .steinetz pointed out that people do not imagine cities in terms of modes ,edges, landmarks etc. he believes that image ability is determined by the beholder s perception of the visible form of an object combined with his consciousness of some social or behavioural which he associates with it . Steinetz suggests that for efficient human activity within a city, three conditions must be satisfied.

- 1 the environment should communicate the type of activity in a particular location
- 2 the environment should communicate the relative activity at that location
- 3 Accurate evaluation of the comparative significance of places is necessary for location and description of the most important activities.

from these assertions steinetz formulates the theory that congruence , or consistency , between the independent variables of an environment form ,activity and perception should result in an environment of minimal representations , images and relationships, which allows the individual to absorb or learn more of the environment than was previously possible , when incongruence robbed the mind of vital limited energy . this theory, which does not convincingly show how it would avoid monotony is contrary to the principles advocated by smith , venture , rapoport , Kantor and others who argue that meaning , learning and intensity of perception are a direct function of the complexity of the environment .apple yard found that perception is also influenced by ...a person s needs , purposes, and actions ,by his past experiences, general and particular and by his conceptual abilities to process information .Finally, environmental information is mediated either directly Through a person s mode of travel or indirectly through the mass media, drawing attention to events and places that might otherwise pass unnoticed .

this implies that perception is also a direct function of activity .as steinetz observed m if a person often used a place , he was likely to be more accurately aware of all its forms and activity attributes .apple yard further suggests that much of the conflict between pluralistic needs and planners solutions results from a lack of priority to the people s activities by the planners .I assume planners to include developers , politicians and other groups influencing the city form apple yard concludes his arguments on pluralism by stating ..the designer must face the task of structuring the city to be minimally comprehensible and coherent for all population groups, particularly for those who find it more difficult, those with less education, bus travellers, new immigrants, housewives and others .at the same time there are powerful reasons for developing a rich and complex structure for those who can cope with it. this very point of complexity and ambiguity is the subject of study by rapoport and kantor who defined ambiguity as any small change or duplicity of meaning, however slight, which gives alternative reactions to the same building or urban group .complexity was limited in definition to the physical intricacy in design, their contention being that ambiguity by its nature results in complexity .the

Psychological need for stimulus is equated with the optimal perceptual rate. The O.P.R. being defined as an ideal which allows one to explore and unfold gradually to see and give meaning to the surrounding.

This being achieved either through physical complexity or ambiguity, their theory being that by reducing sensory input to contemporary design, the resultant environment is bereft of User interest. Complexity and ambiguity is therefore considered vital but to prevent complexity degenerating into messiness ambiguity is controlled and a balance is achieved. Rapoport and Kantor point to many writers who in turn have called for ambiguous, open ended situations related to human needs, the indispensable need for a minimum of complexity and the stressing of enclosure as an aesthetic virtue. The object for all is to create interest, which can be equated with the **O. P. R** (optimal perceptual rate). The two extremes of the ideal are, sensory deprivation monotony in which there is a lack of stimulus to observe, select, or organise, an excess of order, and sensory saturation chaos in which there is too much to observe and no relationship between elements, and where you are overwhelmed in multiplicity.

The ideal means that in order to explore, one needs to go back and forth and not take in everything at a glance. If there is no ambiguity, interest is lost as the attraction only occurs once? If all is designed and settled, there is no opportunity to put one's own values on the forms, and they become simple and quickly grasped. Stimuli which are ambiguous make any subjective factors in the observer more effective, thereby overriding the visual pattern which determines what is seen, and holding interest for a longer period of time. Theoretically, if the ideal is achieved through complexity and ambiguity, then monotony is avoided. Although there is evidence to show that most people are apathetic to their surrounding, Rapoport and Kantor argues that this has occurred because of the simplicity of the environment and this could be changed by providing complexity.

Jane Jacobs, and Kitchin for different reasons, refutes the city as an abstract work of art as it implies selection, organisation and control thus becoming arbitrary, symbolic and abstracted. This deprives it of life, and as life with its trials is an integral part of the city, the city cannot be a work of art. Rapoport and Kantor, however, argue that if the artwork was to include the contradictions and be made ambiguous, the necessary life giving complexity and variety could be introduced. Emphasis and economy of selection avoiding saturation and chaos is the key.

This is supported by Venturi who said, I like complexity and contradiction in architecture not the incoherence or arbitrariness of incompetent architecture, and not the precious intricacies of picturesque ness. I speak of a wider and solid matter. a kind of complexity and contradiction based on the need to consider the richness of experience within the limitation of the medium rapoport and kantor call for genuine architectural variety and in a vein similar to Mackie, Bacon and Herman Hertzberg, suggest that the environment must be open ended. Unfinished to a suitable degree so that the necessary completions, the expressions of many different people, will result in a degree of diversity, complexity and interest unachievable through conscious design. But, as was stated previously, the problem is the degree of freedom or ability the people possesses to manipulate their environment.

A vast body of post lynch research theories and principles exist, but only a microcosm has so far been hinted at however an overlap of ideas and fields of research is becoming increasingly apparent. without further reference it may be possible to indicate those recurring aspects or elements repeatedly studied for an insight to the satisfactory visual organisation of our environment. All the points are not necessarily promoted by each author mentioned and some criteria may be contentious. The list is of necessity abbreviated and simplified to little more than symbolic associations, but if the implications and ramifications of the following could be understood would a theory of aesthetics be born?

Individual and collective human experience -emotional, physical and indoctrinated:

- 1 the city ,a tangible art form
- 2 enclosure-space satisfaction
- 3 complexity- ambiguity
- 4 visual coherence
- 5 speed-mode of movement
- 6 organic growth and inter-relation
- 7 open-endedness -user input
- 8 expressed function
- 9 the role of the other senses
- 10 stability, security and safety (I assume implied in all theories )

The pluristic perception of all the above.

Peter f.smith (1974) recently ventured to enquiry whether there can in fact be a valid theory of objective aesthetic judgement which does not discriminate between good and bad .he suggests that to step beyond the confines of subjective opinion (which is a criticism that can be levelled at the previously mentioned theories), a rational of aesthetics must emanate from a level of universal agreement. This grandiose goal he sees being attained through the structure and mode of operation of the human mind.

He argues that evolution has produced three systems in the brain which receive and individually process sensory information and these systems are sufficiently autonomous to engage in dialogue. Recent research indicates that the two older brains or limbic system are capable of enjoying a quite sophisticated capacity for perception. Out with the realms of consciousness, the limbic system is capable of relating incoming material to memory systems and coming up with an evaluative response .the new brain or neo cortex is fundamentally a mechanism for the conscious experience of stimuli.

The remarkable thing about the neo cortex is that it did not evolve in the normal way from the more ancient brain; but simply overlaid it. So, whilst there are pathways between two systems, they observe no constraint to operate in harmony. Further differentiation is produced by the cortex in which two halves, left and right are recognised. The left half is the centre of verbalised logic and deduction. it is adept at the serial processing of information .its opposite number seems to be designed to process abstract phenomena ; to perceive holistically ,that is to search for patterns of overall coherence .so here is the first area in which there is interaction of a dialectic nature . Each side of the upper brain looks for particular kinds of relationships in, say, and visual events. On the one hand there is a predisposition for serial rhythms of varying complexity; emanating from the right side is a preference for a transcendent pattern. he suggest that certain visual arrangements offer satisfaction to the neo cortex by generating tension between the two principles of rhythm and pattern ,his example being the Greek temple .

He sees the division between the old and new brain as the setting for a vertical dialectic which has profound implications for aesthetics. The limbic brain attaches symbolism to particular images, colours, configurations of light and shade, enjoys saturation complexity and importance is attached to objects according to brightness and size. Two basic rhythms generate a lively response from the limbic brain. The first is an emphatic serial rhythm of comparative simplicity .it speaks through the drum beat rhythms of the tribal dances of Primitive communities. (Smith 1974).

The second kind of rhythm which generates the limbic response is high amplitude binary where there is dialectic between opposites which is reciprocal and perhaps attributed with some meaning. It is impossible to detach this area of response from the complex and contentious sphere of symbolism. There are grounds for believing that special dialectics.

**Height/depth.**

**Constriction/space.**

**Gloom/ light**

Activate circuitry or fit into templates within the limbic system (Smith 1974).

Having suggested the preferred images of cortex and limbic systems, Smith then explores their interactive response. He proposes the theory that "optimum value in mental terms achieved when the mind responds to a visual array in depth. This requires engaging the neo cortex with its rational, classical criteria and the limbic brain with its non-rational but profoundly significant systems of values.

One example he gives is St Maria Della Consolazione, its appeal being in its ..... "Cool classical symmetry "lying in the luxurious natural setting of a grove of trees below the hill town of Trodi. Continuing on the dialectic between the brains, he suggests that in the wider urban spectrum the often subtle dialectic between rhythm and pattern serves to satisfy the mind in depth."dynamic or kinetic space sometimes generates a high amplitude binary rhythm which motivates movement, perhaps due to visible fragment of a goal which infers substantial rewards. This has amounted to a speculation that the brain operates a hierarchy of value systems in relation to visual responses. Value seems to increase the more the neo-cortex and limbic brain are simultaneously engaged in the response. Furthermore, evaluating criteria seem to favour situations which engender a kind of reciprocal or cybernetic relationship between the two brains which overcomes the dichotomy intrinsic to the system. Psychogenetic development seems to have created a situation in which conflict between them has a higher probability than harmony.

The ultimate aesthetic response owes its profundity perhaps to the fact that it provides an answer to the dialectic of neurosis or schizo physiology. When an array of visual events generates complementary rhythms which integrate the brain "vertically", then aesthetics become therapy. Nor is the system static feedback loops from the neo cortex to the limbic brain, meaning that the ancient system can be "educated" by its higher

Compatriot. Thus, whenever there is activity on the aesthetic plane, the relational situation between the two brains is dynamic, which means that the nature of the dialogue is always changing. This helps to account for the facts that not only are criteria constantly changing; they are changing for favour of greater comprehensiveness.”

In conclusion he states,“in a sense, beauty in architecture -in anything -promotes optimisation of the mind through the fact that in creative tension the human brain has enormous perceptual and creative potential. There is beauty in ethereal, disembodied classicism, there is beauty in the values of the limbic system, but ultimate beauty occurs when they come together in the harmony of opposites.”

This conclusion should have a profound effect on environmental, Practitioners concerned in achieving ultimate visual satisfaction in every scheme undertaken. Unless conditions are right, ultimate beauty will not occur. From the above it can be implied that the conditions will always be wrong in a council housing scheme , and only in the major projects , will conditions be favourable .this does not suggest a relaxation of efforts on the minor visual events , on the contrary , smiths analysis should guide and improve the balance of these , as they are essential to the overall schemata leading to a crescendo in some landmark .if all the bits of the perceptual jigsaw are not given , then ultimate satisfaction will never be achieved. Smith’s approach and theory largely embraces most of the elements previously listed, and his writing is perhaps at present, the most comprehensive on the subject, but, perhaps of necessity, like most other authors, he is writing in an academic vacuum. It is not my intention to criticise these mentors for pushing our body of knowledge forward, but to continue and indicate the other restraints in realising a visually satisfying environment.

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Chapter nine  
The urban design and  
The art of relation ship

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### **III 9 Introduction**

View from the road presents the highway as an experience. For the driver, the road houses an activity that has perhaps the greatest effect on the urban environment, physically and visually. The basic inspiration of the book could be derived from the simple deduction, that if we attempt painstaking efforts to create an esthetic, pleasant, dynamic, etc. Environment for other activities, why not do the same for the driver. After all, driving, or at least being a passenger, on a highway probably affects the greatest number of people than any other single activity and space. The aura that oozes between the lines of the text can be illustrated with Appleyard's, Lynch's, and Myer's description of a driver experiencing a portion of the Northeast Expressway in Boston:

“...he is swept under the stub end of a roadway at a higher level, oppressive but exciting this ceiling comes over him too fast, before he has been able to adjust to his closeness to the City. There is a sense of darkness, confusion, and strain. Under the girders he sees the base of the Custom House again and suddenly sideways to the right and rushes toward the gap alongside the massive bulk of the North Station, with the Custom House much enlarged and directly on axis, and the signs flying over heath overhead. This is a climatic moment! ”

Al though View from the road talks of a highway visual experience and recognizance, it does pave the way for motion / environment studies of any nature. For example, the same program may be applied to pedestrian walk ways, public transport routes, or even in terms of defining a series of spaces within a built architectural environment.

Perhaps of greatest significance in discussion of the highway visual experience are the 'elements of attention' that compose the observes driver's view. The elements of attention are those objects “which capture the attention of a front-seat passenger.” Through observing and recording the various reactions of experimental drivers, it was noted that **2/3** of all objects were sighted straight ahead, while **1/3** were either right or

left, but still obliquely forward. These proportions changed slightly from test situation to

Test situation, but usually of object were sighted straight ahead. Similarly, 2/3 of all visual impressions were objects located adjacent to the road itself. The drivers were more aware of objects that were 'moving' past them, and took secondary scanning notice of more stable objects further away.

"The color and texture of the road surface, the shape and rhythm of the objects at the shoulder (sign, guard rails, retaining walls) set the visual tone. In the forward view of the multi-lane highway, most of the visual field is filled by the pavement and the sky. The differentiation of lane, shoulders, and medians are by texture. Color and width will articulate and enliven this scene."

It was noted that during the driver's occasional wide scanning, he turned his attention regularly to the road.

**"The only exceptions to this rule occur in those brief moments where the observer passes some important barrier and, being anxious to reorient at himself, surveys a new landscape."**

A point of decision does much to gain the attention of the driver. The driver, for example, must decide whether he is to angle to the right or left, and he should clearly see these options that are open to him expressed in the highway from.

**"... at the beginning of an off-ramp, the details of the object which divides the ramp from the main roadway will loom very large in the driver's total impression."**

A sharply silhouetted distant landmark, whether it is a hill, telegraph tower, or a high-rise, will attract the attention of the driver. The mere fact that this distant object is usually first observed straight ahead and then slowly 'moves' around and out of the driver's view, aids in driver orientation. Perhaps the most influential element of attention in the

highway environment is the constricted space.

**“ No one fails to remark structures which approach the road closely enough to make an apparent side wall, canyon or tunnel, nor does he miss any overhead structure, such as a bridge, however momentary its appearance. ”**

“The silhouette of an overpass, the texture of a retaining wall. The shape of bridge column, guard rail or lamp standard were important events. ”

The quality and kind of light being cast onto the roadway, as well as the light being cast or shining from objects in view of the driver, emphasizes elements of attention. Natural sunlight may silhouette a building, if the driver is heading into a setting sun, and as he passes and views the building from a new angle, a side of the building now facing the sun will reveal texture and detail.

All elements of attraction, points of decision, distant landmarks, constricted spaces, and the quality of light, are modified by “the speed at which the vehicle is traveling.” The effects of speed on the driver’s perception of the highway were best described in the following statement by Appleyard, Lynch and Myer:

“As speed increases, attention is confined to a narrower forward angle. Since coming events must be predicted further ahead. As near objects pass more rapidly, they are harder to perceive and attention may shift to more distant and relatively more stable elements. Landmarks are seen in clusters rather than singly; larger spaces and bigger land forms take command. The scene shifts from detail to generality. ”

Throughout view from the road, the discussion is limited to the ‘dynamic impression’ that the road makes on the driver and his passengers. The authors recognize the road as a bulky item in any landscape and it has great influence on those who live along its path and proximity. Appleyard, Lynch, and Myer look strictly in terms of the ‘view from the road’ - not towards it. They state:

“This presents a two-faced problem. Much as if a theatrical designer had to be concerted with the visual form of his backstage apparatus. How important, it is not a problem we will consider here. ”

“If we consider these visual resources, we see that the road designer has many ways of directing and shaping the driver’s impression, even if he can do little to form the larger environment in which the road is inserted.”

Obviously, we can justify the importance of an esthetic highway experience from the sheer numbers of drivers who are affected-truck drivers, commuter drivers, Sunday-drivers, and’ cruisers. View from the road tends to ignore the converse importance, that of an esthetic highway to look at and its proper insertion into an already esthetic environmental experience.

Continuing with the discussion of Appleyard’s, Lynch’s, and Myer’s book, and speaking in terms of their rather narrow approach, the most important concepts put forward ( that can be justified by the author’s approach ) and be useful for the urban designer from what the driver will need to know in order to drive the highway :

- 1) Goal approach.
- 2) Orientation.
- 3) Meaning.

A driver is usually going somewhere and passing a series of ‘thing’ along the way (goal approach). As he drivers, he will want to get a fix on himself as to where he is going in relation to from where he left (orientation). Therefore, the driver must be able to interpret in his mind the physical surroundings (meaning).

**“At the next level of organization, the driver is engaged in building a locational image of his environment, and in orienting himself within this image. In the most direct sense. Movement along the road consists of a succession of approaches to goals. These are the prominent landmarks or focal points which the observer**

**moves towards, and passes by, or which represent his final destination. By them**

**He measures his progress and foretells his future. They may be distant goals which symbolize the final destination and change only slowly. Or they may be nearer objects, which are approached more rapidly and which divide the road into visual segments. ”**

Approaching physical goals that lie along the path towards a destination, serve to provide the orientation that the driver needs. “Finding a way through the intricacies of a modern city is a demanding performance, and one cannot depend entirely upon such conventional aids directional signs, at least without some emotional insecurity.” A fine comparison is shown between the flat lands of Los Angeles (**as one may critically stereotype a vision in his mind**) and a city-scape of San Francisco. Irregardless, **“the fast highway is a new means for making the structure of our vast comprehensible to the eye. If consciously designed for the purpose, they could present the city as a vivid and well-ordered image. ”**

**“Finally, the driver seeks to find meaning in what he sees: to relate the visual objects to the stock of ideas in his mind. The sight of activity, or sense of the meaning and use of areas, is an important pleasure of the road. ”** Perhaps to the driver, most elements of attraction mean that he’s on his way, and still going in the right direction.

Ironically enough, Appleyard, Lynch, and Myer found it possible to state three objectives of design for the highway from the standpoint of strict physical / visual terms:

- 1) “Present the viewer with a rich, coherent sequential form, a form which has continuity and rhythm and development, which provides contrasts, well-joined transitions, and a moving balance. ”
- 2) “Clarify and strengthen the driver’s image of the environment. To give him a picture which is well-structured, distinct, and as far-ranging as possible? ”
- 3) “Deepen the observer’s grasp of the meaning of his environment: to give him an understanding of the use, history, nature, or symbolism of the highway and its

Well-intended as the objectives may be, they fall far short of being sole determinants for the design of highway. The scope of View from the road is too actually affecting real applications. One would have to recognize other objectives: economic, regional strategy, zoning, etc.

To basically illustrate, the authors cite a high-flying Coca Cola billboard as a goal approach, and rightfully criticize its visual predominance over a historic building and the central stock exchange. To stretch a point, is it really the highway's fault for not being in the right position to view the historic building and stock exchange as the predominant elements of attraction in the first place?

Appleyard, Lynch, and Myer apply the visual design objectives by recording highway sequences, analyzing the collected data, and apply the findings in the design process / procedure / morphology.

“If we want to change the view from the road, the first essential is to develop of recording, analyzing, and communicating its visual sequences.”

The authors admit to the problems of recording a visual sequence, and have opted for an abstract notation of motion and space.

Following a brief discussion of pros and cons of using a sequence of picture, motion pictures, video tape; and the variance between the lens and the eye, they admit:

“All of these techniques suffer from disadvantages of cost or complexity, of failure to abstract the essentials, or of inability to communicate the sense of sequence. It would be useful to devise a simple graphic technique of recording visual sequence, employing easily made, easily understood, and reproducible drawings on paper; which could compress the essence of the experience into a small space. Such a technique would allow the rapid communication and comparison of sequence alternatives, stripped to their essentials. ”

The authors, resolving themselves to abstract notation, followed certain lines as to what should be recorded. They state:

“Our studies have led us to think that the essential experience of the highway consists in the perception of roadside detail. The sense of motion and space, the feeling of basic orientation, and the apparent meaning of the land-scape. The sequence of roadside details that are significant at the scale of the entire road-changes in lights, signs, rails, or paving texture - is easily recorded. The sequence of meaning is quite difficult to analyze. We therefore chose to develop techniques for communication of:

- 1) Location orientation, and
- 2) The experience of motion (both of self and of surroundings) through a changing, light-filled spatial form. ”

A series of symbols were devised to represent different physical phenomena that occurred in the sequence of the roadside, in terms of the analyzed parts of the perception of motion and space. The following is an outlined list, by heading, used by the authors to record the roadside visual sequence.

**1 ) Apparent self-motion.**

- a . Ascent.
- b . Descent.
- c . turning movements.
- d . apparent velocity.

**2 ) Apparent motion of the visual field.**

- a . motion along or overhead.
- b . apparent sidewise movement
- c . apparent rotation.
- d . apparent growth or shrinkage.
- e . apparent immobility.

**3 ) Spatial characteristics.**

- a . enclosing effect of space.

b . degree of spatial definition.

**4 ) Proportion of scale**

**5 ) Light, ( f ) brightness.**

- a . Backlit.
- b . Front lit.
- c . Cross lit
- d . Diffused.

**6 ) Overlapping of / and changing spaces.**

- a . gradual merging.
- b . an intervening portal or constricting gateway.
- c . an abrupt shift.
- d . dissolution and chaos between two spaces.

**7 ) Notion of orientation.**

- a / . Paths.
- b. edges.
- c. / nodes.
- e. / landmarks.
- d / districts.

Appleyard, Lynch, and Myer, taking the above contrived elements of the driver's perception of mention and space, performed an analysis of an existing highway. Taking a moderately trained test group, the authors collected data from the subjective evaluations of the group. Information was collected from the sample groups from either continuous stream of verbiage of a series of quick sketches - in both cases; the subject is under pressure so that he cannot consciously control what he records. The authors then transcribed the data into sequence diagrams. In this particular exercise, an analysis of the Northeast.

Expressway approaching Boston was carried out by the authors. We can note a portion of their results in **figures 1, 2, and 3.**

The ultimate result is "a simple graphic technique of recording the visual sequence, employing easily made, easily understood, reproducible drawings of paper, which...

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compress the experience into a small space.” What Appleyard, Lynch, and Myer have

Accomplished is an excellent exercise in recording and classifying visual stimuli that occur along a highway. But what can the information gathered, and stored in a combination creating complex graphics, be used for - without the original visual stimuli to compare it with in the first place?

“Complexity and Ambiguity in environmental Design.”

Beginning to bridge the gap from analysis of the physical image to user interpretation and perception, Rapoport and Kantor took an intermediate step by basing the philosophy

“Complexity can best be achieved through ambiguity” upon much empirical work in psychology. The AIP Journal (1967) states in the editor’s introduction:

**Fig 38.** Motion and space diagram

**Fig 39.** Orientation diagram

**Fig 40.** Goal approach

“ ... Recent psychological research shows that humans prefer ambiguous and complex patterns in their visual fields and that this seems a fundamental perceptual preference, applying even to infants and laboratory animals. The overall finding in this area research is that there is an optimal range of perceptual input preferred generally by subjects with both too simple and chaotically complex visual fields disliked. ”

Rapoport and Kantor aim their criticism and philosophical thesis upon the preference for a rich visual environment. They state:

**“Simplicity has been the aim of much contemporary architecture and, implicitly, that of much urban design. The call has been clarity, lucidity, simplicity. While; the striving for simplicity has always tended to distinguish the designed environment from the vernacular which has been more complex. ”**

**“It is our contention that contemporary urban complexes have failed to answer important needs. By reducing sensory input to low levels, they have led to a lack of interest in our environment. ”**

Before continuing with the assessment of Rapoport and Kantor, a small word game must be re-played. The authors' work is discussing 'ambiguity' and 'complexity' and before going further, we must use and understand the terms in the same context.

“ While it is true that in common usage 'ambiguous' may also mean vague and unclear, we believe the precedent in scholarship to be for our usage, in Empson's terms, any visual nuance however slight which gives alternative reactions to the same building or urban group. By its nature, ambiguity thus tends to result in complexity. ”

Rapoport and Kantor use the word 'ambiguity' to mean “ arising from language admitting of more than one interpretation ... duplicity of meaning ” rather than “ doubtfulness, or

hesitation, uncertainty” ( Webster’s Dictionary ). ‘Complexity’ gains its meaning from

The physical sense that of intricacy in designs ... “an assemblage of the related things, an intricate combination” (**Webster’s Dictionary**).

Proceeding beyond the ‘definition of term’ stage, Rapoport and Kantor discuss and substantiate the importance of the sensorial rich environment. They have outlined a good list of references and information of empirical work in psychology that have led to the discovery of the concept of the ‘optimal perceptual rate. The optimal perceptual rate (whose existence has been substantiated by experiments upon infants, students, and rats) is the major parameters limiting the degree that physical environment may become ambiguous and complex. This theory is based on experimental results suggesting

**“That we concentrate wholly on the visual aspects of perception.”** Unfortunately, this is the limited premise that the authors use ... **“Indeed, we must do so, for we have not been able to find any studies which include the other senses.”**

The optimal perception rate can be defined simply as the amount of visual stimuli that the individual can comprehend over a given amount of time. “ It is indeed a process involving knowing a stimulus , and comprehending it in such a way as to organize behavior around sense, our urban environment ( as does any environment ) becomes ‘multi-suggestive,’ to use a term coined by Aldo Van Eyck. Rapoport Kantor go to certain lengths to explain each individual has his own optimal perception rate, where

- 1) The individual (either through training or instinct - art students or rats) will have a comprehension threshold for ambiguity and complexity in the environment, and
- 2) The individual will seek a diversity of environment stimuli, along his general desire lines - once he has fully digested the environment along one route, and
- 3) “Each person may experience the same space in a different way.”

A major factor that affects the optimal perception rate the phenomena of mention and speed, Rapoport and Kantor highly criticize the modern urban as being monotonous and vague. In many cases, it can be environmental image where “movement get one nowhere. “ They identify the desire for environment to become more complex at

pedestrian or SbW vehicular speeds. This is due to the elements of attention that are

Surrounding him as he moves through the environment. It is how wisely the urban designer manipulates these elements of attention that make or break the rich environment, and prevent it from becoming monotonous. In visual terms, recognition of the physical configurations and visual recognition of activities / uses are major elements of attention. Rapoport and Kantor maintain that an environment should have:

- 1) A variety of forms and spatial configurations, and
- 2) A variety of uses.

This is down similar lines to those of Jane Jacobs' plea for diversity. Similarly, the environment should allow for:

- 1) A change of form and spatial configuration,
- 2) A change for use.

Ideally, the constantly changing environment and its visual stimuli would not allow for monotony developing over time, and are controlled so that a conflict of interest, confusion, or chaos does not occur.

Another factor affecting the optimal perception rate is how the urban designer may provide for a certain degree of uncertainty in visual environment. Rapoport and Kantor cite other authorities on the subject in the following paragraph:

“Jane Jacobs describes the difficulty people had of describing the plan of Rittenhouse, from Memory, even after fifteen years of daily use, is due to the complexity of uses. This place would clearly retain one's interest much longer than a simple unchanging place. An Equivalently complex place is San Francisco where the grid, having been complicated by Changes of level, provides much greater perceptual information than a grid on the flat. It gives different views and sets up different relationships depending on the direction of Travel, path taken, and position achieved. It becomes much harder to grasp fully, making it a much richer source of perceptual data over time, with new things being discovered in it all time. It becomes more satisfying perceptually than a grid on the flat. Another Example of some of these points is Allar Temko's very fine descriptive reconstruction of a trip through Paris in the middle ages, catching glimpses of Notre

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Dame - a type of Experience that can still be had in Strasbourg, where neither Hausman

Nor Violet Le Duc Managed to isolate the cathedral In the medieval city no saw the cathedral in its entirety hence no man saw it like neighbors. Because of the nature of the medieval city, each could see only portions, which were tantalizingly incomplete and which changed continually as the individual changed his Position; compel him to add the parts to form a total image in his mind. The facade as a whole ... was its own mystery. ”

One may have noticed the word-notions of ‘experience,’ ‘use,’ and ‘activity’ cropping up as this discussion progressed, with little or no information as to how one visually perceives an ‘experience,’ a ‘use,’ or an ‘activity.’ For that matter, and more importantly, no information on how an ambiguous and complex physical environment should express (or be designed to accommodate) an ‘experience,’ a ‘use,’ or an ‘activity.’ Rapoport and Kantor recognized their existence simply through off-the-cuff everyday use. The all-important relationship of visual stimulus and its assigned activity, use, or experience, is either:

- 1) Not valid in terms of the optimal perception rate (speaking strictly in terms of visual environment, as Rapoport and Kantor originally supposed), or
- 2) meant to be discussed in terms of optimal perception, with the confusion arising at the very beginning of the essay, where the authors state : “ the concept of ambiguity, or even complexity, at the present state of our knowledge, must remain rather abstract and general in physical terms. ” Confusion arises, lack of research data occurs when Rapoport and Kantor discuss the effects of activity, use and experience on the optimal perceptual rate, and thus branching beyond the bounds of the presupposed physical parameters. Irregardless of the inherent shortcomings in “Complexity and ambiguity in environmental Design,” Rapoport and Kantor do begin to gauge user perception of the physical environment.

### **9.1 Significance in the mind of the beholder.**

Throughout the discussions of “Complexity and Ambiguity in environmental design, “and especially View from the Road, the authors have discussed the ‘significance,’ and ‘meaning’ of an ‘activity’ without clearly recognizing the form / function syndrome, or the visual transaction of activity perception. Carl Steinitz, in his article “Meaning and Congruity in urban form and Activity,” helps clarify this issue. He believes that the urban form, in each specific case-study, should express clearly

- 1) The ‘type’ of activity it contains,
- 2) The relative ‘intensity’ of the activity in question to other adjacent activities, and
- 3) Its ‘significance’ over or under that of adjacent activities.

Essentially, what Steinitz is seeking is, using Christopher Alexander’s terms, “a goodness of fit.” Steinitz attempts to achieve ‘congruence’ (“**a goodness of fit**”) through similar methods assumed to be used unconsciously by residents in their perception of their city. This is a fundamental point levied by Steinitz against the Lynch, et al approach, where people are supposed to be aware of ‘nodes,’ ‘barriers,’ ‘paths,’ and ‘backlighting.’

Steinitz chose to keep much of the information gathered from his sample group, categorized by what information the observer needs to know in order to develop an image and meaning. His premise, to put it bluntly, is that if an observer were to look at a petrol station, it better look like petrol station (type); he’ll need it for something, i e. to fill up his tank, and therefore the form will have a meaning of importance (intensity); and the station had better not be any bigger than the town hall which is, perhaps, located across the street (significance).

The problem put forward here is perhaps heading in the right direction, and applicable in pin-pointed situations (r: Steinitz’ survey of significant activities around Boston), but what about the vast network of linkages, commerce and information exchanges involved

between the activities?

### **9.2 User interpretation.**

As more or less realized from the results of **View from the Road**, the urban designer cannot manipulate form without knowledge of other factors besides those of pure visual stimuli. Donald Appleyard in his essay "City Designers and the Pluralistic City," illustrates the importance of the user's interpretation of the city network as a whole:

**" Their purpose was two fold : to test the effectiveness of different environments and measure the role of various environmental factors - physical, social, and functional - in the habitants' urban perception ; and to learn if there were significant group differences in environmental attitudes and knowledge. This was an effort to give the designer a clearer picture of live in the city and to allow him to develop a more meaningful vocabulary of forms, functions, and social groups to use in designing the future development. It was also an opportunity to extend basic knowledge in the developing field environmental psychology. "**

To gauge user perception, Appleyard and his team randomly chose 75 persons from each of the four districts representing the four different types of environment that existed in the study area of Ciudad Guyana, Venezuela. The idea was to compare among various population groups their environmental perceptions. The information gathered would allow the urban designers to measure the roles of various environmental factors.

How an interview and questionnaire system is organized and exactly what kind of information the process actually collects is up to great debate and uncertainty. But for the time being, it remains the most effective way to get information from a population about their environment. "The subjects were asked a range of questions designed to assess the nature of their urban knowledge, starting with open-ended tasks like drawing their map of the city and recalling well-remembered features, followed by descriptions of a journey through the city, of particular buildings and districts, of social, functional, and natural patterns, of recent and predicted changes, and opinions about their current

Needs and preferences. Finally, they were asked to describe their ideal and worst city,

To compare Ciudad Guyana with other cities, and to assess their degree of satisfaction with Ciudad Guyana. ”

Appleyard, being interested in examining several aspects of environmental perception, wanted to investigate each aspect independently and see how the individual structured them in his mind to form an image of the city. Realizing all aspects of environmental perception are merged together in the individual's mind, Appleyard wanted to also study some effects of environmental change on a person's conceptions. He, as in the process in **View from the road**, analyzed categories as to how the individual would perceive his city. Appleyard's main objectives were to

- 1) Test the individual's scope and complexity of knowledge of the city;
- 2) Find out what the individual thought was the city's components and attributes;
- 3) The individual's needs, values, and objectives;
- 4) find out how the individual wanted his city structured;
- 5) Gauge what the individual thought was significant in the city; and
- 6) The effect of present change on the individual's urban perception.

The ultimate hope of Appleyard was to use this information to allow the urban designers to more sensitively design a compatible environment for present population of Ciudad Guyana.

The findings that Appleyard used in selling policies were some what surprising:

- 1) He found that the individual's scope and complexity of knowledge was not as great thought to be.

“The inhabitants' perceptions, on the other hand, turned out to be very parochial .half of them, when asked the name of the city, gave the name of their district rather than ciudad Guyana .indeed, some thought ciudad Guyana was a new and separate part of the city yet to be constructed around the foundation stone laid in 1961 .their own knowledge, therefore, was home based, with occasional islands around shopping centers, work places, or previous places of residence .it was shaped either like a star or like a constellation of stars with tentacles of knowledge along the transportation

system.”

Their view of the city was closely correlated with their use of the city, seldom extending beyond the experience of the individual. As well, a class phenomenon occurred: “the lower income groups mentioned more of the city than the educated elite, who mentioned little beyond their own residential (neighborhood).”

Policy: “diversity, clearer structuring, and the location of facilities to draw groups across the city are some variables that could be manipulated.”

2) What the individual saw as the visual components and attributes were confirmed by apple yard.

“The role of personal action in the perception of buildings, either through their direct use or through their visible position on the paths of movement, becomes very clear .the importance of visibility, in fact, emphasizes the role of both action and location in the recall of urban elements. «Policy: “predictions could be made about the impact of a building or other elements on the population so that its form, visibility, and function could be adjusted in response to their attention and use needs.”

3) The pre-supposed needs of citizens of ciudad Guyana were formulated into economic and psychosocial objectives. Major differences occurred between opinions on industry, housing, educational and medical services, commerce and recreational facilities .differences of opinion occurred about the quality, pattern, and significance of amenities .most differences were stimulated by the typical class struggle.

4) Structuring the growth of a city is extremely difficult, as discovered by apple yard .everyone perceives it according to his own proximity, mode, class, etc.this can be illustrated by the various degrees people sketched the city. see figure 4.however ,structural styles were inherent so that the urban designers could objectively mediate everyone’s concept of their city .

Policy ; the pattern of physical character should be designed around the settings and patterns of habitual journeys in different travel modes... the pattern of social significance and the meaning of related elements should be part of the design.”

Apple yard has made a very good in situation attempt to create a good basis for

### **Conclusion**

The designer differs from the inhabitant in nearly all of these variables .his motivations are general, diffuse and future oriented, whereas the inhabitant's are usually particular, specific, and present oriented; his experience with the cities is usually much greater than that of inhabitant, which make it difficult for him to see a city or plan with an **innocent** eye .his familiarity with the city is usually more extensive than intensive ,and his information media are so abstracted and amplified with **objectives** data that this world tends to become divorced from the real city. his abilities and knowledge create the gap.

## **10 Fashions:**

Unexplained by Smith's theory is the influence or role of "fashion". (Whimsical changes in taste and values) on environmental aesthetics. He suggests that the neo-cortex educates the limbic brain and that a continual progression of appreciation is in action. This would tend to suggest a linear or cyclical development, but neither particularly the former, is strictly true. Our appreciation can be influenced by power groups who may distort any progression and assert self-interested values. The obvious and appreciable analogy is in the history of dress fashion once dictated by royal whim or polite society', is the design of personal body cladding now a reasonable linear practical (or aesthetic) progression or a media-supported economic machine indoctrinating the necessity of change, in the interests of profit? Time and scale are totally different in the environment (or space cladding) industry, but fashions, (once dictated by royal whim or polite society'), are still apparent on two levels - 'domestic' and 'professional'. The domestic scale is the user input to any environment, usually very flexible and is indicative of the popular trends and values current at any time. Kidney-shaped paddling/swimming pools reflected the grand upsurge of the plastics industry in the 50's. A straggled and aspirate's boutique windows, turning away from simple form and sheet glass, are indicative of the emerging reflective/conservationist era. Bill posters, signs and corporate symbols are perhaps the most consistent monitors of fashions through time. These manifestations however, are largely flexible, ephemeral and harmless in comparison to the professional impositions.

A building, or environment created in compliance to fashion or trend, which rapidly and inevitably change will become as obsolete as the trend or fashion which created it. But it will remain as an anomaly (unless the basic perceptual requirements outlined by Smiths are satisfied).

A series of architectural manifestations of fashion were established in the 30's. Picture house architecture.

In direct response to the glitter, pomp and facade of the Hollywood movie boom, picture theatres were erected with distinctive style or fashion reflecting the period and the celluloid extravaganzas to be screened within. (The fashion was not contained to picture houses-Strathclyde halls Glasgow).

The reader is probably aware of many such examples .prestige office developments employs the correct fashions of the day, by acquiring the services of an acclaimed architectural practice, to advertise them and project the appropriate image

At present there is a slight but perceptible swing in professional office development /location pandering to conservation lobby.

Materials or the building envelope are more susceptible to the vagaries of fashion .this is obviously partially in reaction to innovation and economics but trends are apparent in curtain walling ,brick colouring ;windows form and type .

The product of the private housing sector are a continual petty fashion parade .meeting or dictating the nuances of design required to satisfy the buyer's image of a modern home .fundamentally though , the design and layout of private housing has changed very little since the advent of semi-detached and suburbia at the beginning of the century . The major changes have occurred in the public housing sector which is most vulnerable to innovation and experimentation, as the open market choice of occupants is largely eliminated. The park Hill scheme at Sheffield, 1961, serves to illustrate the point. At the time of conception peter and Alison Smithson were projecting the idea of the street in the air or street deck and the 'new brutalism' was striding forward. There were also rumblings in groups of architectural activities about a new urbanism based on particular sociological determinants (id entity, place, and cluster). One outcome of these trends , influenced by activist groups ( e. g., internationals group - Jencks , Hamilton , Banham, Smithson's etc ., ) was park hill . The city street in the air however was not quite as lively as anticipated because of the absence of pubs, shops etc. it is difficult however , to discern between ' fashion ' as discussed previously and innovation that became temporarily popular as the cause of public housing ' changes ' . On February 4

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Th, 1975, the housing centre trust held an educational course to shed light on the 1974

Housing act. David pickup of the department of environment, sketching the history of the act, warned of the danger that the new housing action areas become " just another fashion " as redevelopment had been. I would suggest that this was more a popular, if misguided, action in response to a need, as opposed to a fashion. Innumerable examples of this could be quoted, the most obvious and frequently subject of discussion, is our heritage of Corbusier-influenced high rise developments. The modern movement is certainly responsible for many 'fashionable mistakes?', but a redeeming factor is the necessary forward progression. The deeper socio-political urban problems were not solved but new alternative routes for consumer society and urbanism were stimulated. Without digressing on semantics, the common factor between fashion and innovation is a rapid change in approach, in response to a given situation.

The important words here being 'rapid change'. This G. R. Taylor (1973) sees as a fundamental fault in our society today, affecting our psyche and consequently our perception of aesthetics. He suggests that most of our frustrations arise from the intolerably high rate of social change resulting from the exponential growth of science and technology. Support is given by recent research 1 in America which has shown a clear connection between the body's defence and the demands for change that society imposes. The human being in fact has to adjust, to his detriment, to cope with his self imposed technological society, instead of harnessing it to his benefit. in his plea for a meta technological society, Taylor does not suggest self-interested conservatism but directing research and technology towards fulfilling human satisfaction rather than towards material production as an end in itself. This would also have the effect of reducing anxieties created by continual change. As agents in the creation of a technological environment, the relationship of stress to change obviously has implications for architects and urban designers. My brief contains comment to the relative 'superficialities' of aesthetics but the above research would seem to support kutcher's 'inductive approach' to aesthetics: fitting and blending with regard to the whole. Minimising changes in appearance, identity, and general structure apparently may assist in reducing anxiety experienced by the urban population. This would tend to suggest, at

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Professional level, a careful analysis of 'architectural fashions' before their general

Implementation and a greater respect for precedent and the relationship of new to old. While major environmental changes are the cause of some concern, the minor alterations or domestic fashions which are subject to individual interpretation are necessary for our interest and well being. A degree of open-endedness may well therefore be necessary at the domestic level as promoted by Hertzberger (1971) but not necessarily at the upper scale as maintained by Mackie (1968) and Bacon (1967)

1. Holmes and Rahe - Washington School for Medicine. Commander R. j. Arthur - U.

## 10.1 STYLE

The concept of style forms the framework within which the vagaries of fashion operate. Contemporary architecture is still influenced by the modern movement, the guiding principles of which **“assumed the aura of moral imperative and puritanical Righteousness. Judgement was no longer made according to some criteria of human aesthetic consensus, but on the basis of whether or not the intellectual justification was correct”**<sup>1</sup>. Tenets such as ‘form follows function’ or ‘machine aesthetic’ formed the ideological base for ‘modern buildings’ from which the ‘functional style’ evolved.

The style originally emanated from Mathesius's werkbund in Germany influencing pioneers like Mies van der Rohe, Walter Gropius and Le Corbusier. A parallel British movement founded by William Morris influenced the work of Macintosh and Lloyd Wright but it rejected the 'machine'. The persuasive German movement applied the English principles to furthering the efficiency of the German economy. The first buildings of the movement were appropriately factories, the temple of mass production where man and building serve the machine and not vice versa. Experience has shown that these buildings, later applied to all functions, were not the stimulating masterpieces envisaged by their creators. **"The error lay in the confusion of process with result, a misconception that has been at the root of much that is wrong with modern architecture since ... the aesthetic evolved was one which attempted to ape the superficial appearance of machines, not allow itself to evolve from the principles of mass production."**<sup>2</sup>

This 'mass production aesthetic' was supported by the doctrine of functionalism. Terminology now superseded by 'rational' and 'objective' (perhaps even methodology?) This, from experience, tends to imply an oversight of the spiritual and practical inter-relations of design, craftsmanship, function, and form and user perception. The idea of functionalism gave rise to the idea that the resultant buildings were not created by people, but were somehow designed by some external and rational process. "it designed itself really. it was inevitable, certain decisions were Just the right ones to make...we approached it logically and way it looks is a direct result of the logic required for building it" (Robin Webster on the parliament the logic required for building design)

Perhaps more important such 'rationalism' arrogantly assumes the perceiver understands the technological, methodology and logic involved in the design /construction process. In reaction to this wave Frank Lloyd Wright plugged into the Morris mainstream, evolving a philosophy of architecture employing organic forms and materials .although he, Taliesin, may have been considered rather eccentric and pretentious the goods produced were equally functional and modern but they went further, they considered their sitting and the sensual result.

<sup>1</sup>and <sup>2</sup> - Lois Hellman - The Myth of the Machine aesthetic - Built Environment.- Jan.1973.

The overwhelming influence this century, however, was the werkbund / Bauhaus philosophy.

Tightening its grip during the post war rebuilt with first 'prefabs' which by the 60's had evolved the euphemism 'system' or 'industrial 'building .this linked with Corbusier bequeathed vision of towers in parks produced our ongoing heritage of high rise residential blocks and their detrimental physical and socio-psychological consequences .in the 60'sa reaction against the Bauhaus Corbusier tradition could be observed ,at which time it seemed "...that after a period of attempting to play the technologist /sociologist the architect was coming back to earth and concentrating on what he was best qualified for... the creation of pleasant human conditions and satisfying building solutions to meet society's needs without the misguided obsession that he must create something new ,original and innovatory every time he put pencil to paper». He continues to suggest that we are again experiencing the suppression of humanist values and sees three reasons for this, one of which is the emergent functionalist mythology of flexibility. (His other two reasons 'big business' and the bureaucratic conspiracy 'will be covered latter). The old hardliners tried to ape the re-emergent empiricist movement by producing their own reaction to the Bauhaus box -the 'crumbly 'aesthetic by brutalism out of Corbusier. This is exemplified by such buildings as the queen Elisabeth hall/Hayward gallery complex on the south bank or the new Bloomsbury housing, and usually consists of raw concrete structures in angular, aggressive forms coupled with patent glazing or other industrial products.

the results are usually even more irrelevant for human beings than the worst excesses of the international style .a new generation has condemned this approach as over rigid and inflexible -monumentalizing and articulating elements in a rigid brief which may well be irrelevant in the near future .the current obsession is therefore with 'flexibility'. moveable partitions, modular co-ordination and often a kind of neo-functionalism...a simple box will suffice for most building types .let the occupants provide their own environment with changeable partitions and re-arrange able services for ever more .**'functions follows form'** might well be their catch phrase .but how many reproductions of Norman Foster's IBM factory at Milton Keynes can be absorbed in an urban situation without producing complete environmental\_monotony?

Although faults and dissatisfaction are becoming increasingly apparent, little is changing as the architect is no longer sole arbiter of style and layout .he is heavily influenced by the largely economic requirements of development control (planning law and building regulations). It also seems that the style is sadly cyclical with the same answers Re-occurring for the same problems.

kisho kurakawa ,a leading architect and philosopher ,in an article on the Japanese housing problem(the planner ,February ,1975)sounds horrifyingly familiar when he states "despite this problems ,industrialists are now realising the potential of the prefabricated homes industry .unfortunately ,their approach so far has been to take traditional building forms convert them into forms which can be produced with industrial techniques .however ,architects and government are beginning to realise that this approach is not acceptable and that a new life style is needed .the form of the city should not be determined by traditional building techniques or traditional life styles."

A horrifying resurgence of architectural determinism hoping to solve a major problem by manipulating one effect rather than the cause, (which is the high powered technological consumer society). At though the environmental aesthetic would have little to recommend it, experience suggests that social consequences would be of greater

concern.

The international ideals of the modern movement tended, theoretically, at least, to snub the principle of vernacular architecture. This was questioned in the early sixties. Christian Norberg-Schultz's 'intentions in Architecture', (1963), although not explicitly defending localism clearly made an argument which has these implications. Interpreted by Jencks (1973) "it consisted of the overwhelming evidence

**Gathered from psychology that all form, including urban form, is perceived culturally;**

I.e. through schemata learned from a culture. His conclusion was that meaning in architecture is transactional between cultural intentions and the object of perception: the one modified the other in endless cybernetic process of hypothesis and correction. Thus urban form was not and could not be entirely value-free from all meanings. The implications of this argument for urban design. The architect must set his new creation into a particular time and place so that it provides an intermediary link between the past and future meanings

The 'locale' and conservationist lobby has since grown in strength and is now supported, in Britain, by the Civic Amenities Act (1967). Although social and economic problems have been seen to result from the listing of a particular building or designation of certain conservation areas, (e.g., high cost of conservation /improvement in low rental mixed residential area-produces improved amenity -attracts a more affluent tenant /occupant), it is to be hoped that some of the humanist urban design principles could be gleaned from the building spaces thus conserved and applied in future development and re-development areas. To maintain regional identity it is also hoped that internationalism continues to decline in preference for local vernacular styles which is the essence of organic architecture.

## EDUCATION AND TRAINING

In the wake of the technological society, environmental education has become obsessed with information systems, methodology and the general scientific approach. In an age of escalating performance standards and plunging capital resources, it is obviously necessary for architects, planners and associates to have a firm grip on technical opportunities and advances, but not at the expense of design and its environmental consequences. This unfortunately seems increasingly to be the case. The author's undergraduate years in planning school, at risk of understatement, were rather devoid of instruction on the principles of three dimensional designs. This partially being planning's *raison d'être*, particularly in its development control function, suggests a glaring omission supporting the architectural anti control lobby. The architectural profession does not stand to gain a retrospective pardon backdated to 1947 for environmental sins from the above familiar confession. Architects also suffer educational problems as Viren Sahai 1975 points out dare we admit to ourselves that only a small proportion of those Hugh number of practising architects are architects and that the rest of us are building technologists?

I believe that we owe this admission to society at the expense of our individual egos. To pretend that the designer of the building deserves the same title as the designer of the new town, is to perpetuate the chaos into which the old system has fallen. Of course a change in title does not solve any problem, but it should prepare us psychologically for making the right start.

Once it is accepted that most of us remain building technologists or land use zones, it becomes obvious that there is something fundamentally wrong with our training. He continues later to say it is also worth appreciating that good environment does not depend on every building being a piece of architecture. A principle which should be grasped during an architect's period of formal training, but consistent praise and example made of individualistic buildings Seagram supports the competitive spirit.

Academia appears to be swinging, hopefully temporarily, away from an understanding of basic sensual or aesthetic criteria (basic as opposed to the technological aesthetic mentioned (previously)). To meet contemporary /future performance standards and the existing rate of development, technological most of necessity, be adopted and understood. The mind and approach, however, should not be totally dictated by any logical methodology. Again as deutsch pointed out methodology can warn us of pitfalls, but will not help us conceive new ideas.....it tells us how to test hypotheses but not how to arrive at them 1. André deutsch in social sciences as sorcery. It is important that this be established during the formal educational process and there is no better time for creative licence and experimentation. peter f smith 1975 again suggest a way forward .referring to the dialectic between sectors of the brain he points out that we are only just beginning to realise the creative potential of the uniquely human situation whereby the modern rational brain is able to interact with the primitive mammalian brain , the power house of emotion .this style of mental activity is able to over-ride the high probability patterns of information structured according to the rules of left cerebral logic .he also points out that the mind has remarkable creative potential when it is liberated from the normal mode of conscious executive control . Under the rules of non conscious executive activity it is able to roam widely and freely for new combinations of stored information. Dreaming and drinking can then have a positive function other than rest and release of tension. The essential point here is that by adhering to a logical methodology all probabilities are by no means explored and innovation may be inhibited.

He continues by suggesting that techniques must be devised to bring these underground capacities of the mind into the arena of conscious thought. This should be one of the principle objectives of architectural education, since ultimately its purposes are to release creative potential and to stimulate innovation. In fact some of the necessary techniques already exist, such as lateral thinking the use of catalysts, the exploitation of chance and the reversal of figure and ground. We could be on the fringe of a breakthrough in the development of creative imagination, and that should be high on any educational list of priorities .to balance this unaligned creativity, architectural history s evolution, context, effect and importance should be taught .history should be

Geared to the contemporary problem of creativity rather than the mere presentation of a dull procession of styles to satisfy the visiting boards' syllabus .The crucial point is that what exists provides the matrix from which new architecture must emerge .seen as pure shape and texture architecture of every age

provides visual clues or analogies which are capable of informing modern design and lighting up the creative mind .creativity can take place only when the matrix of stored information is sufficiently dense to offer the probability of direct links between the existing and the possible .that information must come from the past .historicity is a concern for the past history is the future .p.f. smith.

The educational system at present tends to influence the adoption of methods which exclude aesthetic consideration .does it work takes precedence over how it will be experienced .standards and regulations are generally adopted without question and the economic /functional considerations are readily absorbed in favour of the less rational points of aesthetic . There is also a tendency in studio work for the visual considerations of any scheme, whether single building or local plan, to be seen as optional extras to be appended should time allow. Visual information for planning exercises is generally gathered as though it were remote from all criteria .but in reality sensual data are relevant to many other questions.

The quality of visual sequences can affect traffic flow and safety, visual identity effects market value, stimuli load meaning for health etc. It is perhaps then the major function of urban design courses to realise the importance of visual quality and stimulation in the environment and to give a grounding in the problems involved in perceiving and achieving this quality, it can not, however be achieved through the medium of a static plan or paper theory and it must be achieved with the co-operation of other agencies, public and private.

The principles of management are therefore as important as the theory of perception if development companies are to become partners in the creation of a quality environment.

Historical principles of building design are as important as the philosophies of the modernist movement, if the interest and security of the layman are to be respected.

Simon Atkinson 1974 has set out broad objectives for his course at oxford polytechnic Which appear to embrace the desired scope of urban design?

- 1 to gain an understanding of the nature of the city and the legal and administrative Processes of intervention, control and decision making in an urban society.
- 2 To develop skills in identifying quality in the urban environment, the requirements of It users, and the perceptual and symbolic significance that it may hold for certain sectors of society.
- 3 To develop creative and innovative abilities in problem solving and decision making which combine the ingenuity of intuition with the necessity of rationality.
- 4 To understand the urban design and development processes, points of intervention within this process to bring about or control action, and to develop the use of management techniques.

It is then possible to explore the nature of the design process using these educational objectives applied to a number of urban situations .by being able to develop a problem solving capability working within a conceptual framework of change in the city; more forthright advances may be found Atkinson 1974.

Atkinson s second stated educational objective requires the development of skills in Identifying quality in the urban environment. it is suggested that a function of urban design should be to take this further by positively suggesting to the public and developers how the quality in environment can be maintained and achieved .this should be disseminated in a consistent and coherent manner rather than as a matter of subjective opinion .to this end a theory of urban aesthetics would be of considerable assistance. p.f smith1974 has indicated the possibility of formulating such a theory but in

The absence of further empirical research more positive guidelines would be of assistance. The next chapter therefore attempts to construct an advisory framework for urban aesthetics.

## **11. Urban design and the art of relation ship**

Architecture has, in recent history, concerned itself with the integrity and beauty of individual building, or building complex .the more recently established profession of city planning has concerned itself with the broad based, two dimensional, functional and socio-economic aspects of the city, now urban design must reassert that the city is more than a collection of individual buildings and land use zones.

The individual building, or building group, has frequently been seen to be anonymous, devoid of meaning and without any aesthetic appeal .the latter point being particularly evident in contemporary design where the reduced sensory input creates an environment bereft of user interest .but even when considered a master piece or bijou the individual building is part of a larger set perceived and interpreted by the individual in a space /time continuum .adapted space and not architecture is the domineering force in urban design and the creation of isolated works of genius may be secondary to the creation of a wider network of possibilities aimed at stimulating environmental awareness .

The city is a dynamic, three dimensional experience bound up in association and symbolism .the aesthetic appreciation of which transcended the sum of its physical components. A function or goal of urban design must be to create or continue this heightened sensual experience for the individual in the city traveling through time and space. This may be assisted by understanding the meaning, feel and symbolism of places; by understanding the human responses to spaces, channels and artifacts; by establishing the physical permutations and combinations of built form most likely to stimulate a heightened intellectual and emotional awareness.

In attempting to understand what was involved in creating urban aesthetics a simple drafted .(Alexander the city is not a tree ), and others have amply illustrated the city as a complex organism comprised of interlinked and regenerating holons ,elements or

Systems. It is therefore difficult and perhaps dangerous to try to isolate any one aspect.) The diagram identifies the three areas of importance for urban design in moving towards a theory of aesthetics. these being : the urban stimuli , both sensory and physical ; the individual 's perception of the stimuli ,and the philosophy and methodology that may influence the creation , implementation or realization of the city fabric .

The city is going to be perceived, through time, by all the senses at the command of an individual. It is therefore necessary to design for more than the physical satisfaction of the eye (i.e., sound levels should be optimized; climate should not be aggravated to any extreme -e.g., wind tunnels etc.). Further, as the individual's sensory intake will be filtered through the associated experiences of memory (both cognitive and subliminal) the reaction to any situation will be tempered by those acquired values. An advanced education may heighten the intellectual response to a classical piece of architecture. Philosophy or personal commitment will influence the way in which an experience is perceived and can create empathy between man and artifact .( a miner may be able to reflect philosophically on a soil tip, a naturalist may react with disgust and an unenlightened stranger may consider them attractive natural land forms). Familiarity and tradition will give an urban set-piece added attraction or importance weighting for certain respondent groups .the individuals acquired values will further influence the plural interpretation of given situations.

Through the vagaries of perception a plural interpretation of urban aesthetics is inevitable .this, however, is not an unhealthy situation assuming opinion is not violently divergent. p.f.smith ,( who is perhaps most responsible for the popular advancement of environmental psychology pertinent to urban design ) , has suggested that by simultaneously activating the responses of three sectors of the brain , a heightened visual awareness is produced which largely transcends conscious value filters .to produce this high contrast dialectic relationship , certain basic factors have to be related within the visual experience to satisfy the differing requirements of the limbic and neo-cortex brain systems .it is this factors in relationship ,by producing the required heightened responses ,which may be all important in providing the aesthetic

environment.

**The limbic system** is capable of relating incoming material to memory systems and unconscious evaluation .the factors salient to the limbic system are : symbolism symbolic meaning of particular images , colors etc complexity : enjoys saturation complexity with a large proportion of redundant material , brightness : significance is attached to brightness of object (light reflection ) gigantism : important considered directly proportional to size rhythm :emphatic serial rhythm of comparative simplicity and high amplitude binary rhythm.

**The neo- cortex** which is responsible for the conscious experience of stimuli is divided between the left and right cerebral hemispheres. The left is the center of verbalized logic and deduction and carries out the serial processing of information.

The schemata salient to the left cerebral are: verbal language and Deduction: management of language and Mathematics, Methodology, systems and Data: linear processing of information associates with dynamic principles of mental activity.

The right cerebral hemisphere searches for patterns of meaning in all phenomena and so is aesthetically nourished by events which cohere into a whole which is much greater than the sum of the parts.

**The factors salient to the right cerebral are:**

**Holistic:** appreciation: more concerned with total pattern than parts.

**Elegance:** in aesthetic terms the holistic principle is also the principle of elegance.

**Perception:** capable of perceiving space, color, texture, form, mass, style etc.

Smith (1974) contends that the ultimate aesthetic value seems to depend on the

dialectic between bipolar events .an obvious example being a classical temple set in wild natural terrain ,providing tension between order and apparent arbitrariness .smith 's theory at present tends to highlight the individual masterpiece or landmark rather than the holistic appreciation of urban areas .the research and principle is however ,invaluable to urban design and indicates that optimal solutions can be found through an understanding of the mind .perhaps more important it indicates that it may be possible to provide positive advisory aesthetic guidelines to development of urban areas without over restricting the designers individuality .

The matter of perceptual optimization was the subject matter of a major paper by rapaport and kantor (1967) who suggested the optimal perceptual rate (o p r) can be found through complexity and ambiguity .complexity in the built environment can be seen in the geometry and shape of structures ; the texture of surfaces ; applied decoration (static and ephemeral ) ; rhythmic architectural counterpoint ( spontaneous and designed ) and finally the inter-relationship of the above .this principle is in accord with smith's theory and supported by venturi (1966) .these principles are largely concerned with visual stimuli .urban design must, however adopt a wider contextual base in creating environmental aesthetics .A more appropriate objective for urban design may therefore be ,in the words of Jane Jacobs (1964) , organized complexity which embraces the ideal of providing the variety and richness in human activity that also has aesthetic appeal.

To achieve organized complexity or ignite a high contrast dialectic relationship in the mind, the inter-relationship, function and contribution of stimuli must be considered .these are the principle elements of townscape which Cullen (1961) successfully, if subjectively, appreciated and recorded over a decade ago. Individually ,no one element is liable to produce an aesthetic response .only in combination will the desired result be achieved .in abstraction it is impossible to prescribe a successful recipe of elements. It is possible however, to say that over exposure of any combination will ultimately create monotony and research has shown this to be the antithesis of stimuli and thus, by Definition, aesthetics.



### **Introduction**

The modern urban environment is seen to be anonymous without meaning due to the reduction of sensory input, and as a result the urban environment become without user interest .there is no element which can enhance human mind such as surprise, novelty , variety ,complexity and so on .obviously all the previous elements can really keep the mind occupied. Referring back to the previous part in which we have tried to give a general understanding to the human brain and its specialization, having mentioned that the limbic system contains the emotional subconscious response, as well as a highly sophisticated capacity for perception, hence what I would like to do first of all is to give the list of the different factors related to the limbic system and which are to be likely as follows:

### **Symbolism:**

The limbic system responds to a timeless archetypal symbolism giving hierarchy to spaces as well as volume.

### **Complexity:**

the limbic system has an appetite for saturation complexity containing a great deal of redundant information .peter.f .smith mentions examples in urban design scale such as market or festivals in which human activity seems to be a chaos of unordered complexity.

### **Color and light:**

The limbic brain has an appetite for exotic brightly colored things, such as colored buildings contrast with color in painting.

### **Rhythm:**

Two basic rhythms generate a lively response from the limbic brain.

-the first is an emphatic serial rhythm of comparative simplicity

-the second kind is a high amplitude binary rhythm where dialectics exists between the opposites, which are reciprocal and perhaps attributed with some meanings.

### **Scale:**

Gigantism is a response to limbic impulse ,pertaining that importance is directly proportional to size , contrast of opposites seen in the special dialectics ,contrasting relationships ,heights /depth, construction /space ,light/shade, juxtaposition of human

Artifacts and nature.

The neo-cortex or higher brain where rational processing occurs ,is divided into two roles ,in the left neo-cortex happens the processing of the stimuli ,in the right neo-cortex the searching for patterns of meaning in all phenomena responding to integrated events .both the left and right sides operate on a dialectic basis and each side looks for a particular kind of relationship in visual events .peter.f smith founds that “a particular arrangement of visual events may offer satisfaction to the higher brain by generating tension between the two principles of rhythm and pattern .”

In terms of aesthetics, the dialectic development of styles and creativity in architecture and arts in general will generate changes with bases in the historically perceived environment; the art of relationship will go on finding new links in the environment forms, spaces, colors, materials .Always in the dialectic framework seeking order and meaning in the urban environment and this seems to be the role of architects and in broader context urban designer.

To sum up we could say that the preferences of the limbic system are as follows:

-the exotic

-saturation, complexity pronounced regular serial rhythms and bi-polar binary rhythms with a high incidence of glitter and color.

-gigantism

-archetypal symbolism.

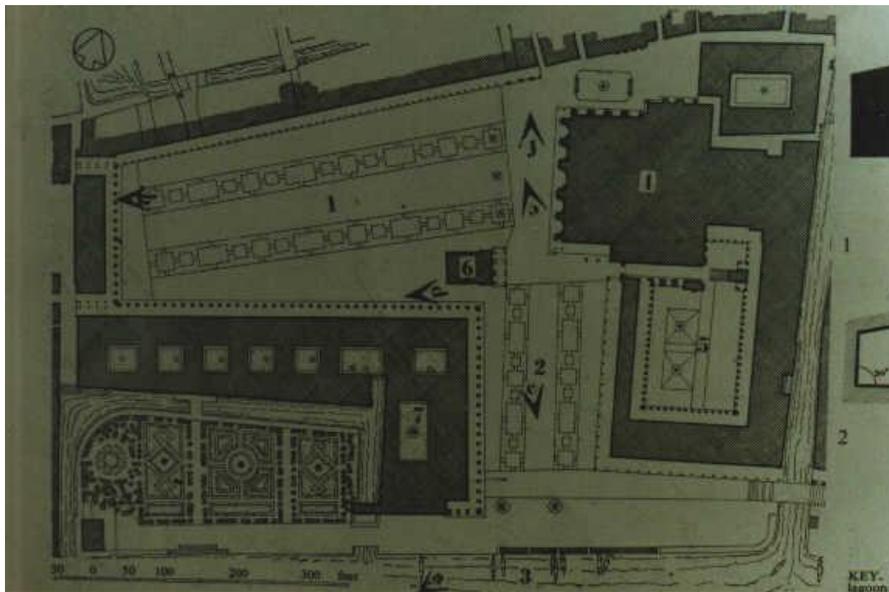
Peter f smith says» there is beauty in a ethereal disembodied classicism. there is beauty also in saturation complexity but ultimate beauty occurs when they come together.

A town is a large enough artifact to embrace a host of opposites. It should be a place of security and peace as well as exiting technological, exploratory and problem solving drives .it is large enough to embrace diverse value systems. Altogether, it is the visible expression of humanity in microcosm .mental satisfaction is maintained despite

Habituation, if a place is multi dimensional in its mode of communication the satisfaction becomes more profound if the place is also turned into a primordial symbolic wave length”

He cites the example of st Marco piazza, Venice and its success which lies in the following and this of course in relation with what was explained previously about the human brain.(see f )

**Fig 41.**Plan, piazza st.marco Venice



Source. Edmund bacon design of cities (1974)

- there is a rich interaction between neo-cortical and limbic visual criteria.
- it also offers so much to the limbic brain it is largely resilient to habituation.
- from neo-cortical point of view it is an ordered space, coherent and elegant at the same time it stimulates the curiosity drive by discrete glimpse areas.

- from the limbic point of view ,the three sides of the square set up high frequency serial rhythms which contrast with the st Marco facade. The campanile is an example of gigantism and sets up a binary rhythm with the horizontal of the cathedral .additionally, the proximity of the water has strong archetypal associations and even the numbers of people adds further limbic satisfying complexity (see f).

**Fig 42.** Piazza st Marco Venice



Source .Edmund bacon design of cities (1974)

Our goal as urban designers must be to provide pleasurable spaces for the activities a city encourages.

Historically ,this requirement was assumed ,today it is usually overlooked ,we should seek to recreate not the specifics of earlier spaces ,but the process and the human constants that generated them in their time .

Venice is really unique and relevant, for it is a city where the pedestrian has always been supreme, and where spaces are at his scale and accommodate his needs.

In general terms the environment provides tensions to keep us occupied, entertained and surprise to contribute to mental health and growth.

This is what is called by peter f smith the dynamic of urbanism as he defined it by saying that”...in almost literal sense means applying a force to the mind .this force causes the mind to react positively to external stimuli”.

Finally we could say that throughout an understanding of the mind or optimal solutions can be found, referring back to the previous chapter, as we have seen with Amos

Rapoport and Kantor, who suggested that the optimal perceptual rate can be found in complexity and ambiguity and such complexity can be seen in the geometry, shapes, texture, surface and so on. With regard to this Jane Jacobs mentioned that organized complexity embraces the ideal of providing the variety and richness in human activity that also has aesthetic appeal .and to achieve this organized complexity a high contrast dialectic relationship in the mind function and contribution of stimuli must be considered .these are the elements of townscape which successfully if subjectively appreciated .to mention here that individually no one elements have the ability to create the aesthetic response .and still a main question in which one could say does their combination result in a desired environment ?.

On one hand it seems rather difficult to give a successful list of elements which if applied can create a visual good environment? While in the other hand it seems quite easier to say that their overexposure may create a disordered environment in an other word chaos.

Following are some of the urban stimuli in the form of a brief descriptive checklist which if expanded could form a general townscape analysis and conceivable aesthetic guidelines

**Symbolism,**

**Place or local,**

**Activities, Centers,**

**Space,**

**Scale;**

**Mass and form,**

**Color Detailing,**

**Serial order or rhythm**

**Relationship.**

**Symbolism:**

(Urban phenomena with common perceptual definition) is a fundamental guide and

security to urban populations .operating from international signs or logos communicating superficial messages, to archetypal symbolism finding response in the limbic system. there is a high probability that urban configuration which has overtones of archetypal symbolism will generate a collective response .where a large section, if not all, of the community is perceiving environment on this level in the same way (in essence if not degree) this must contribute to the strengthening of social bonds through a communal and emotionally -charged attachment to place. (Smith 1974) this is most readily applicable to centers through hierarchical expression whereby buildings and spaces may alter in formality and there may be an increase in density of visual events in recognition of the centre's function and importance.

### **Place or locale:**

has been eroded in significance this century through the advent of the internationalist philosophy based on mobility and speed of communication .( the global village Marshall mc luhan , 1967) .there is however ,a strong counter -argument contending that place is a fundamental psychological importance and that aesthetic values can be largely influenced by the social experience of an observer . it is further suggested that urban design should reinforce the meaning of place by respecting the 'genius loci'. Emphasizing the individuality or 'oneness ' of built environments should ;maintain interest for the intra -inter urban traveller ;provide identity ;and hopefully ,by providing identifiable spaces in residential areas ( which the individual can conceive ) reinforce social contacts through common interest (.i.e., defensible space .)

Urbanism was created by and is dependant on the diversity of human activities. A rich mix of activities operating within an urban area provides a correspondingly high stimulus within the

Human mind .this is most readily seen in the universal attraction to the colour diversity a and .general bustle of the open air market .people in public, within the city, enjoy the

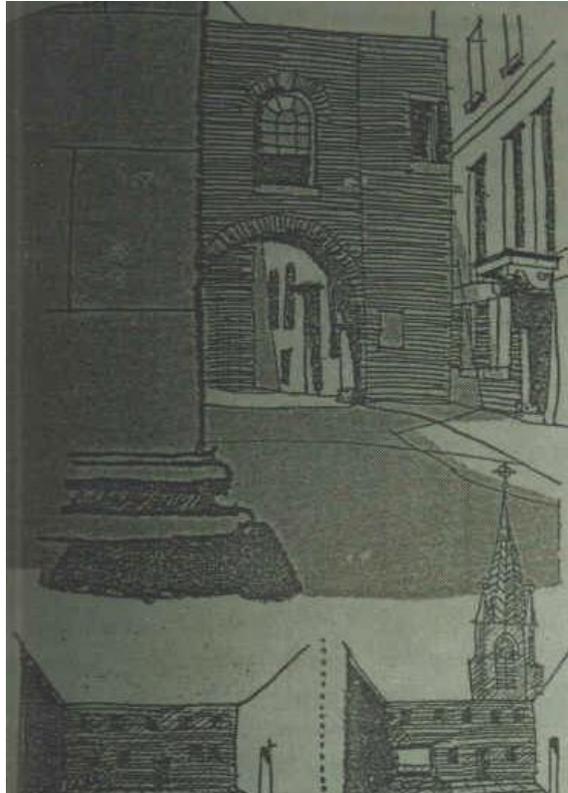
Security of other people .they are therefore attracted to centers of activity which should be correspondingly rich in density and intensity of visual events and provide unique events, incidents and happenings. The environment should communicate the type of activity in a particular location and the relative importance of any area .

### **Centres:**

Should have a there, there .they should be unique rich in stimuli and should convey a terminal enclosure ;provide a sense of arrival by their depth of interest ,richness and scale ,or, by reason of their increased complexity ,should invite a reduction in travel speed to facilitate greater perceptual absorption and exploration .urban form should reinforce social experience .each town should be unique -assertive of its super-image of community .at the tactical level this is not just a matter of architectural form ,but also of providing places for high -frequency and high intensity social interaction .

Sense of place is reinforced by visual accents .sculpture and intensified architecture in terms of variety and frequency of visual events should mark nodal points in movement routes.

**Fig43** Town scape Here and there



Source .Gordon Cullen townscape (1961)

Man-made enclosure ,if only of the simplest kind ,divides the environment into HERE AND THERE on this side of the arch ,we are in the present , uncomplicated and direct world ,our world .The other side is different ,having in some small way a life of its own (a with holding ) and just as the

Prow of a boat visible over a wall tells you of the proximity of the sea (vast everlasting) so the mosque spire turns simple enclosure, below left, into the drama of here and there, below right.

**Town scape Cullen 1961**

**Space** rather than architecture is the subject matter of urban design and such a brief précis leaves most unsaid .suffice to say then the fundamental satisfaction of space enclosure remains paramount to urban design .this ,however ,is not a static concept ,

...we have an articulated environment resulting from the breaking up of flow into action and rest .into Corridor Street and market place, alley and square (and all their minor devolutions). Cullen 1961 .Not only should linked spaces be created to provide curiosity and drive, urban spaces should be varied from formal proportions to near claustrophobic intimacy, with occasional glimpses of infinity (sky at ground level?) for relief or shock value .space should be conceived and designed with purpose and relationship in mind and not be the area left over which could not accommodate buildings.

### **Scale, mass and form:**

of any development should be determined in relation to the existing urban medley (adjacent and city wide ) with consideration given to what role the proposal is to contribute to the urban scene .in historic cities an urban crescendo is frequently achieved by central gigantism ,associated with ruling groups (mosque and policy) .this concept can still be sparingly adopted ,without authoritarian overtones ,in urban design ,particularly in relation to central places as the limbic brain attaches irrational importance to size .similarly the strong impact of color could be used more liberally to the satisfaction of the mammalian brain ,assuming the pervasive propriety of the planner could be convinced (.see f )



Source .Edmund bacon design of cities

**The detailing** of urban scenes from the articulation of fenestration and relationship of artifacts, to flooring materials and street furniture are vital to sustain the interest of observers. A critical fault of contemporary architecture and design has been monotony (perhaps as a result of birds eye planning ) which could be alleviated by the manipulation of details to provide greater complexity particularly at eye level .honesty , in design philosophy ,can be boring : the urban environment needs mystery , drama, and could accommodate a much higher degree of 'ornamentation 'even if it is 'dishonest'.

The introduction of nature into the urban milieu has the potential to stimulate primordial resonance .water has a particularly deep rooted fascination and appeal which however, is little capitalized in cities .planting is becoming an increasingly accepted townscape element ,but should not be used as a single specimen for or as a means of infilling

**S .L. O .A .P.\*** if it is to be used? it should be treated as an architectural element. Contributing complexity and arbitrariness to the order of built form thus increasing the possibility of a high aesthetic response through the juxtaposition of bi-polar events topography and natural features should be capitalized upon to reinforce identity while the creation of adverse micro climate, as a result of building, should be guarded against.

The counter point to the natural arbitrary sculpture of landscaping is serial order or rhythm .towns and cities project rhythms on any levels and these evoke mental response. the rhythm demand is a phenomenon known to psychologists and its importance is becoming increasingly acknowledged .life is compound of multi-layered rhythms ,and mental needs display the same rhythmic pattern .the basic life -style is rhythmic and simple serial rhythms make a profound impact on the limbic brain .more complex rhythms contributing to order and pattern have a more cerebral appeal .such rhythms can ,for example , be formally manifested in Georgian facades .also informally as found in Amsterdam ,where narrow width of building plots has created a unified ,serial verticality in building form and fenestration .

the most important factor for urban aesthetics however ,is the relationship of the afore - mentioned elements .the sensitive weaving together of elements to produce a pleasantly heightened intellectual and emotional awareness or art of relation ship is the way towards the aesthetic environment and the challenge of urban design .as an art form ,urban aesthetics are liable to deny infallible direction of an empirical body of knowledge .the production of guidelines on high probality stimuli combinations or town scape is perhaps as far as theory may go .this it seems will be increasingly supported by research into environmental psychology which further indicates that value filters will guarantee a pluristic perception of any situation .

**\*S. L. O .A. P. (SPACE LEFT OVER AFTER PLANNING)**

**You Can Please Some Of  
The People All the Time.**

***And You Can Please All  
Of The People Some Of The Time .***

**But You Can't Please  
All of the People All of the Time.**

Theory and good intention alone are not enough to create the 'aesthetic environment'. The opportunities, pressures, and complex influential entanglement of economics and politics must be broached before any scheme or theory becomes reality. Politics, from the decisions and directives of elected representatives to the petty inter-departmental intrigues of local authorities, and economics, from regional policies to the local price of building materials, are at present, a direct influence on the quality of the built environment.

Politics and economics have also produced the system of control and regulation through which development 'passes'. A control system which truly regularises development and tends to inhibit innovation and creativity. Consequently, the following section is appended in recognition of the pragmatic difficulties involved in realising the 'aesthetic environment'.

## **ECONOMICS & POLITICS**

Aesthetics can only be considered in an affluent society i.e. , in a society where the primordial human needs of food , shelter have been organised or are available. Residual resources can then be allocated to enhance the quality and enjoyment of the prime essentials. Historically the majority of residual resources, or wealth, have been owned or controlled by a distinct minority. It is this affluent minority, or ruling elite, who created our 'classical' and well recorded architectural heritage from Taj Mahal to the Georgian crescents of Bath. Politics, economics and aesthetics have long been inextricably interwoven. The rich and powerful with available time, finance and education were able to patronise the arts, which included the art of building. Although a bad distribution of wealth still exists, the socio-economic situation which gave rise to our classical heritage no longer obtains. There is no longer autocratic control of liquid assets for building the mansion or castle. The market system (demands, supply, resources and their interaction) has altered radically in the past century. For obvious reasons the contemporary political / economic situation precludes the use of the Rococo style, the unashamed indulgences of Versailles or the religious excesses of Ulm cathedral spire. Nevertheless economic and political forces have an equally strong effect on the quality of the built environment, only

The direction and aims have been changed. These forces from supra national to local level bring about changes in the urban structure and ultimately have an effect on site development and use. The quality of an urban area depends on the inherited environment, on what the community is prepared to spend on its expansion / or replacement and how the community uses it. New development represents a fraction of our building stock, but it is with this that the urban designer will largely be concerned. Further it is the quality of new development which is currently the cause of the most concern.

The 'standards' of new building are set in a variety of ways within different of the economy. Three broad categories can be identified business, personal and public.

In the business sector, the artefact is a factor of production. Its value lies in the contribution it makes to the productive process and to the surplus on the capital Employed. The value to the user, or speculator, will tend to be of consequence only if this affects costs or revenues. This will set a limit to the standard which the occupiers will find worth purchasing. The standard will vary with the type of business and its level of efficiency. Frequently expenditure on building appears to be judged against turnover rather than resulting returns, so that buildings housing efficient firms in types of business with large turnovers per unit area, such as head offices of oil and chemical firms tend to be opulent, while at the other extreme building housing marginal firms in types of businesses producing little value per unit area, such as rag and scrap metal agents, tend to be squalid.

In general, an agency or business constructing premises for occupation or speculation has graded priorities. The top priority being maximum return, which generally implies minimum capital outlay to achieve maximum useable floor area. Low on the schedule is the architectural merits of the building, particularly when there is a seller's market. Rock bottom consideration is the sympathetic relationship of any development to the surrounding environment. The business ethos sees advantage in having distinctive buildings (advertisement, image). Until the recent change in values absorbing some conservationist principles there was no advantage seen in a building which complemented, or was just part of a larger urban composition. The business / development philosophy has been the root cause of much that is wrong in our urban

Areas and the consultant architects, who may be aware of wider environmental consequences, are bound to the client's requirements. Future contracts and continuity of work will rarely be prejudiced for aesthetic principles. Regularity is patently simpler and thus cheaper to design and construct. e.g., the monotony of the shop units based on a 5m grid. Sterility is compounded by constraints on size of fascia board, advertising etc. Imposed by the local authority / private enterprise combine. Compare this with the Hoog Catharine, Utrecht in Holland. The St.James Square Centre in Edinburgh is a

## Aesthetics values in urban design

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Commercial success and apparently enjoyed by the shopping public but what environmental cost?

## **CONTROL AND REGULATION**

The phrase S.L.O.A.P. (Space Left over after Planning) succinctly pointed to the cause and effect of much at fault in building development. The effect is most obvious in any post-war housing estate with its overabundance of tarmac; add space left at corners and road junctions and the acres of private gardens which there is very little privacy. The cause is reactionary and self inflicted straight jacket of planning standards and building regulations. There have ceased to be guidelines backed up by reason, but are incessantly and religiously adhered to as minimum standards.

The situation is exaggerated by the combination of the bureaucratic development control process and the general attitude of the local authorities' guardians of building standards

(Planners and engineers). The result is a long uphill struggle to achieve a new approach for securing the desired quality environment. Our standards and regulations aim to prevent the recreation of cramped unsanitary slums, our legacy of the industrial revolution, and the guardians' attitude of propriety appears to stem a reaction to the early sixties advertising clutter. It has been proven that once a pattern is established in organisations, unless something serious goes wrong, it continues to be followed. "This is what wrong with our present regulatory system for housing layouts. The text books , the byelaws , the design bulletins , they are all there ; the old boys can remember most of the what they contain, the new boys don't bother until they have to operate the regulation and so the unintelligent spoliation of our land continues.

The majority of developers know only too well that provided they keep within the overall margins of these dreary regulations they will obtain planning permissions without too long a wait – if you try something a little more adventurous , prepare for a

Ping facade in the Over gate development in Dundee is produced by uniform

Long wait, and with higher bridging funds at so high a cost who will bother to do that? "

(Architectural Review, October, 1973)

The consequences of unconditionally adopting planning standards and building regulations are now evident and nowhere more so than in our new towns. The time has come to question their validity; what they are trying to achieve; the reasoning behind them; which have been successful and which have had undesirable side effects.

A start will be made by Designers Architects Planners in identifying the cause of S.L.O.A.P and consequently producing a housing design guide as a directive and discussion document for future developers. The principle fault identified by and other researchers is the vehicle oriented design of developments. The road engineers standards stemming from religious quotation of central government publications, are dictating the national appearance of housing estates. In complying with Roads in Urban Areas, "Urban roads should be designed to be safe and to permit the free flow of traffic at reasonable speed". The first objective, safety, is obviously essential but when linked to the requirements of convenience – for vehicles – the priorities In access roads are confused. The underlying principle in regulating road and pavement dimensions seems to have been to assume the unlikeliest possible combination of hazards coupled with the least possible likelihood of consideration for other road users and the greatest possible need for uninterrupted driving. Provision is lavishly made as if 'every access road was designed for two pantehnicos to pass at high speed '. Junction with their generous sight lines encourage the 'glance and carry on' mentality rather than the 'slow, be prepared to stop' approach. They also create awkward barren spaces at the entrance of what should, ideally, be an enclosing identifiable space. New town type development is not proving to be the success hoped in that it is excessively wasteful of land, (a reduction in road standards would admittedly help a great deal); confusing for occupants and visitors (front / back dilemma) and it is difficult to organise satisfactory urban spaces.

In addition, to the excessive road widths 'Roads in Urban Areas' recommends a minimum footpath width of 6 feet. (Now rounded up to 2m). The 'engineers' will 'demand' this to the cartilage of all buildings served by the road. The standardised parking,

Garaging and turning circles further consume and sterilise a disproportionately large proportion of land in housing developments.

“The dominance of the car is largely responsible for the typical modern housing estate becoming a sophisticated form of visual, environmental and, in private sphere, financially cruelty; wasteful of land, devoid of identity and bereft of townscape. But the price of re-creating townscape and of liberating modern housing from straight jacket into which it has been forced is no more than the subjecting of the road vehicle to the human and domestic scale when it is the residential area to which that scale applies.

Private cars only need to be given the right of access, not of an uninterrupted flow from starting point destination. In selected areas, large vehicles – including fire engines and furniture van – can be treated as the exceptions they are, rather than as the norm, and space provided for occasional access only. This space need be more than 16ft wide in total house front to accommodate realistic vehicle and pedestrian needs”

Car dominance is not only prevalent in housing development but with increasing planned centralisation of functions e.g., district centres (shopping and social), sports centres, hypermarkets etc. The examples basically consists of a weatherproof shell surrounded by tarmac, integration with surrounding is impossible and costs preclude any more imaginative design solution to car storage than horizontal layout with paltry landscaping. The parking standards may well be appropriate to the requirements of the function although possibly on the high side to accommodate the freak peak, the principle of planned support for vehicle oriented centralisation may, however, be open to question on aesthetic grounds.

Rear service access has become an automatic planning requirement for commercial / retail development. However, where this may prejudice good design or more efficient use of land is it really necessary to produce infrequently used large barren areas of tarmac reminiscent of ghost towns? A service / loading bay directly off the distributor, using trolleys to the shop units could be equally efficient and allow greater freedom in the design of building.

Municipal road engineers are empowered to seek approval for relaxations of standards from Central Government, but the prevailing attitude is that there is security in quoting government 'recommended minima' and only risk in seeking relaxations. Any major shift in

Attitude will only come through central directive and some consolation may be found in the impending revision of 'Roads in urban Areas' and the Scottish Housing Handbook. However if this just results in the road engineer being allowed to quote new minima rather than having the flexibility to consider the specific requirements of each site and the design prepared by the architect, then the exercises may not be as successful as hoped. Highway engineering becomes a regional function. a degree of self determination. With the environmental responsibility the districts could explore the 'actual' requirements of vehicle access and establish their own local standards within the overall context of urban design.

The road engineers rule book is not the only regulatory constraint on designers. Sunlight / daylight requirement, inflexible privacy, arbitrary building lines, land use zoning and densities, and building regulations are contributing to our increasingly non urban, non aesthetic, non unique cities and towns (most readily seen in new towns – subjected to regulation from inception.)

Land use zoning has created expansive areas of homogeneous activity. While created for good purpose and. With revision, still applicable, strict zoning may be seen as working contrary to the creation of a stimulating environment which as **Jane Jacobs (1961)** maintains is generally found in identifiable mixed use areas. An over reaction to the dark satanic mills belching their pollution over adjacent closely packed artisan housing has produced the clearly defined, and rather monotonous, land use zones. Low density residential zoning has supported the spread of the ubiquitous suburb. Densities' being low, the economic spatial catchments for an ancillary facility is wide and consequently distant from the majority of residents to be served. The national similarity

And lack of focus has produced the laconic but evocative cliché, 'there is no there, there'. Enough has been written about the suburban dilemma. They serve a purpose and with an apparent degree of consumer satisfaction. The contention is that in terms of urban design by being neither truly urban nor rural and compounded by ubiquitous standardisation. Their contribution to the visual aesthetic is marginal. Areas should have 'feeling' is dependent on the richness of activities in any area.

To achieve a convenient and varied selection of service, a high / medium residential density is required in association with mixed land use. These factors also provide the opportunity to create a visually rich and truly urban environment. But the problems of producing , what is in effect a more complex solution on large scale , can be surmised from the illustrated – A site of cleared tenements , zoned industrial , in a mixed residential / commercial / industrial area , of 4 - 5 storey tenements and commercial properties. This was recently developed as single units. In terms of townscape the structure does not satisfactorily 'fill' the site and this is exacerbated by use of incongruous materials, alien proportion and form. Being on the periphery of the central area, an alternative solution to the site may have been to build up four stories providing small flats for single persons or couples who would be willing to sacrifice open space and accept traffic noise convenience to the city. But , a plethora of economic , management , regulation and planning difficulties , familiar to all practitioners , would have been encountered therefore principles are sacrificed.

It is also ironic to consider that many urban buildings 'listed for their architectural and historic and the majority of urban conservation areas designated in respect of their outstanding character ( and general popular residences ) , could not be reconstructed today. Discounting economics, it is not technology or craftsmanship that would fail us, but building and planning regulations. Furthermore, the road engineers' rule books presently preclude all that is appreciated in non-classical historic setting – e.g., intimacy, enclosure etc.

The recreation of psychologically satisfying urban spaces and architectural artefacts produced by land saving organic growth in our inner cities (pre-industrial revolution) is prevented by our best friend, no longer dog but car, which must be so commodiously

Accommodated, and for fear that we are all arsonists at heart harbouring a desire to revert to our ancestral habit of slinging slop from the window

As every practicing architect will endorse, not only are the planning restraints prohibitive, but in combination with current regulations the design process becomes a nearly packaged straight jacket.

“Legislation too often leads to excessive emphasis on those aspects of design which are quantitative rather than qualitative. In the natural process, the early stages of design tend to be more concerned with patterns and relationships. The scheme is seen in sketchy outline, with an overall feel for the quality of environment. The actual sizes and thickness of things are filled in later. But if all measurable aspects of architecture are legislated for, then the designer is forced to attend to them first, and the qualitative aspects must evolve as ‘treatment’ applied within whatever room is left for manoeuvre”.

This situation is bound to steer designers’ thought pattern toward those aspects of the problem that are precisely defined by legislation and away from the more vague and intractable areas. When this happens, puzzles rather than design problems are being solved and there is generally only one answer to a puzzle!

It is not suggested that levels of safety and general welfare be sacrificed for visual effects. Controls and regulation should however aim to facilitate good design rather than offering obstacles to the creative mind. To this end, they are perhaps, best set out as objectives to be achieved rather than as a universal checklist of conditions, with little consideration for circumstance or innovation. Bryan Lawson in this article on architects building regulations and design sees legislation as being negative in two ways.

**“It can be over specific or it can be badly framed. The first may cause the architect to concentrate too much on detail and the more easily measurable aspects of design, while the second may force him into unnecessarily tedious synthesis and evaluation loops.** He concludes that **“from the designer’s point of view, legislation should be general rather than specific, and should clearly communicate objectives showing how to attain them”**. Lawson’s

conclusion referred to building regulations but is clearly applicable to planning standards and more pertinently the role of urban design in achieving environmental aesthetics.

Design projects can be initiated and conducted by private and public bodies, but given that the principle or 'development control' by planning authorities is to remain, Then the final arbiters of all development schemes in Algeria will be elected representatives guided by their professional staff. It is from this body therefore that **'aesthetic objectives' should be clearly communicated with examples of how they can be attained.**

## **GENERAL CONCLUSION**

This search study has been concerned mainly with the design of the visual environment. In fact the study was born out of an awareness of the deterioration of the visual qualities of the urban environment of our period, when compared to examples from the past and has to somehow examine in general terms the process which have tended to bring this deterioration about.

The design of the visual urban environment has a great part to play in our life. It is essential that the built environment to activate and keep alert the brain must provide the following:

- (a) A psychological welfare should be one of the prime objectives of the design of the visual urban environment.
- (b) Is that it can only be achieved by understanding how the mind reacts towards the urban environment.

In modern urban environment ,it seems that the design of the visual urban environment have taken the second position to rationality ,that is to say function should direct the form ,which is the standpoint taken by all the modern urban makers (planners, designers, architects ).

The subject of the design of the visual urban environment has been neglected because it seems that it does not fit into the socio-political environment which has dominated planning and design fields

To be much more clear, as we have seen traditional city has a positive role to play in our modern urban environment,

**However, it is essential that we do not copy it blindly but understand why we enjoy such building milieu.**

And then try to combine the demands of our present life style with the principles of the past .in this instance it seems that Peter's .f. smith theory of dynamics and dialectics play s a great part in understanding how the human mind reacts towards such an environment .Like the individuals, the urban environment with a variety of scenes, height, function are

a source of joy and pride to their inhabitants because they prove identity ,contain recognisable elements ,such as towers ,squares which are readily apprehended as landmark which help to differentiate the parts of the urban environment.

But urban environment which act in this way are almost old cities where identifiable elements appear clear to the observer, old cities are all mixed up, housing, shopping and so on and this makes for that unity in diversity, the complexity which is the essence of living in the urban environment.

In a thesis such as this written within a relatively short space of time .it is only possible to scratch the surface of a very complex subject .I hope ,however ,to have indicated a few directions for further research into the problem that confront all whom are concerned with the design of the visual urban environment ( planners; designers ;architects builders). Who has an interest in urban environment and just as an example one could say much has to be done to discover just how far perceptual theory can be applied to the understanding of the relationship of individual to his environment.

Finally ,let us say that if we are to create places for which we eventually care ,then we must first encourage a greater sensitivity of the visual urban environment we see around us .to be aware of our visual environment will not be enough but it might act as a starting point. As Tuan wrote:

**” the eye needs to be trained so that it can discern beauty where it exists, on the other hand beautiful places need to be created to please the eye”.**

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### **Résumé**

L'objectif de cette recherche est de présenter une approche cohérente concernant l'environnement urbain et particulièrement les qualités visuelles et psychologiques de perception aussi que l'importance des fonctions constituent les aspects identitaires et les valeurs esthétiques (attractivités).

L'environnement urbain est perçu à travers les apparences visuelles donc l'effort d'appréciation est identifié par les experts et les concepteurs en relation avec l'environnement urbain qui souvent oublie de signifier les qualités visuelles et par conséquent ils ne mettent pas en valeur l'importance des qualités visuelles comme aspects majeurs dans le contexte du processus de conception. Les omissions ont pour résultat une quantité négative et sans importance sur la perception visuelle de l'environnement bâti.

Mais l'objectif principal des concepteurs est d'améliorer les qualités de notre environnement urbain et de surpasser les incohérences et la monotonie.

Les concepteurs doivent dévouer leurs efforts d'importance des qualités visuelles de l'environnement urbain et cela afin d'enrichir la qualité des espaces publics pour agrémenter leur utilisation. Il est évident de signaler l'importance des éléments visuels comme nécessité urbaine qui ne doit pas être négligée ou effacée parce qu'il a un rôle important dans la création des repères de l'environnement urbain.

Le premier chapitre examine l'identification et la définition des aspects qualitatifs de perception ainsi que la répartition de l'ensemble du programme de recherche.

Le deuxième chapitre met en évidence les valeurs de perceptions ainsi que les préférences de l'environnement (environnement préférence) aussi le chapitre indique l'importance des qualités esthétiques. Ces aspects permettent d'aboutir à améliorer et orienter la qualité de la compréhension du contexte urbain. Le programme de recherche présente à travers des analyses comparatives entre les vieux centres urbains de la ville de Constantine, à mettre en évidence la relation entre le fait de monotonie urbaine et le processus de conception de l'environnement urbain. Ainsi établir à travers la revue des théories la pertinence des faits en relation avec l'environnement urbain à travers la revue de la littérature en relation avec la conception de l'environnement urbain des guides et des recommandations ont été identifiés.

**Mots clés :** perception, esthétique, environnement, complexité, Variété, Constantine

هذه الرسالة تحاول إن تقدم طريقة منسجمة عن البيئة الحضرية وبالأخص عن الرؤية البصرية والمنظر النوعي والجمالي للبيئة كعنصر هام في التصميم واستقبالها السيكولوجي وأهميتها العملية هذا في تكوين الخاصية الذاتية لتلك البيئة والقيم الجمالية الجذابة لها

إن البيئة الحضرية تستقبل من خلال المنظر البصري أولاً وبالتالي فإن التأكيد في هذه الرسالة سيكون على المنتجين والمصممين للبيئة الحضرية الذين يتجاهلون عنصر نوعية المنظر البصري والقيم الجمالية لها كأهم عامل في الإنتاج والتصميم. هذا التجاهل للعنصر البصري في إنتاج البيئة الحضرية يؤدي إلى خلق بيئات حضرية فقيرة وردئة من الناحية الجمالية وبدون خاصية ونوعيتها

بالإضافة إلى هذا فإن أهم هدف للمصممين يجب أن يكون لتحسين نوعية المنظور البصري لبيئتنا الحضرية لتجاوز المنظور البصري الروتيني.

كما إن على المصممين إن يرفعوا من نوعية هذا العنصر في البيئات الحضرية وزيادة في تحسين الأمكنة للسكان الذين يعيشون فيها.

إن الاعتراف بان عنصر المنظر البصري ضروري في التصميم يلعب دوراً هاماً في إنتاج وخلق بيئة حضرية خلابة وذات قيمة نوعية

الفصل الأول في هذا البحث يهتم بالمعاني والتعريف بفعل استقبال البيئة ورؤيتها البصرية كما يتعرض لمختلف النظريات في استقبال البيئة والتي تؤهلنا للفهم السيكولوجي والنفسي لاستقبال البيئة

الفصل الثاني يهتم بقيم الاستقبال والاختيار البيئي من طرف المستعمل لهذه البيئة الحضرية كما يهتم من الناحية الجمالية النوعية للبيئة والتي تساعدنا على فهمها ومعرفتها. وفي الأخير هذا البحث سيتناول في التقييم من خلال المقارنة بين بيئة حضرية عتيقة وبيئة حديثة في مدينة قسنطينة محاولاً إظهار وفهم ما الذي يؤدي إلى إنتاج بيئات حضرية فقيرة وردئة تمتاز بالروتينية وبيئات حضارية غنية جميلة وجذابة تمتاز بالنوعية والخصوصية .

### الكلمات المفتاح :

العنصر البصري، استقبال البيئة، العنصر الجمالي في العمارة، الروتين، التنوع، البيئة الحضرية، المظهر الخارجي، الاستقبال السيكولوجي للبيئة .

### **Abstract**

This thesis Attempts to present a coherent approach to the urban environment and particularly to its visual qualities and psychological perception and functional importance in constituting its identity,, its aesthetics values( **attractiveness**). The urban environment is perceived through its visual appearance, therefore, the emphasis would be made on the makers or the designers of the urban environment that neglect the visual qualities, and thus are not emphasizing, the importance, a visual qualities as a major element in the design process .such neglects of the urban environment result in poor environments without meaning or visual qualities.

However the main objective of the designers should be to improve the visual qualities of our urban environment and overcomes monotony. Designers should be dedicated to enhance the visual qualities of the urban environment and enriching places for peoples who live in them. The recognition of the visual elements as an urban necessity must not be neglected or avoided because they play an important role in the creation of more meaningful urban environment.

Chapter one, on one hand examines the meaning of the act of perception, as well as how the brain functions and divides his work. While on the other hand different theories of perception to unable us an understanding of the psychological part.

The second chapter deals on one hand with the perceptive values as well as the environment preference, what seems to be preferred by people's .while on the other hand, it is quite important to mention the aesthetics qualities. And this will help us for a better understanding.

This research will examine throughout a comparative study between the old and new town of Constantine we try to understand what makes the urban environment monotonous?

Different theories which are pertinent to the design of the urban environment. And discuss fashions and style as well as education and training.

In the light of all the previous study, the result is related to the aesthetics guidelines.





## RESUME

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L'objectif de cette recherche est de présenter une approche cohérente concernant l'environnement urbain et particulièrement les qualités visuelles et psychologiques de perception aussi que l'importance des fonctions constituent les aspects identitaires et les valeurs esthétiques (attractivités).

L'environnement urbain est perçu à travers les apparences visuelles donc l'effort d'appréciation est identifié par les experts et les concepteurs en relation avec l'environnement urbain qui souvent est oublié. De signifier les qualités visuelles et par conséquent ils ne mettent pas en valeur l'importance des qualités visuelles comme aspects majeurs dans le contexte du processus de conception. Les omissions ont pour résultat une quantité négative et sans importance sur la perception visuelle de l'environnement bâti.

Mais l'objectif principal des concepteurs est d'améliorer les qualités de notre environnement urbain et de surpasser les incohérences et la monotonie. Les concepteurs doivent dévouer leurs efforts à l'importance des qualités visuelles de l'environnement urbain et cela afin d'enrichir la qualité des espaces publics pour agrémenter leur utilisation. Il est évident de signaler l'importance des éléments visuels comme nécessité urbaine qui ne doit pas être négligée ou effacée parce qu'il a un rôle important dans la création des repaires de l'environnement urbain.

Le premier chapitre examine l'identification et la définition des aspects qualitatifs de perception ainsi que la répartition de l'ensemble du programme de recherche.

Le deuxième chapitre met en évidence les valeurs de perceptions ainsi que les préférences de l'environnement (environnement préféré) aussi le chapitre indique l'importance des qualités esthétiques. Ces aspects permettent d'aboutir à améliorer et orienter la qualité de la compréhension du contexte urbain.

Le programme de recherche présenté examine à travers des analyses comparatives entre les vieux centres urbains de la ville de Constantine à mettre en évidence la relation entre le fait de monotonie urbaine et le processus de conception de l'environnement urbain. Ainsi établir à travers la revue des théories la pertinence des faits en relation avec l'environnement urbain à travers la revue de la littérature en relation avec la conception de l'environnement urbain des guides et des recommandations ont été identifiés.

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# Résumé

هذه الرسالة تحاول ان تقدم طريقة منسجمة عن البيئة الحضرية وبالاخص عن الرؤية البصرية والمنظر النوعي والجمالي للبيئة كعنصر هام في التصميم واستقبالها السيكولوجي واهميتها العملية هذا في تكوين الخاصية الذاتية لتلك البيئة والقيم الجمالية الجذابة لها

ان البيئة الحضرية تستقبل من خلال المنظر البصري اولا وبالتالي فان التأكيد في هذه الرسالة سيكون على المنتجين والمصممين للبيئة الحضرية الذين يتجاهلون عنصر نوعية المنظر البصري والقيم الجمالية لها كأهم عامل في الانتاج والتصميم . هذا التجاهل للعنصر البصري في انتاج البيئة الحضرية يؤدي الى خلق بيئات حضرية فقيرة وردئية من الناحية الجمالية وبدون خاصية ونوعيتها

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ان الاعتراف بان عنصر المنظر البصري ضروري في التصميم يلعب دورا

هاما في انتاج وخلق بيئة حضرية خلابة وذات قيمة نوعية

الفصل الاول في هذا البحث يهتم بالمعاني والتعريف بفعل استقبال البيئة

ورؤيتها البصرية كما يتعرض لمختلف النظريات في استقبال البيئة والتي تؤهلنا للفهم السيكولوجي والنفسي لاستقبال البيئة

الفصل الثاني يهتم بقيم الاستقبال والاختيار البيئي من طرف المستعمل لهذه البيئة

الحضرية كما يهتم من الناحية الجمالية النوعية للبيئة والتي تساعدنا على فهمها ومعرفتها .

وفي الاخير هذا البحث سيتناول في التقييم من خلال المقارنة بين بيئة حضرية عتيقة وبيئة

حديثة في مدينة قسنطينة محاولا اظهار وفهم ما الذي يؤدي الى انتاج بيئات حضرية فقيرة

وردئية تمتاز بالروتينية وبيئات حضرية غنية جميلة وجذابة تمتاز بالنوعية والخصوصية .

الكلمات المفتاح :

العنصر البصري ، استقبال البيئة ، العنصر الجمالي في العمارة ، الروتين ، التنوع ، البيئة الحضرية ، المظهر الخارجي ، الاستقبال السيكولوجي للبيئة .