AN EXAMINATION OF ARCHITECTURAL POLLUTION IN HISTORICAL URBAN CONTEXT: AN ANALYTICAL STUDY OF ARCHITECTURAL APPROPRIATENESS WITH SPECIAL REFERENCE TO COLOMBO FORT.

The Dissertation presented
to the Department of Architecture of the University of Moratuwa,
Sri Lanka, for the Final Examination in
M.Sc (Architecture) and for the RIBA Part II Examination

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I dedicate this Dissertation to my Loving Parents

A B S T R A C T

The Universe and all of its constituents conform to a certain order. Whoever or whatever force may envisage to dispute the said universal order would definitely cause disaster to the whole system and to the whole world. When there is no order, it is disorder. Disorder always leads to pollution. Disorder in the environment means that the environment is polluted. Disorder in music or sound is noise pollution. Disorder in architecture is called architectural pollution. The subsequent colonisation of Sri Lanka (then Ceylon) by the Portuguese, the Dtuch and the British, from early years of the Sixteenth Century have left a rich legacy of historic townscape in Colombo. The granduer of public and commercial architecture of the Fort; the city centre of Colombo, cannot be seen any where else in the Country; the Fort area has a character of its own.

The largest part of the townscape, the visual quality of the Fort area is mainly dominated by the building fabric. The building fabric which is present today is the product of the unified whole of buildings built according to the different architectural styles of different periods. Though each type has a character and identity of its own, the unified environment was harmonious and had a distinctive architectural character and townscape value. But most of the buildings which came up in the recent past were design and built regardless to its context or the urban setting resulting the fragmentation to the said harmonious building fabric.

Therefore design of infilling as new or replacements should respect the norm or the context, for that to be harmonized into the surrounding. And this Dissertation is based on existing towns, their intrinsic visual qualities and suggests some way and means of maintaining it by suggesting that qualities inherited from the past can become a discipline for the change today, its main theme, is that town's past its present and its future (in terms of the visual qualities and the context) must combine to create a recognizable unit, so that the growth can be seen and felt to be continuous.

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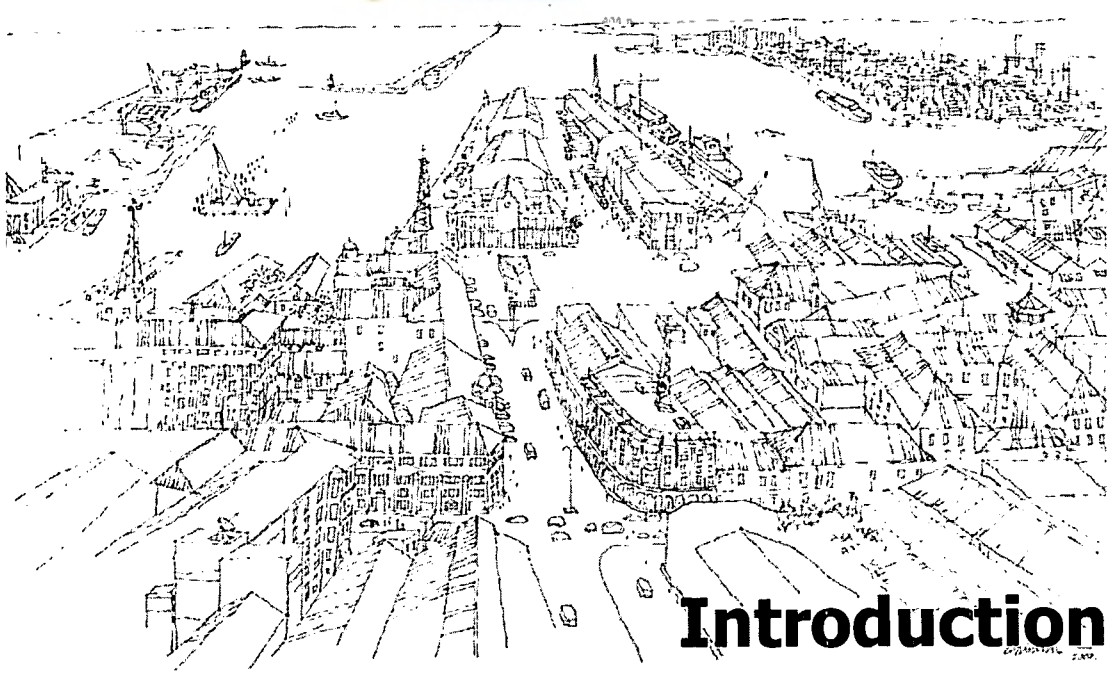


Introduction

Introduction

0.1 Topic Explanation/Definitions

Environment created by man influences him in variety of ways, it may influence him psychologically and physically. Man made environment should be rich will aesthetic as well as functional aspects. When aesthetic aspect are fulfilled environment will be rich with beauty, harmony and rhythm. When functional aspects are fulfilled it leads one to his destination and also express the relationship to physical context and the purpose of the building it is built for.

As Arnheim says, "The image of the building should lead, not mislead in its overall arrangement as well as in detail" (Arnheim - 1977) Therefore it is essential to be rich with aesthetic aspects as well as the functional aspects.

In past, man had obeyed the natural laws and created man made environment in order to harmonize and merge with nature. But in the recent past technological advancement had badly affected the man made environment and harmony between man-made environment and natural environment is lost. Inappropriate built forms used insensitively in some places have polluted the visual environment breaking harmony and rhythm.

Architecture has been literally defined as a style of a building as regards to design and construction. Architecture is the most sublime form of Art when compared with numerous art forms.

Architecture is the Art and science of creating built environment. Built environment can be defined as physical surrounding and condition affecting people physiologically and physically. Therefore architecture not only shapes the built environment but also simulates the mind of people.

0.2 Operational Definition

The word pollution generally means the absence of sanctity or purity. For example pure grammatical expression is polluted by adding slang to the vocabulary. Similarly architecture is polluted once it is not in accordance with the composition in relation to the neighbouring buildings. In other words it can be defined as incompleteness of pattern in build environment where the building is located.

Built environment consists of tangible physical elements in the form of solids and voids. This has a direct relationship to the visual environment. Physical environment is tangible but visual environment is intangible. The visual environment consists of variety and visual sensation. If the built environment is properly designed and composed, it will create a pleasant, harmonized, habitable environment and also creates a pleasant visual environment, which is full of visual sensation. But if it is misdirected when designing it may create an unpleasant, disharmonised and inhabitable environment which in other words may be called a polluted built environment. Therefore pollution in the built environment can be ascribed to inappropriate built forms placed in inappropriate positions. This can be widely seen in present day cities.

Cities can be identified as urban settlement of people. In these urban settlements, natural environment is overwhelmed by the man made physical tangible features. Cities have undergone drastic changes due to development of the technology resulting present day physical forms.

The overall city form is resulted by the three dimensional composition of physical objects and places. Therefore it is necessary to follow both the principles of composition of individual buildings and several built forms, in order to achieve appropriate architectural composition of a city. Violation of principle of composition can be considered as pollution in the visual environment. This study attempts to examine how the principles of composition is used in obtaining aesthetic and functional aspects, in the cityscape and the streetscape avoiding Architectural pollution in the visual environment in the first sections of the text.

0.3 Need for the Study

The past centuries have left a rich legacy of a historic townscape in Colombo, Galle and Kandy. These towns have a character of its own; broadly it could be called as Colonial cities. George J. A. Skeen in his book. "A Guide to Colombo" in 1906, describes Colombo as one of the healthiest cities in the East. The legacy of Kandy and character of Galle are clearly mentioned in "The Twentieth Century Impression of Ceylon" by Arnold Wright, published in the same period.

It is evident that most of the newly built buildings in Colombo Fort area have not responded to the integrity and the scale of the townscape; the townscape has disappeared or has been compromised by inappropriate new buildings. These buildings have become "individual masterpieces" standing out in isolation regardless of their surroundings. This does not mean the present appearance is a fully fragmented, but this has disturbed the rhythm of the building fabric. This somewhat says the building fabric is the main element governing the character of the city at present or in other worlds the visual quality is the largest part of the townscape.

This is also the understanding in other colonial cities where they have introduced strict controls in planning regulation to maintain the existing character.

From ancient times streetscapes and cities were built with understanding the law of our indigenous culture. Therefore there was a proper identity to the city and its streetscape. But after the industrial revolution, there occurred a rapid boom in building industry and the technological development changed the face of the city and streets in more complex manner and the purpose, context and uniqueness of the city could not be identified therefore pollution of visual environment was resulted.

Both professionals and laymen are alarmed about the lack of satisfactory built environment in cities, and the occurrence of pollution in the visual environment. They are concerned about the loss of identity of cities due to those shortcomings.

Individualistic approaches of architects, urban planners, laymen and urban designers have resulted haphazard development creating inhumane environment and destruction of the character of cities.

As Jensen says, "Today's cities are in a serious plight. Uncontrolled noise, air and water pollution inconvenience, discomfort, congestion visual assault and lack of any sense of order are just some of the symptoms of malaise afflicting them". (Jensen, 1974) Therefore it is important for the architects to study pollution of the visual environment in order to retain the uniqueness of the city.

Therefore as an architect it is their responsibility, to understand and respect the groups value of buildings. Character and their role, importance as a part of a city form.

0.4 Aims and Objectives

"Architecture today is I fear in a state of crisis and that crisis has contributed to a larger extent than is generally realized to the urban mess. Architecture has failed to respond to the need of our time and the varied requirement of its surroundings. it is standing out in isolation. Lacking a sense of place in the time and space, it fails to give our environment a sense of place"

Eckardt, wolf Von: - A place to live - The crisis of cities, Dell publishing Co. Ltd., New York

Above statement by wolf Van Eckardit in his book, 'a place to live' (the crisis of the cities) becomes true and valid to recent development in Colombo Fort area, as said before, majority of buildings came up in the recent past were designed and built regardless to the context and disturbs the local character of the area. Therefore the importance of designing of infilling (new or replacement environment/ buildings) in the proper way to achieve visual completeness between old and the new becomes the priority of the visual environment of this historic place.

The intention of the study is to go into details to establish practically and aesthetically accepted means of designing visual appropriate buildings to an urban setting of a character such as Colombo Fort.

This study leads to identify those ingredients considered useful in creating new or replacement environment and to discover what a new building needs in order to measure up its existing context.

Designing new or replacement buildings (infillings) in an urban setting having an identity of its own is a serious exercise requiring special skills and knowledge on various aspects regard to the towns current situation, which will be highlighted through the research. .

This study attempts to

1. establish a theoretical concept which helps to recognise the pollution of built environment,
2. rationalize the need to avoid pollution in the built environment, and it's consequences to the city context, and
3. demonstrate a positive connection between pollution of built environment and violation of the principle of architectural competition and there by offer theoretical underpinning to avoid pollution of the built environment.

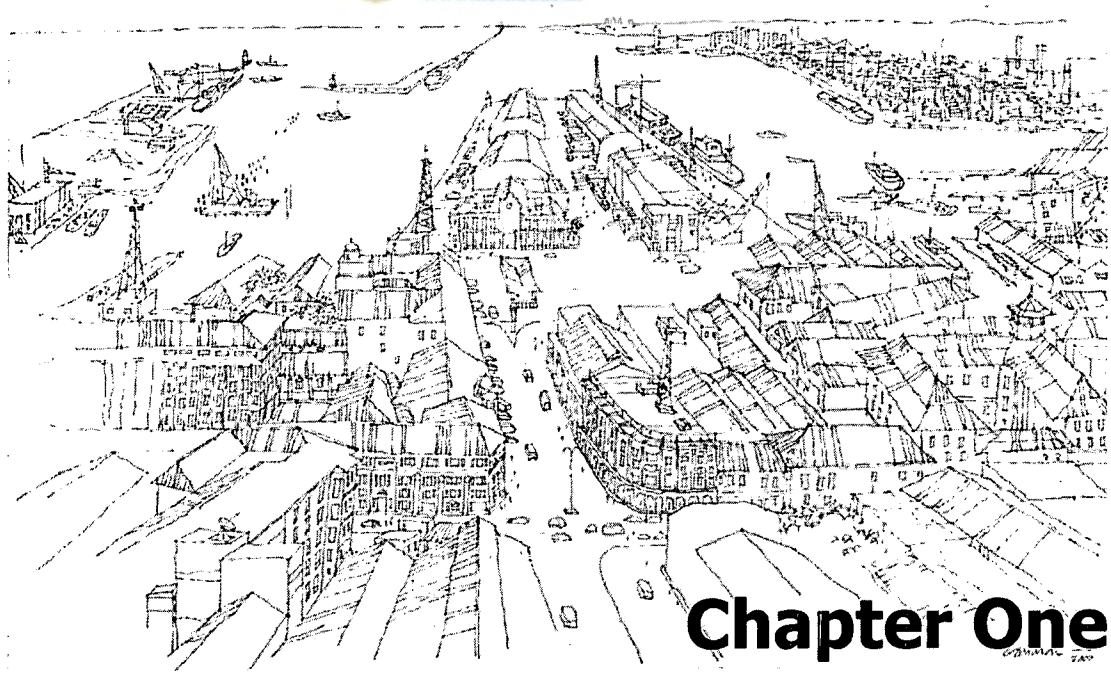
0.5 Method of Study

As mentioned earlier, a city can be identified as the largest, visual manifestation of the beholder and needs a unique identity of its own. Because of this, city should have a rhythm and harmony in order to deter disorder and chaos.

The first part of the study discusses, what architecture is and its composition and how one would maintain a relationship between man and space without polluting his environment. The second part of the study deals with several characteristics of a historical urban context, as to analyse how it could remain the harmony and rhythm in a city avoiding pollution in the built fabric. This is done by applying principles of composition in to a city context. In the third part of the study, it is explained about the existing city context, significant characters and a brief history of the Colombo Fort area.

In the final part of the study , theoretically established principles are applied to the city context of Colombo Fort in order to illustrate how the pollution of built environment has occurred and how to avoid it so as to create a better streetscape.

This discussion is largely based on literature and observations. The study sites concrete example to illustrate how these principles are violated and the way of architectural pollution occurs in order to identify the typology of course pollution in historic urban context.



Chapter One

Architecture as Expressive Visual Environment

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Architecture as Expressive Visual Environment

Man is a product of nature. He always depends and survives with nature. This dependence and survival have a direct link with architecture. It provides man with shelter, security and mental satisfaction without misleading and confusing him. Therefore man creates concrete forms in order to satisfy his spatial needs and accommodation. These concrete forms are products of architecture which express their composition in the visual environment. Composition of different forms express their identity and help to keep the relationship between man and space while stimulating him.

1.1 Architecture - A Definition

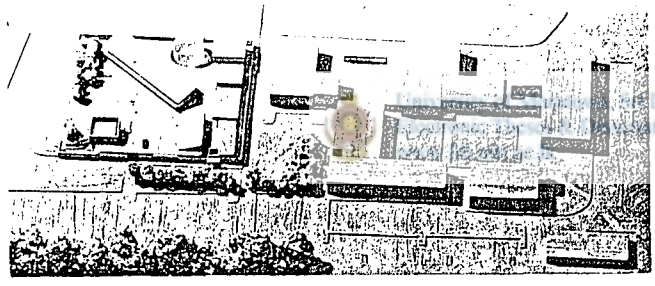


Fig. 1 Matter of composing solids and voids

The term architecture is defined in the Oxford dictionary as an art or a science in designing and construction. Though the above definition provides certain explanation to architecture it does not serve the purpose in a broader context. Art of architecture can be defined as a matter of composing solids and voids in order to have a harmonized composition of spaces and forms while maintaining its uniqueness and character. (Fig. 1) Walter Gropius has defined architecture as the crystalline expression of the noblest of mass, his character, his creed and his religion (Park, 1984 : 86)

Without compelling, architecture can be introduced as the most exalted, grand kind of art form. The creator of architecture is a man and ultimately it is for man. It is for man. It facilitates human beings with a shelter. Divinity, humanity and remembrance can be found in these shelters.

Architecture provides spaces with evil thoughts and noble thoughts. Architecture can be defined as silent art but it speaks with the beholders. This makes some speak and others silent. It makes rhythm in one heart and movement in others. It communicates by evoking certain emotions and feelings.

As Le Corbusier states architecture is a matter of 'harmonies'. (Corgusier, 1931 : 19) Architecture harmonise many things together. It can be a tangible physical form and an intangible expression. Sometimes it can be a visible physical form and an invisible human feeling and emotions. In a good work of architecture tangible and intangible and visible and invisible components should harmonise with each other and should be harmonised and merge with the world. (Fig. 2) Zevi defines architecture as the 'art of space'. Therefore collection of all these forms an entity which Antoniades (1980) defines as "architecture is many things in one. Something tangible others intangible. Something visible others invisible. Where all things tangible and intangible, visible and invisible, are in balanced harmony among themselves and with the rest of the world, constituting a useful and mind elevating whole, then this whole is architecture" (Antoniades 1980:18)

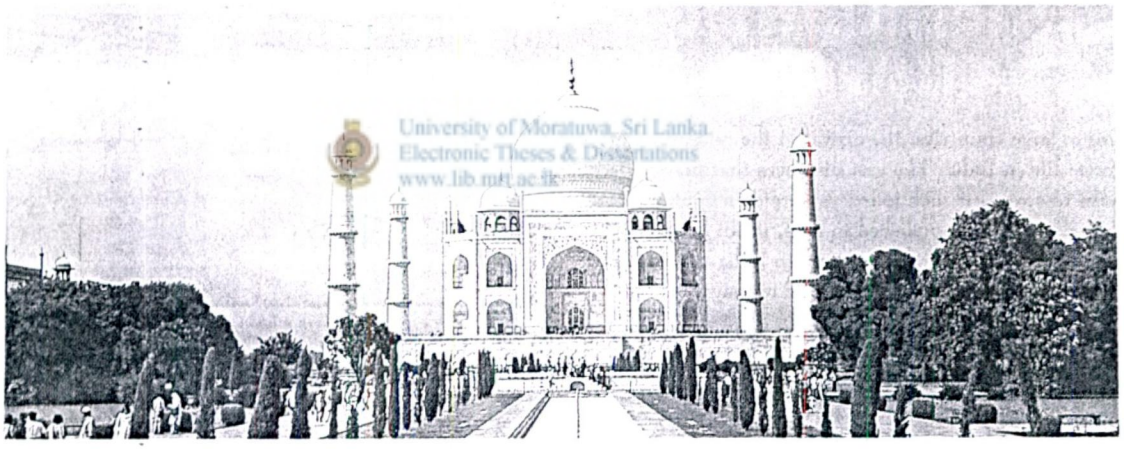


Fig. 2 A good work of architecture – Taj Mahal - Agra

Architecture can also be described as a spatial drama. It gives a rhythmic movement. This movement flows from one to another creating a rhythm while creating a identifiable character.

Beholder experiences architecture and grasps the inherent meaning and its special movement. Because of this experience he can identify the expressions of building or buildings.

Therefore inappropriate, rhythmic movements and expressions may mislead the beholder, by providing incompatible movements and expressions may mislead the beholder, by providing incompatible forms. This inappropriate rhythmic movement and incompatible forms may cause in creating pollution in the visual environment.

1.2 Architecture - The Purpose

Idea of architecture is to provide compatible, harmonious, liveable and fascinating environment for beholders. When providing or facilitating an environment like this it is important to keep and originate man - space relationship.

Every where a person goes, he creates a space in and around him. Therefore space is continuous, unlimited and boundless. Man creates space, he lives in space All the visible, invisible, tangible, intangible, animate and inanimate things are observed by space and enliven. Man experiences space by physical dimension, that is by length, breadth and height. This can be described as measuring or quantitative experience. Due to the length, breadth and height, each space gains a meaning and this meaning begins to interact with people. Some of these meaning of space and interaction of space differ from person to person, culture to culture, society to society and tribe to tribe.

When man space interaction starts he begins to grasp the encoded meaning and expressions of it. But at the same time man's interaction with spaces differ from person to person. Some interactions become personal affairs due to the individuality and the temperament.

Uexkull (1971) has described a concept of space. "Like spider with it' s web, so every subject weaves relationships between itself and particular properties of objects; the many stands are then woven together and finally form the basis of the subjects very existence".

Man basically orients to objects and adapts psychologically and technologically to physical things. He interacts with other people and grasps abstract realities or meanings transmitted by various languages created for the purpose of communication.

Schulz (1971) explains that man's actions comprise of spatial aspects. He further explains the objects of orientation are distributed according to such relations as inside and outside, outside faraway and close by, separate and united; and continuous and discontinuous. Because of the above mention factors he described that space is not a particular category of orientation but an aspect of total orientation. He further states that it is only one aspect of total orientation and able to carry out his intentions, man has to 'understand' spatial relations and unify them in a 'space concepts'.

Schulz (1971) has studied deeply about the man - space relationship. He categorized the space and described about the different ways and degrees of spatial experience as;

- Primitive / Pragmatic space
- Perceptual space
- Existential space
- Architectural space

1.2.1 Primitive / Pragmatic Space

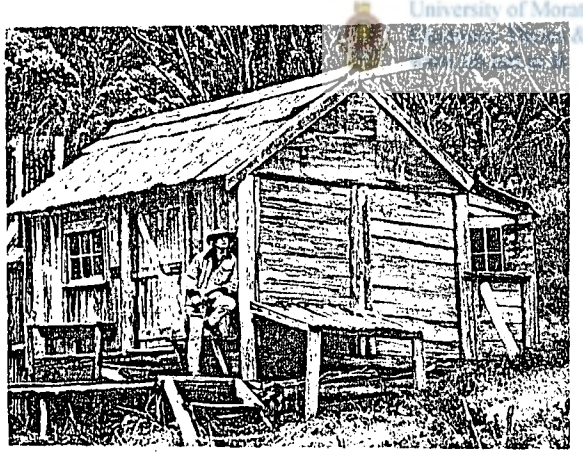


Fig. 3 Home-Purely emotional and spontaneous

Primitive or pragmatic space integrates with its natural organic environment. It begins from the birth of a person. Pragmatic space provides man with an earliest spatial experience. It is essentially an individual and no rational or intellectual parameters are involved and also it is purely emotional and spontaneous. (Fig. 3)

1.2.2 Perceptual Space

This is essential to identify a person. Perceptual space is egocentric and varies continuously. But these variations are linked to form meaningful totalities (experiences) because they are assimilated to the subject schemata, and modified by the new experiences. This space

cannot be separated from man's experiences and intentions. Perceptual spaces carry a sensual attachment with it. Perceptual experience brings out man's most intimate relationship with space and what is in a space. But it is mixed up with a personal flavour.

1.2.3 Existential Space

Existential space becomes meaningful for a group of people according to an accepted set of norms, attitudes and values. In other worlds this makes one belong to a social and cultural totality. Existential spaces store the memories and the feelings of the people who live in it. It can be a common experience made on common phenomena like social, cultural functions and day-to-day activities. (Fig. 4)

Fig. 4 Existential Space-Temple of Tooth , Kandy

Primitive, perceptual, an existential spaces are mostly based on psychology of the beholder and this is useful for him to interact with the spatial movement. Therefore it is necessary to understand these aspects when designing architectural space.

1.2.4 Architectural Space

Fig. 5 Architectural Space-concretisation of man's existential space

Architectural spaces are created by man for his day-to-day needs according to his liking and wishes. The pragmatic, perceptual and existential spaces are psychological concepts and they have been used by the man to interact with the environment while this interaction sharpens his awareness of space. The

awareness of space enables him to realise his own mental images. His own image is created by his aspirations, wishes and dreams. The architectural space certainly adopts it self to the needs of organic action as well as facilitating orientation through perception. It illustrates certain cognitive theories of space as when building a Cartesian co - ordinate system with concrete materials. But it is related to the space schemata of man's individual and public world. Man's schemata is created through interaction with existing architectural spaces. Sometimes these do not satisfy him because of the confusion and instability of image. Therefore he has to change architectural space. Schulz (1971) describes this as concretisation of man's existential space. Architectural space can be identified as a man's inner most special experience. Therefore it is filled with emotions and feelings and also it has a strong bond in between man and his architectural space. Every minute he experiences it through the perception by his organs, sight, hear, smell, taste, touch and mind. Because of this perception he is attached to the space, he realises the space and identifies the space.
(Fig. 5)

1.3 Architecture as a Composition

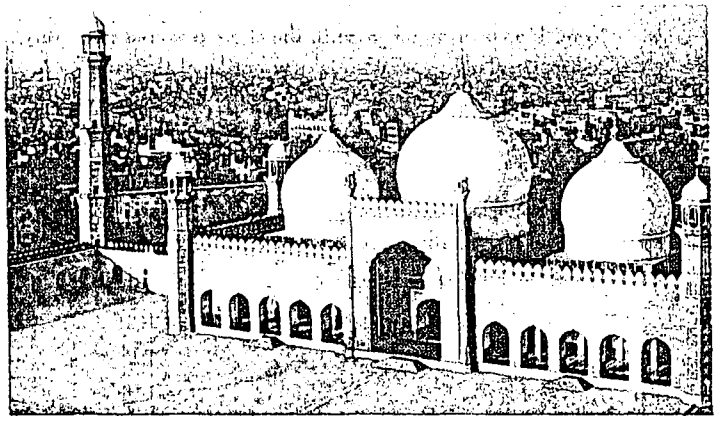


Fig. 6 Good composition brings beauty – Badshahi Mosque, Lahore

Composition means an act or art of putting several components together. Composing of facts, elements or ingredients plays an important role in any product. If the mixture is composed badly it may sometimes badly affect the end product. Sometimes it may convey a wrong message and give a feeling of ugly incomplete appearance to it. The beholder may grasp an unpleasant image of the product and also it may sometimes mislead him. Not only that, this may cause pollution in the visual environment but also diminish the harmony of the product.

In architectural objects the perception of beauty is mainly derived from a good architectural composition. Good composition acts as a keystone in architecture. Good composition brings beauty and eliminates dull, ugly, uninteresting and misleading qualities in architectural products and may contribute in creating compatible forms and avoid pollution in the visual environment. (Fig. 6)

In architecture, different principles are used in composing a building. Even though the building is of a good composition the judgement is based on the beholder according to his taste and liking . Composition is intangible but the physical forms which make the composition is tangible. This will appear in front of human beings as a visible physical form but comprises of several intangible emotions and feelings.

The role of architecture is to create compatible forms, which fulfil the physical and emotional comforts of the human being while avoiding pollution in the visual environment.

As a result of good composition one can gain a compatible relationship between natural and man made environment and it may lead to avoid pollution in the visual environment.

According to Nammuni, (1993)"Achieving harmony in either, is to forge a pattern, and other amidst chaos and disorder. Harmony is brought by achieving order without eliminating those, that do not fit in, by forging strong patterns; to strengthen the gestalt in the ESSENCE , while acknowledging dissent, in the DETAIL. Essence is the FORM, Detail is the SHAPE"

Appropriate well-composed sentence in a language helps to convey correct and required message to be said. Likewise in a city or street appropriately composed physical structures express the character of it and also convey the correct architectural message.

In a 'vision of Briton' Prince Charles has described this as " Building should reflect those harmonies, for architecture is like a language, you cannot construct pleasing sentences, in English unless you have a thorough knowledge of the grammatical ground rules. If you abandon these basic principles of grammar the result is discordant and inharmonious. Good architecture should be like good manners and follows a recognised code. Civilised life is made more pleasurable by a shared understanding of simple rule of conduct." (Charles 1989)

There are several principles to analyse and understand architectural composition. Proper understanding of these principles determines the compatible, aesthetic and functional forms and avoid pollution in the visual environment.

Edwards (1945) describes the principle of composition in architecture as number, punctuation and inflection. As he states a good composition does not depend on a single principle. Edwards describes this as "what ever the form of a building speaks, any language of architecture which could immediately be understood by applying to it the interpretative principle of number, punctuation and inflection". (Architecture Style : 76)

A conscious awareness of these principles may help architects to create compatible buildings avoiding pollution in the visual environment. Not only that it helps beholders to grasp and understand the city, streets and their inherent meanings, but also usage of these principles may differ from one architect to another according to his style and opinion.

There is a direction relationship between from and space. In other words form expresses a mutual action with relation to space. Form and space is complementary to each other. Therefore space cannot be apprehended without form. Form and space create expression of a architectural product.

When space is rich with feelings and emotions it gives rise to architectural space. Form acts as a three dimensional image of a built entity which retains space within it. Form and space together enhance the movement, flow and rhythm of a architectural product which fascinate the visual environment.

1.3.1 Attribute of Form

When considering the visible forms, space is the invisible factor that dwells in its inseparable companion. When one experience architecture, before grasping the hidden realities of the space, he grasps the visible forms. This is the first hint one gets, and then he penetrates in to the space. When person moves within a space, form also makes a journey with him and contributes to transform him by way of its symbolic expression. This contributes in serving the purpose and desired experience. This contributes in providing unity, simplicity and clarity.

1.3.1.1 Unity

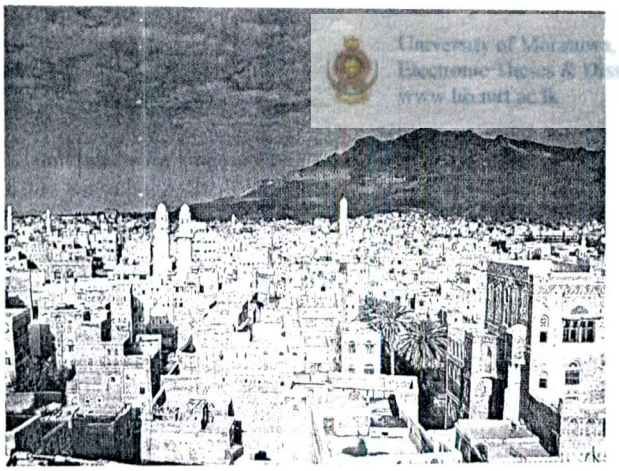


Fig. 7 Unity - Sense of wholeness

This avoids contrary forces and balances the opposites. This gives a sense of wholeness and soothing effect. It bounds the disjoint multitudes with each other and with the rest of the world while composing a well composed whole. When forming as a whole each and every single unit finds a correct place and gets the identity. (Fig. 7)

1.3.1.2 Simplicity

Simplicity is given by diversifying the forces. Simplicity has a close relationship with scale and size. Scale brings man directly with it since experience is always link with him. According to Antoniades (1985) scale is a dialogue between man and object.

1.3.1.3 Clarity

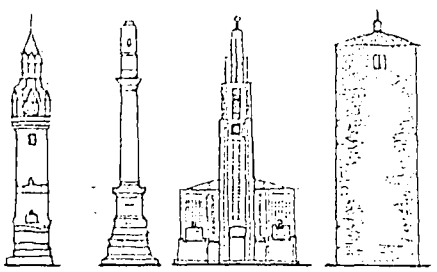


Fig. 8 Punctuation facilitate clarity

Legibility of built forms is defined as clarity. This is a important factor because it facilitates the beholder to read and easily understand the expression of a built form. This has a interrelationship with unity and simplicity. When grammar is rich in a built form it increases the clarity. Built form is easily understood in the presence of subtlety of its grammar. As Edwads describes, the number, punctuation and inflection act as major principles in combining the components of a built form. Punctuation in the principle of grammar, contribute in forming a well-composed beginning and end in a built form and facilitate to its clarity. The more subtle the grammar the higher the clarity achieved in a built form. If a architectural product is rich with clarity the experience can easily understand the underline meaning of it. (Fig. 8)

1.3.2 Movement of Form

Natural and built up formation are arranged in such a manner so as to create a movement from one to another. Movement of formation in the city creates spaces with hierarchy. This evolves in crating a harmonious, fascinating, cityscape, which is devoid of pollution in the visual environment. Not only that, it provides a character to the city but also enhance the identity of the particular city.

1.3.3 Attribute of Space

If it is a primitive, perceptual, existential or architectural space there are three kinds of fundamental attribute associated with it. They can be defined as the centre, the enclosure

and the continuity. These principles provide inherent spatial meaning to the space. (Kulathilaka, 1994)

1.3.3.1 Centre

According to Schulz "In terms of spontaneous perception, man's space is subjectively centred". In many legends 'the centre of the world' is concretised as a tree or a pillar symbolising a vertical axis mundi. The ancient Greeks placed the 'navel' of the world (Omphalos) in Delphi while Islam is considered the centre as a Ka'aba. If the 'centre of the world' designated an ideal , public , goal or lost paradise, then the world 'home' can also have closer meaning to it . This tells us that every man's personal space has a centre."

1.3.3.2 Enclosure

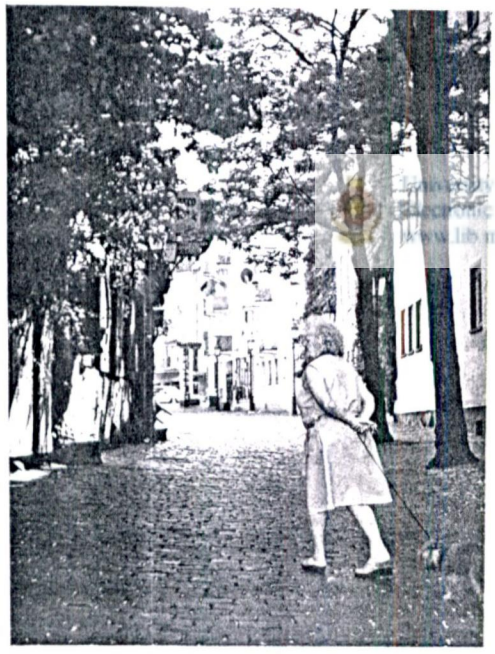


Fig. 9 Landscape enhance the enclosure

Enclosure contains volume and it seals the space and provides facility for man to experience it . Enclosure can appear as an intangible sense of enclosure or tangible physical form. Spatial experience in pragmatic, perceptual and existential space acts as a spontaneous happening. But in architectural space it creates to enhance the spatial meaning.

Walls, floors , ceiling and roofs can be taken as elements of physical enclosure. These create a big variety of built structures and meaningful spatial entities. Landscape, water, and level changes are also used in creating enclosure. (Fig.9)

1.3.3.3 Continuity

To fill the gap created by enclosure, continuity is essential. In order to exist a space it has to be continued. By weaving relationships existence of space can be seen. In pragmatic,

perceptual and existential spatial experiences he grasps the continuation in architectural space. He created this continuity the way he wants it to be and with the help of this continuity he moves towards his destination without any confusion.

1.4 Principle of Composition

Architecture can be identified as a primary activity that originates a specific status in beholder's mind by careful orchestration of chain of experiences. The method of composing the fundamental constituents, solids and voids together into one, helps one to evoke variety of visual sensation in mind. It adds beauty, variety, rhythm, order and enclosure to the architectural product and also to the streetscape too. The principle of composition creates a built environment by using fundamental constituents and by using method of composition.

Movement pattern of buildings of a streetscape can be obtained by using a proper combination of solids and voids, and its careful orchestration. This will be helpful to enhance the compatibility in a streetscape avoiding pollution in the visual environment. Because of the principle of composition aesthetic aspect to the product is added.

If a correct pattern introduces a rhythm and order to a streetscape, the individual building will contribute in achieving functional aspect. Functional aspect is dealt with context, circulation pattern and expression. It details out the city and streetscapes that will be confronted in a practical manner. It is essential to apply the principle of composition when one needs to get a deeper understanding of the streetscape. Thorough knowledge of this principle will help one to get a proper understanding of a streetscape as well as city.

On the other hand streetscapes have their own characters that are the special qualities own by the streetscape. Composition is one of the key elements of a character. Urban streetscapes are composed of enclosure planes. They are (Fig. 10)

- Ground plane (the street itself)
- The overhead planes (Canopies or the sky as a perceptual ceiling)
- Wall planes (Building on either side of the street)

These enclosure planes create identity, rhythm, movement and fascinating appearance with compatible built forms to the streetscape.

Another aspect in composition of streetscape is the envelope spaces. (Fig. 11) They are

- Streets Flanked by buildings (rooms)
- Entry spaces, which overlap with street intersections (lobbies)
- Foci (major spaces)
- Points of termination (end of buildings)
- Streets (corridors)

(Samaranayake 1992 : 2)

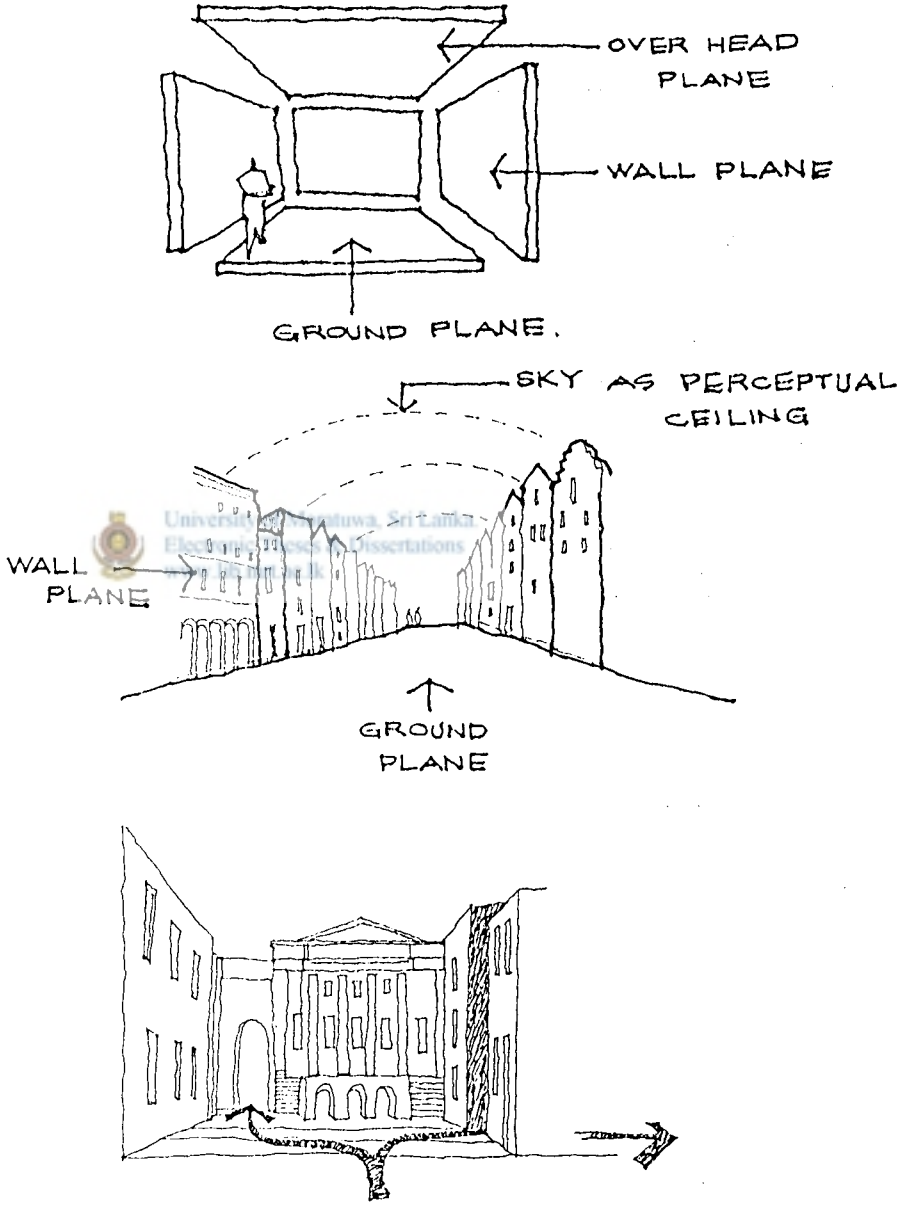


Fig. 10 streetscapes are composed of enclosure planes and spaces.

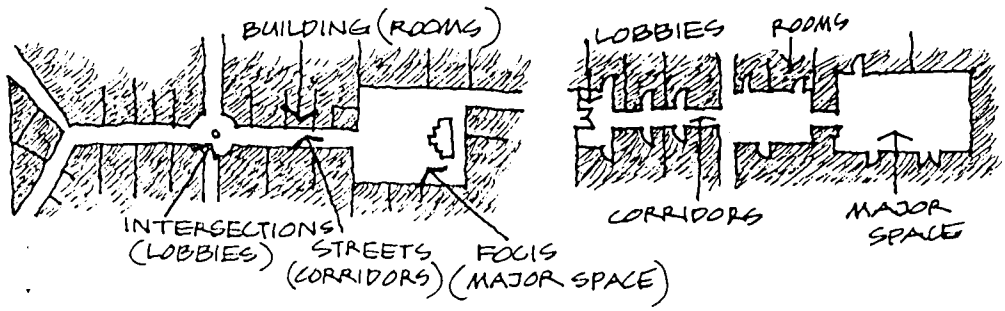


Fig. 11 Envelope Spaces

Above mentioned factors will also help in creating harmonies streetscapes and cities without crating pollution in the visual environment.

As mentioned earlier principle of composition deals with two major aspects of composition.

- Aesthetic Aspects
- Functional aspects

Principles that deal with aesthetic aspects are known as aesthetic principles and those deal with functional aspects are known as functional principles.

1.4.1Aesthetic Principles

This principle is applied to examine the buildings in a streetscape to find out whether they are organised in the way to give aesthetic success. Aesthetic principle can be categorised into three.

1. Principle of Unity
2. Principle of Proportion
3. Principle of contrast.

These principles are interrelated and interdependent on each other when gaining the aesthetic success in the built environment. The addition of the principle of proportion and principle of contrast may also enhance principle of unity.

"Like language, architecture has its vocabulary and its grammar, but while it has several distinct vocabularies all covering the same field of expression, it has only one grammar". (Edward 1926 : 17)

Supporting above-mentioned statement Alexander explains the visual language for a town.

"Such a language is in principle complex enough and rich enough to be the language of a town. (Alexander 1977)

Anyway attempts must be made to distinguish qualities in good composition. According to Robertson, "It should be one of the analyst's functions to try and satisfy himself as to whether a building is a success or a failure as a piece of composition, and for that he must look, above all for the application of sound of first principle". (Robertson, 1955 : 2)

In literature perfect grammar plays an important role in giving that work a strong theme. Likewise grammar in architecture makes a piece of architectural work a beautiful harmonised product without polluting the visual environment.

1.4.1.1 Principle of unity

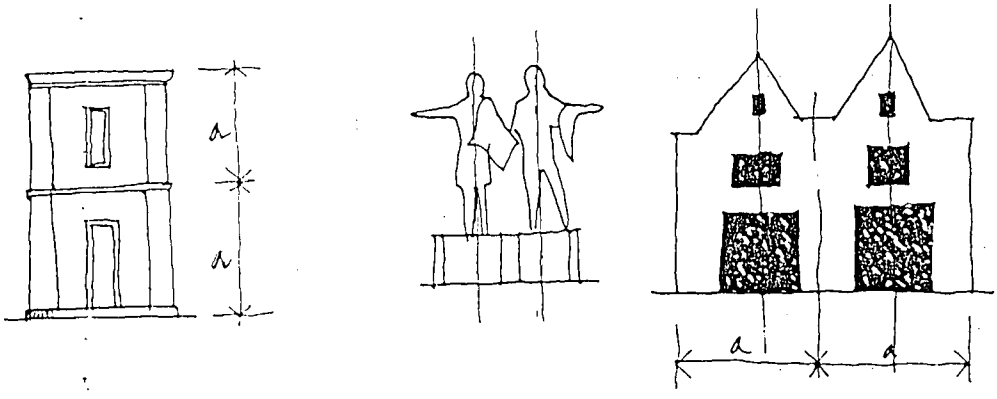
The connection between elements or buildings grouped together to gain the idea of wholeness can be classified as unity. In another version, is that it should have correct combination of parts in architectural product, a streetscape or any other product. (Fig. 12)

"In some locations and particularly in some streets, a unity between buildings exists which bind together the whole street. Variation have been played on the same theme, so that although no two buildings are identical". (Tugnutt and Robertson, : 1987 : 45)

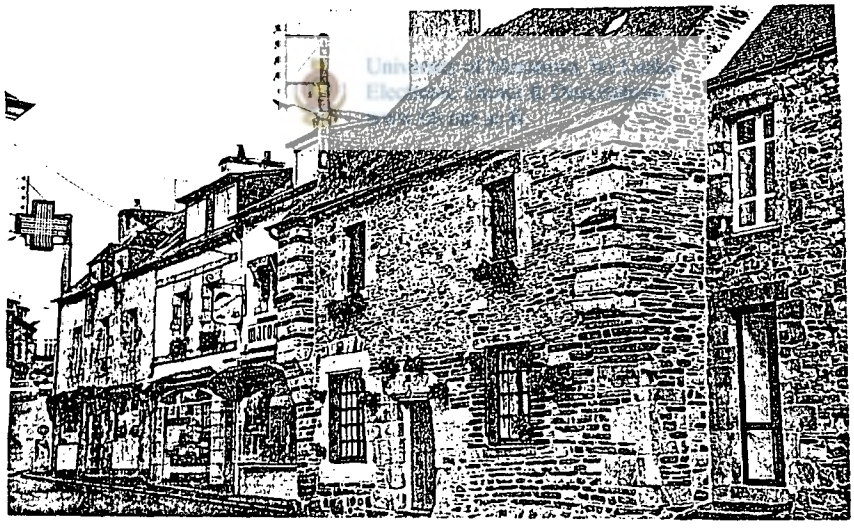
It is necessary in streetscapes to appear as one. Although street deals with buildings they must co - operate with each other and should appear as one. As Lynch states, there may be differences as "Group image are necessary if an individual is to operate successfully within his

environment and to co-operate with his fellows. Each individual picture is unique, with some content that is rarely or never communicated, yet is approximate the public image, which in different environment is more or less compelling more or less embracing". (Lynch 1959: 46)

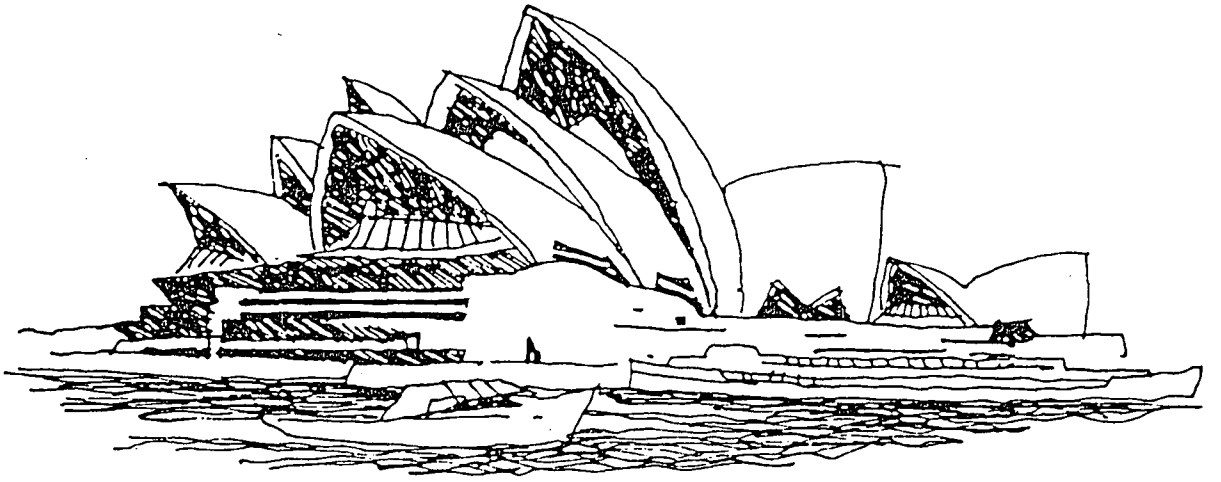
Architecture deals with abstract ideas and concrete expressions. However, the concrete realisation must express unity from its product. As Robertson states, "Any idea or conception,



Destruction of Unity by competing Dualities



Unity Achieved in a streetscape



Achieving unity by avoiding Duality

Fig 12. Unity

Before it can be satisfactorily translated into any medium, must be completed, and cannot be composed of scattered elements which are unrelated to each other and represent diffusion as opposed to unity". (Robertson 1955: 5)

Composition cannot be achieved by using of scattered elements and also without having relationship to each other. Haphazard arrangements of architectural elements express weak inappropriate incomplete idea of particular architectural product, which may lead to pollution in visual environment.

Nature invariably conjugates them to form a pair because it does not deal with two things at a time, it is similar to architectural product as well. Robertson explains a line of division which will divide a building or an element into two equal parts is similar proportion. A tendency of a unit to be split in twain weaken the original unity. Architectural product which is of weaken unity gains duality. Resultant of weaken unity and duality may pollute the visual environment. (Fig. 13)

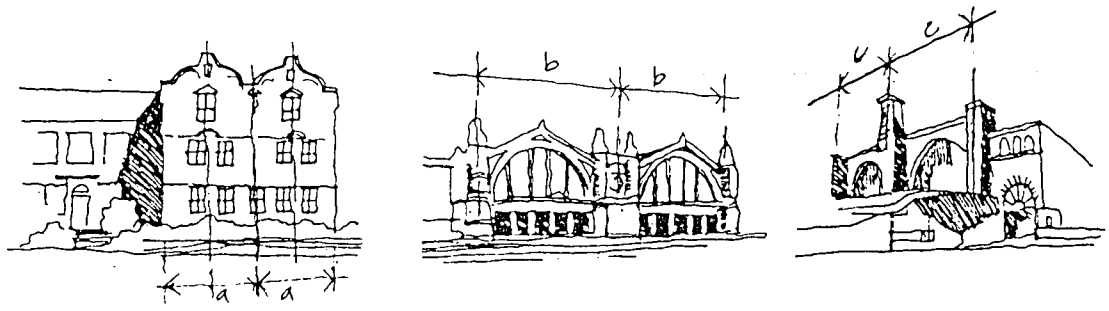


Fig. 13 Weaken Unity and Duality may pollute the visual environment.

1.4.1.2 Principle of Proportion

In architectural product, correct array of elements enhance visual satisfaction. According to Robertson "It is the relation of these elements to each other , and to the composition as a whole which we call proportioned , and its correct scheme of proportion in mass and details which determines the unity." (Robertson, 1955 : 6)

Different theories of proportioning system are forwarded by different people. According to Ching "The intent of all theories of proportion is to create a sense of order among the elements in a visual construction." (Ching, 1979 : 297 He also states that "proportioning system establishes a consistent set of visual relationship between the parts of the building as well as between the parts and their whole. Although these relationships may not be immediately perceived by the casual observer, the visual order they create can be sent, accepted or even recognised through a series of repetitive experiences. Over a period of time we might begin to see the whole in part, and the part in whole". (Ching 1979: 297)

In a streetscape, correct array of buildings, elements enhance the visual sensation. If the correct array of building and its elements in the streetscape help to achieve the image of the city. Correct use of principle of composition may generate an

Fig. 13 Weaken Unity and Duality may pollute the visual environment.

appropriate expression of the city. Furthermore, while using this principle, boundaries of buildings elements and buildings is important in order to gain correct composition. Suitable use of proportion may avoid duality and enhance the quality of the product. (Fig. 14)

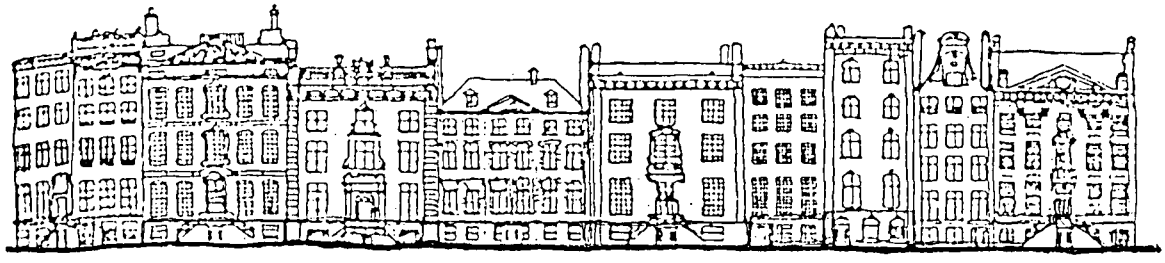


Fig. 14 Buildings in correct proportions enhance the visual sensation

When the principle of proportions is violated by use of incorrect proportions and use of incorrect proportional elements the unity of the building can be violated. Mismatching proportions generate ugliness. If false proportions and incorrect meaning of a streetscape confuses the image of the city and beholders may also be confused. Absence of demarcation of boundaries such as top, bottom and sides of buildings add monotony thus violating this principle. False proportions and incorrect meaning of streetscape confuse the image of that particular city and beholders may also be confused because of the polluted visual environment. (Fig. 15)

Fig. 15 False Proportions generate ugliness

1.4.1.3 Principle of Contrast

Fig. 16 Principle of contrast - Contrast can be achieved by Colours and Textures.

Although solids and voids are combined according to proportions, some elements are needed to dominate the other in order to originate or create an interesting product in architecture. Principle of contrast presents an idea as how to create a product with an interesting look without originating monotony. When considering buildings in a streetscape and city this is a must. (Fig. 16) This provides an interesting out look to the buildings and streetscape as well as cities. But excessively dominating elements used in streetscape will result in isolation of buildings, which weakens the street character. Proper use of contrast enhances the variety of and the character of the streetscape. Therefore proper understanding is necessary when using dominating elements, it should be accordant with proportions within a range in order to have a visual beauty and complete unity. Monotony of the product is diminished by contrast and supplies relief to the brain and senses.

According to Robertson "In first place we have a contrast of form and mass, such simple contrasts, for example as that of the sphere and the cube and contrast in bulk between figures of identical type. We then have contrast of line, line being considered either as the contour of objects as the silhouette of pattern or by extension as 'direction' such as verticality, horizontality and obliqueness". (Robertson 1955: 31)

Contrast can be applied to colours and also textures. This will help to avoid monotony in streetscapes and there by avoid pollution.

When considering the contrast in architectural elements it is necessary not only to consider the structural, practical and logical requirements but also to envisage forms from the purely the aesthetic point of view. Structural, logical and truthful expressions do not of course automatically endow a building with the attribute of beauty but merely satisfy a sense of fitness and invite emotions of a totally different kind from that produced by beauty of form. Correct uses of principle of contrast avoids monotony and originates a variety in architectural product. This is done by using colours, textures, ornamentation, vertical and horizontal elements.

Excessive use of contrast may result in complete separation and chaos in the built environment. Further the use of excessively dominating elements weakens the street pattern, composition and originate incompatible forms which is monotonous. Violation of principle of contrast weakens the character of the streetscape and city.

Therefore, proper understanding of the application of principle of unity, principle of proportions and principle of contrast always contribute in generating harmonising environment which consists of visual sensation, variety and identity. When these principles are fulfilled up to desired satisfaction, streetscape as well as the cities can be rich with aesthetic success. When these principles are ignored when designing it leads to pollute the visual environment.

1.4.2 Functional Principles

By using physical tangible concrete forms architecture conveys messages. These massages evoke feelings in beholders. It is necessary to have functional aspect to complete these messages.

Streetscapes consist of different characteristics. In a streetscape there are three components, which may help to retain its character. They are composition, texture and stance. (De Silva, 1993). Every linear streetscape consists of these components, which contributes to compose a streetscape. Pollution in the visual environment mainly is caused by the hampering of rhythm and order of the streetscape.

If the aspects like physical context, form of circulation and expression of function are satisfactorily completed it also helps to fulfil the rhythm and order of streetscape.

1.4.2.1 Streetscape in relation to its physical context.

When producing an architectural product it is necessary to consider the neighbouring tangible elements like buildings with streetscape, topography, natural elements, in order to create compatible built forms match with the context, which may not lead to pollution in the visual environment.

Pattern of a streetscape can be achieved by the rhythm. Rhythm consists of building line, skyline, height and breadth of the building.

Built Scale

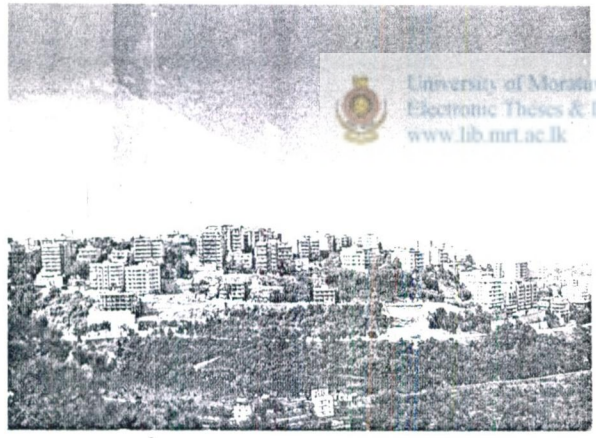
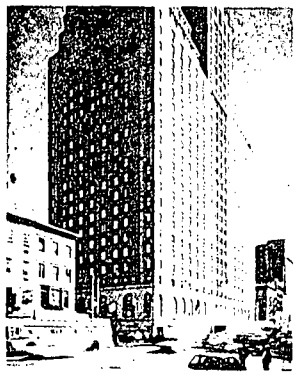


Fig. 17 Size and Height of the building determine Built Scale

This is determined by the size of the building height of the individual building and average height of the total buildings in a street. The human scale and the supper human scale are considered as the perception of build scale.

"Scale is not size, it is the inherent claim to size that the construction makes to the eye. A big building has a big scale, while a small building has a small scale. It is in the manipulation of the broader line that the designer's skill is called for". (Cullen 1985: 79) According to Robertson, "for by custom and by association certain standards of sizes for different types of elements become fixed and understood by the eye, and if we distort these standards we produce that discomfort which falsity of scale creates". (Robertson 1955: 96) (Fig. 17)



Incorrect use of human scale or super human scale in buildings provide false proportion to the architectural product. Therefore, this false proportion violates the streetscape or city form and originate pollution in the visual environment. (Fig. 18)

Fig. 18 Incorrect use of built scale violates the street rhythm

Skyline and Building line

An imaginary line formed by composing the series of individual buildings is defined as skyline. According to Workskett, skyline evokes a sense of place and provide an identifiable image which is more powerful than perhaps any other townscape elements.
(Worskett 1969: 192 - 194)

According to Wayne, "while the image of a city as seen silhouetted against the sky can symbolise the collective; and it may be indicative of social process and values; the skyline always has down to earth utilitarian value as well. It provides various kinds of information and in particular it provides information that aid in orientation. Skyline helps individuals to know where they are and how to get to where they want to go. Thus the 'land mark' meaning of the skyline. (Wayne, 1981 : 43) Basically remaining skyline of the streetscape governs the height of the street. Sometimes roof cornices help in maintaining the skyline.

More than any other element, skyline helps to provide identifiable image not only to evoke sense of place but also to maintain the continuity of the streetscape. These objects and their forms and scale may directly influence the skyline. Architectural style also has a contribution to create skyline.

The buildings, which are lower than general height of the rest of the building or buildings with set backs evolve in breaking the continuity of the skyline.

Fig. 19 Building line is important to maintain continuous facade

Building line is important to maintain a continuous facade. Setbacks and projections enhance the building line. Worskett states that the plan shape or building line is the basis of continuity of a group of buildings. The line of facades along a street or around a space will condition the way the individual buildings are seen and the relationship between one building and the next. (Worskett 1969: 120)

Firm and uniform building line determines the character of street with group of buildings. (Fig. 19)

Change of building line can either enhance the street character or pollute it. Projections of building line tend to give impression of importance. Likewise setbacks of building line create spaces for people to gather. Sensitive use of building line adds richness to the city and streetscape.

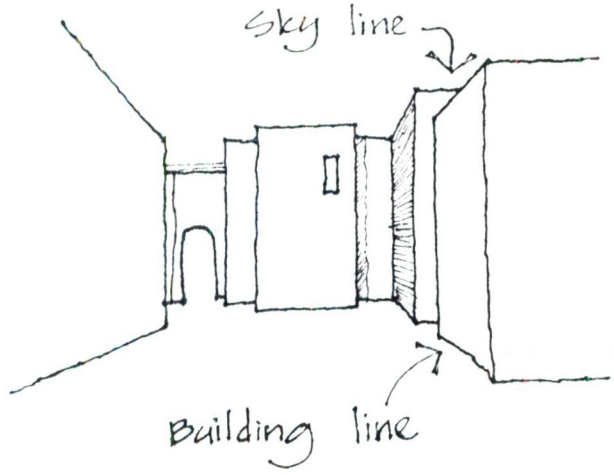


Fig. 20 Projections and setbacks break the continuity

If the height of the building used is disregarded, it will violate the sky line and break the continuity of the streetscape. Also considerable changes in height result in the isolation of the buildings. Projections and setbacks of the building line may break the continuation and regularity of the streetscape or city as a whole. And it may result in creating pollution in the visual sensation. The buildings, which are lower than the general height of rest of the building or buildings with set backs evolve in breaking the continuity of the skyline and building line. (Fig. 20)

Height and Breadth of a Building

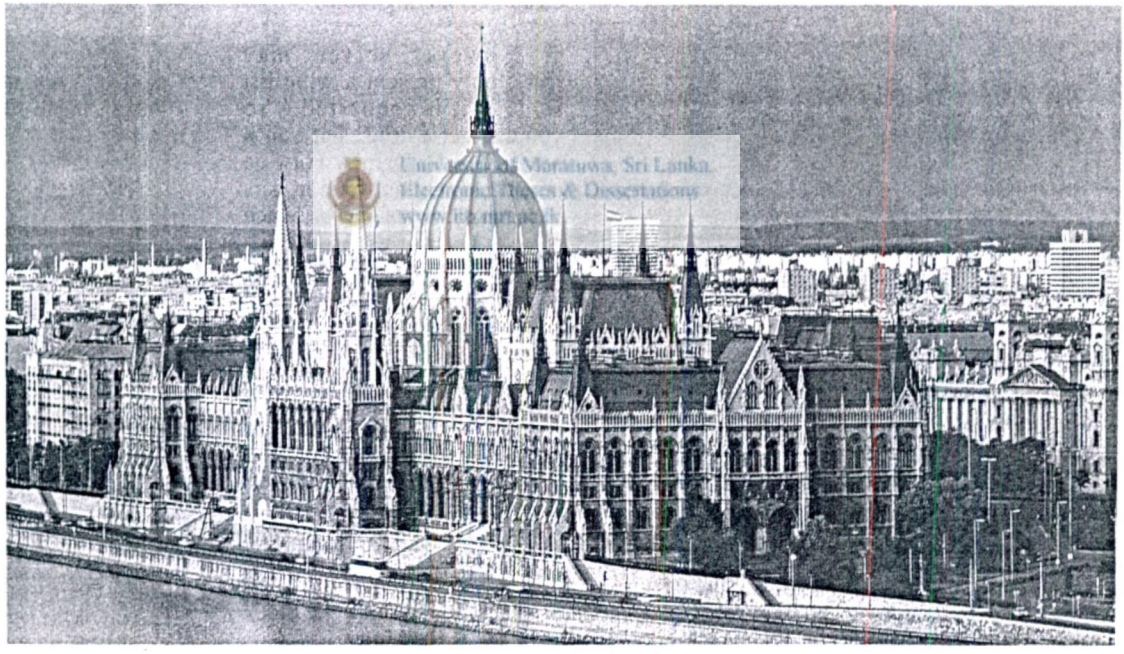
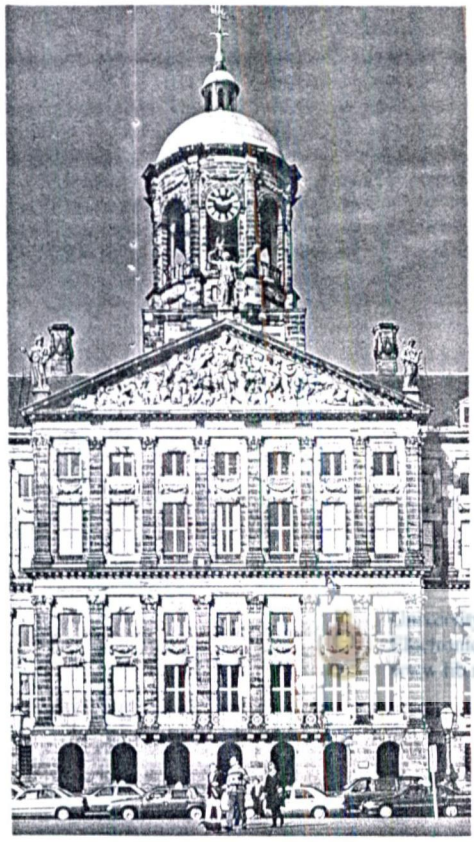


Fig. 20 Height and Breadth of a building maintain the Horizontal and Vertical rhythm

Height and breadth of a building are helpful in keeping the rhythm. Height and breadth may be helpful in creating variation and interest in streetscape. They also create horizontal and vertical rhythm. Long and short buildings will create horizontal rhythm and short and tall buildings create vertical rhythm in a streetscape. (Fig. 21.)

Thus incorrect use of height and breadth in architectural product violates the rhythm and continuity on the streetscape.

Floor to floor height and ground floor details



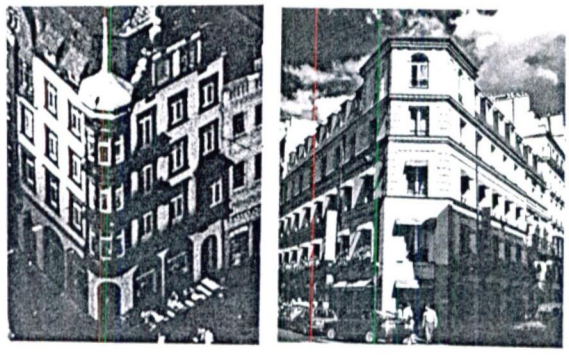
Horizontal rhythm is maintained by the floor-to-floor height. When considering floor-to-floor height, ground floor has a vital role to play in maintaining the harmony with the neighbouring buildings. Proper detailing of ground floor enhances the continuity and directional quality of a building.

People mostly observe the ground level part of a building. Therefore its scale should be similar to human scale. Entrances which are rich with details and porches which are jutting out from the building line enhance the visual interest. (Fig. 22)

Fig. 22 Proper detailing of ground floor enhance the continuity

Fig. 23 Incorrect separation of floor to floor height violates the streetscape

Corner Treatment



Violation of Corner Treatment

Corner Treatment

Buildings located in a corner of a block should respond to that area of the junction. Buildings located in a corner plot should respond to the junction because the building in a corner pot can be seen from different angles and also can act as a landmark. Buildings on corner blocks should be designed in a specific way in order to enhance the importance of such unique location. (Fig. 24)

Fig. 24 Principle of Corner Treatment

Tugnett states, "In architectural terms they have a dual frontage; can be seen in three dimension; and can be viewed from three or four directions. In townscape terms they may relate to five neighbouring buildings; have a more prominent sky line; and can terminate the street and the view as well". (Tugnett A, and Robertson M., 1987: 67)

Building components

Components used in a building should be compatible with neighbouring buildings. These will enhance the unity and continuity of the context. Brent states ornament of a building play a more vital role than any other element in harmonising building group. He states, "Ornament and the visual texture and associations it creates, often seems to be a sure way to build sympathetic visual relationship between buildings. This is true regardless of the style of the buildings. (Brent, 1980: 37)

Doors, windows and columns

Miss match of building components violate the continuity

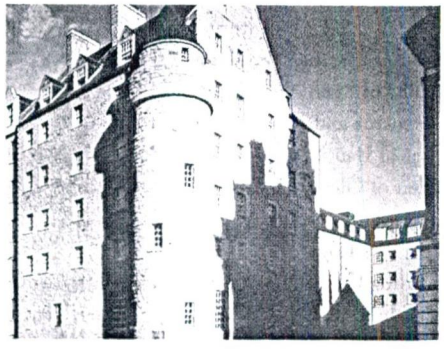


Fig. 25 harmonised doors and windows

Doors windows and columns should be harmonised and compatible with those surrounding buildings. Proper orchestration of doors, windows and columns balance the verticality and horizontality as well as the rhythm. Doors or entrances need spatial emphasis in the façade detailing because they introduce visual interest to its ambient. (Fig. 25)

Scale and proportions of doors must be compatible with human scale to avoid undesirable timid effect of the building. If the shape, size and the detailing of the windows do not respond to each other it breaks the rhythm of the streetscape.

Balconies and other Projections

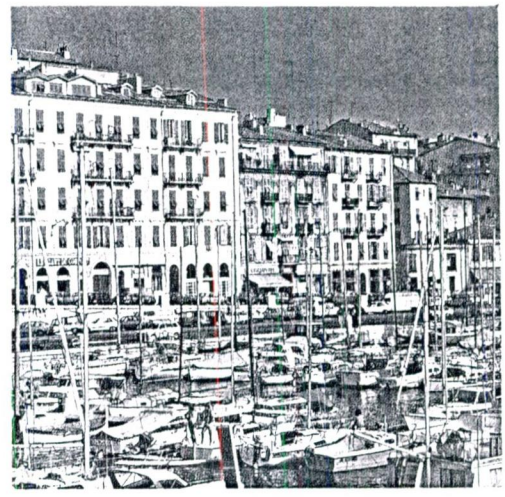


Fig. 26 Balconies and other Projections break Monotony

Balconies and other projections may break the monotony of streetscape. Not only that it weaken the rapport with the street below but also enhance the continuity. (Fig. 26)

If the balconies and other projection do not respond to each other it breaks the rhythm of the street.

Roof

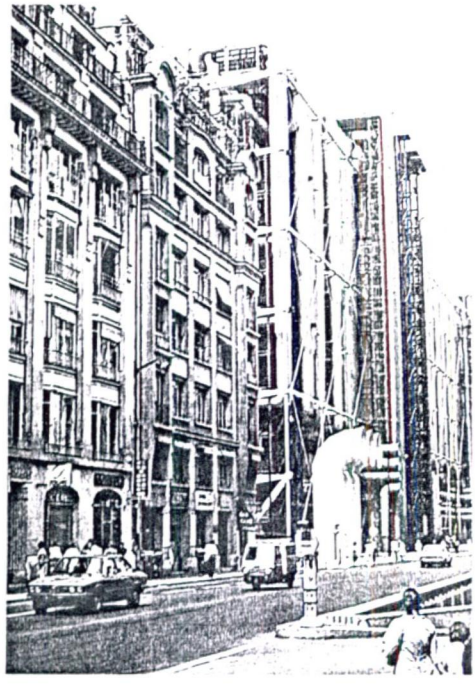


Fig. 27 Mismatch of building components

The roof acts as an expressive quality of a building. This maintains the rhythm and skyline of streetscape. Scale of the roof form is also important. This is determined by considering the roofscape of that particular area. A Roof plays an important role in harmonizing a building within a context. Generally the roof type should tally with the roofs in the neighbouring buildings. But the buildings can have different roof forms due to their speciality and location. In historical townscapes architecturally rich roofscapes have been destroyed due to the introduction of flat roofs with mechanical plants above. (Fig. 27)

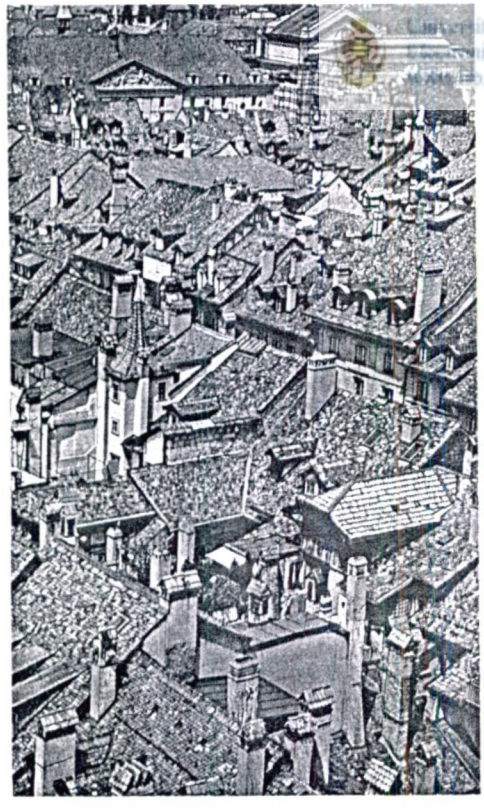


Fig. 28 Misuse of roofscape violates the continuity

Roofs should be used in a sensible manner. Roofs Play and important role in harmonising with the context. If roofs are not used according to the context it will contribute to violate the continuity and the contextual impression of that particular city. (Fig. 28)

Surface articulation

This will enhance the visual and functional aspect of a building. Proper use of detailing, cornices ornamentation colour and material express it's function.

According to Ching "perception of planes, shapes, size, scale , proportions and visual weight are affected by its surface properties as well as its visual context". (Ching 1979 : 102)

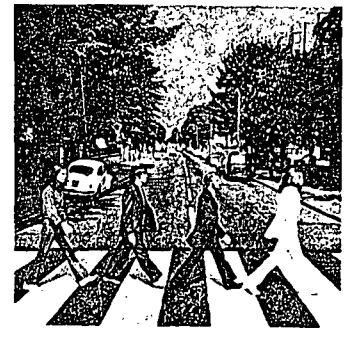
The texture of a plane's surface together with its colour, will affects its visual weight, scale and light - reflective qualities.

Excessive and unwanted use of colour, detailing and materials isolate a building form the neighbouring buildings and it stands in an alien manner polluting the visual environment. (Fig. 27)

Enclosure

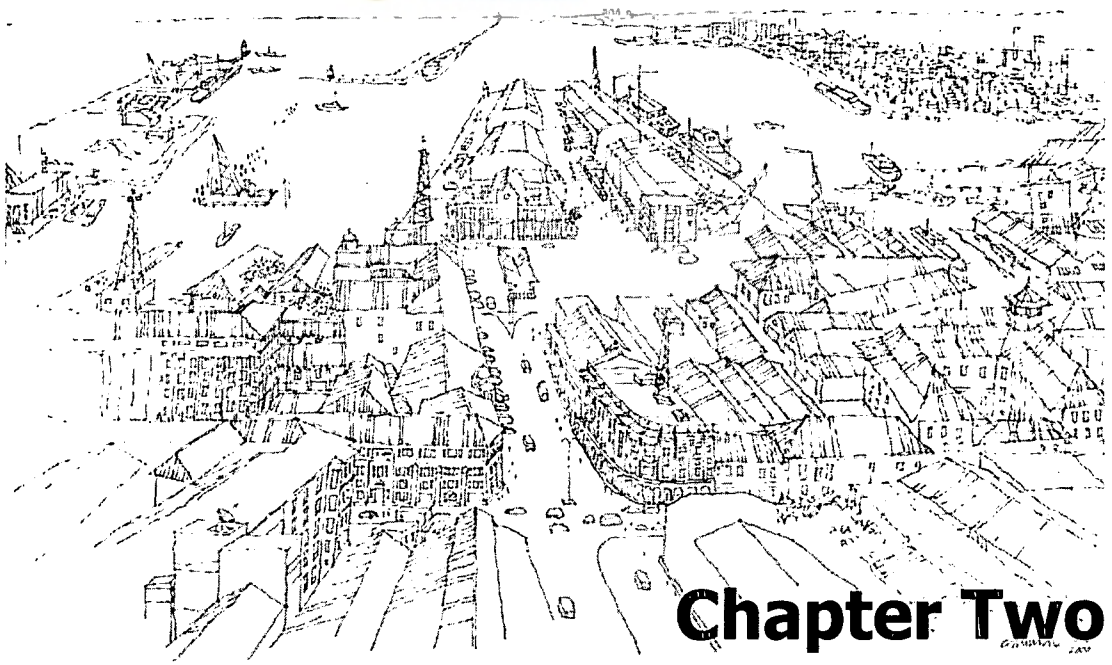
Enclosure is determined by the scale of buildings along side a road and width of that road. Sensitive use of landscape, solids and voids enhance the continuity of the particular street. (Fig. 29)

Fig. 29 Landscape solids and voids enhance the enclosure



Landscape, solids and voids in a city should have to be used in a sensible way. In sensitive use of landscape , solids and voids break the enclosure of a street or a city and also the continuity and the rhythm. Fig. 30

Fig. 30 Insensitive use of Landscape, Solids and Voids.



Chapter Two

Historic Urban Context

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Historic Urban Context

2.1 Historic Urban Context: An Introduction

Principle of composition, which described in the first chapter, directed the study through aesthetics to clarify the means of composing elements, forms and spaces to avoid spatial and visual inappropriateness in the built environment and through this chapter it leads towards the historic urban context, its essential characteristics and its quantitative attributes to tie up with the principle of composition for the creation of frame work of designing infillings for a historic urban context with harmony.

Jacob Burckhardt states, in his book "Force and Freedom": Reflections on History (New York: Pantheon 1943).

"..... the question arises: in what way does history speak through art ? It does so primarily through architectural monuments, which are the willed expression of power, whether in the name of the state or of religion. A peoples can be satisfied with a stone henge only until they feel the need to express themselves in form. ....Thus the character of whole nations, cultures and epochs speaks through the totality of architecture which is the outward shell of their being"

Historic context in general is a place where historic features have survived in sufficient quality or numbers of predominate. These features are usually but now always buildings. Thus it is important to draw some form of perspective on historical urban context. Why do we value a historical context: It is self evident that they are old, but what is it about being old that gives them value? Their primary importance is as a document of history, a source of information a record, a primary source for research, evidence which can be experienced by each generation: they act as the 'what, why and how' of our predecessors. (Fig. 31)

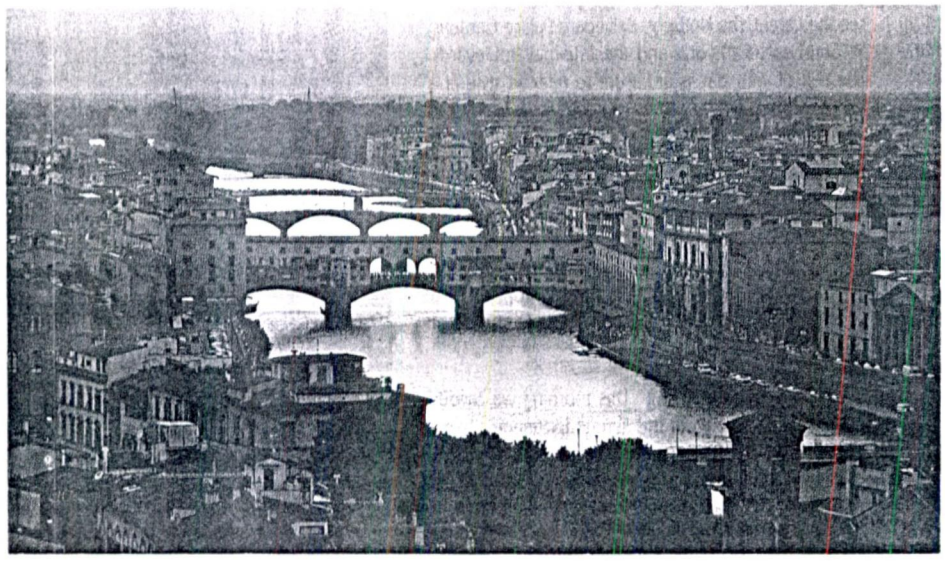


Fig. 31 Historic urban Context

In a historic urban context, certain original values and functions remain, others are totally altered; about some stylistic aspects of the form are certain, others are less obvious. It is important to contemplate the values that remain not only physical aspect but spiritual values, cultural values, activity patterns and try to ascertain whether they have some connection to the present state of the city or to the future and whether they constitute the empirical facts that pertains to the problem.

James Strike quotes David Lowenthal, in his book Architecture in Conservation (1993) on the historical context under the following headings; familiarity, we can perceive only what we are accustomed to, objects that lack any familiar elements or configurations remain incomprehensible; validation, historical precedent legitimates what exist today: identity, the sureness of "I was" is a necessary component of the sureness of "I am", guidance; study of the past might enable men to foretell the future; enrichment, and escape. He also identifies the "valued attributes" of history, including; precedence, remoteness, primordial and continuity. .

The study of historic urban context seems to offer the best verification of certain hypotheses about the city, for the city is in itself a repository of history (Fig. 32)

Aldo Rossi in the book " the architecture of the City" has pointed out that history of the city in, two perspective views. In the first the city was seen as material artefact, a man made object built over time and retaining the traces of time even if in a discontinuous way.

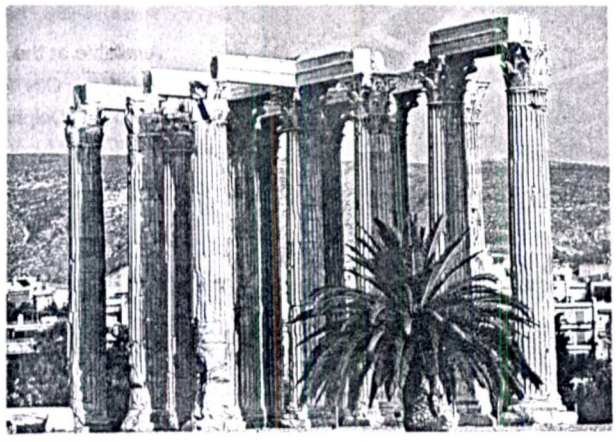


Fig. 32 City and its history

The second point of view sees history as the study of the actual formation and structure of urban artefacts. It concerns not only the real structure of the city but also the idea that city is a synthesis of a series of values. Thus it concerns the collective imagination or the total context and the first and second approaches are intimately linked, so much so that the facts they uncover may at times by confounded with each other. The idea of history as the structure of urban artefacts is affirmed by the continuities that exist in the deepest layers of the urban structure, where certain fundamental characteristics that are common to the entire urban dynamic be seen. Therefore, it is significant that historic urban context became historical text, in fact, to study urban phenomena without the use of history is unimaginable, and perhaps this is the only practical method available for understanding specific urban characteristics whose historical aspect is predominant.

2.2 Historic Urban Context: Essential Characteristics

Fundamental physical characteristics are common to all urban context of world loved cities; Rome, Florence, Bath, Amsterdam, Siena, Isfahan, Peiking and so on. Much cities, whatever their growth has been planned or developed organically, exhibits an order for the whole; blocks and streets, spaces and forms, combined to form a dense and interrelated pattern of buildings and circulation route, thus contribute to the overall quality and character of a town. Together these spaces form a larger whole in variety of different ways, but which have certain self-sufficiency in themselves.

To resolve the complexities of historical urban context, has been summarized in to certain disciplines, which are the inherent qualities to a town's identity, personality and the particular manner of the city. These characteristics were discussed under the qualities of mannerism in which it is perceived, identified as a rich and much admired urban context.

2.2.1 Attributes of Historic Urban Context

Physical attributes

In any space there are some fundamental attributes associated with it. These attributes are the principles of the inherent spatial meaning and together they form the very existence of that particular space. Hence, in this section it discusses how these aspects are appeared in a historical urban context and how they were manifested to give the historic quality to the context.

2.2.1.1 Objects and Fabric

Von Meiss (1991) describes objects and fabric by analysing historical centres as a concentrated visual entity, stands out against a background. In principle, objects are reserved for monuments or public landmarks; the Temple, Castle, Market the Cathedral, Town Hall, Town Gates and the fountains. (Fig. 33)

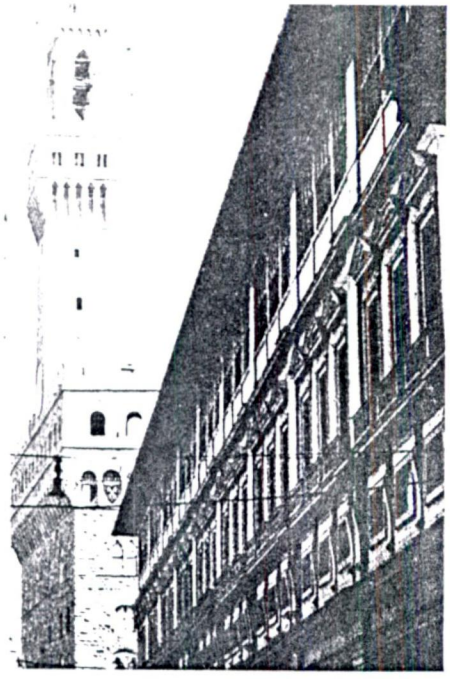


Fig. 33 Object as a Landmark

The other buildings join together to form fabric, giving new units identifiable and establishing hierarchy. (Fig. 34)

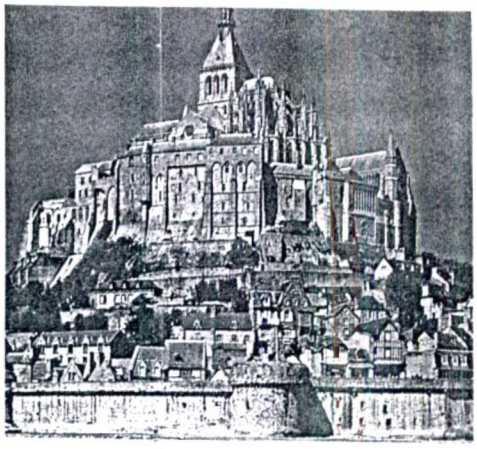
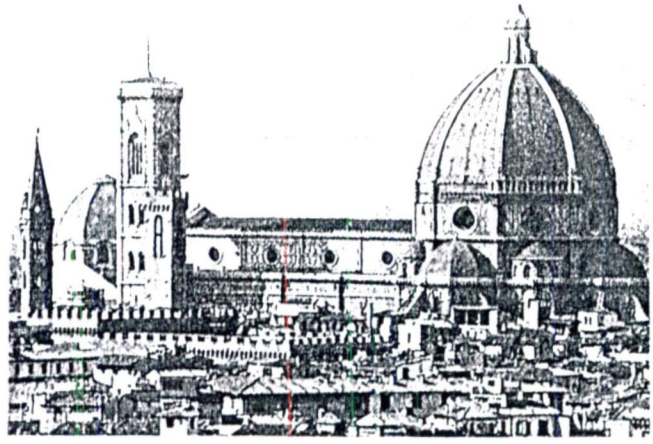


Fig. 34 Mont St. Michel's, France



Florence

(i) Characteristics of an Object

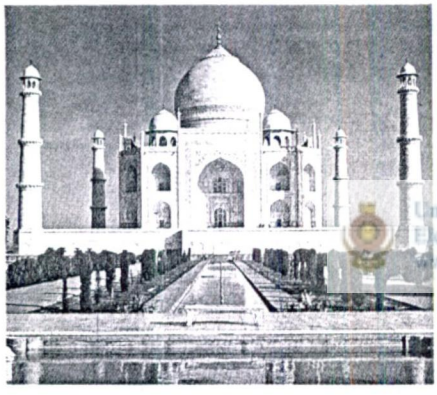


Fig. 35 Symmetricity of an object

Alberti says according to the functions of the building, to that particular Building to become an object a certain spatial characteristics were needed. For example, he considers, the object for a place of worship and specifies that in front of its facade a spacious and dignified square should be laid out (Fig. 35)

Fig. 36 Use of stairs

Objects are monuments; hence they possess a sense of permanence. They live in peoples minds, while forming a link between past and the future.

Another characteristic is the formal creation and manipulation of heights, in order to locate object buildings above the setting and to produce a sense of arrival, of dignified approach, is central to the urban experience of historic context. This is achieved in number of ways; use of plat form or podium, use of stairs and by the use of ramps. (Fig. 36)

In historic urban context the object building is emphasized through its skyline. The height, the general shape of the mass and the approach path gave prominence to the object building.

Further the composition of object is obtained by the use of monolithic form which gave it's general shape, by the use of axis it obtain a symmetrically, proper articulation between elements gave it a unique appearance, hierarchy implies a dominance of an object and the dominant binder acts as a device which brings about a regularity and an order by it's continuous presence thus creating a unified whole. (Fig. 37, 38)

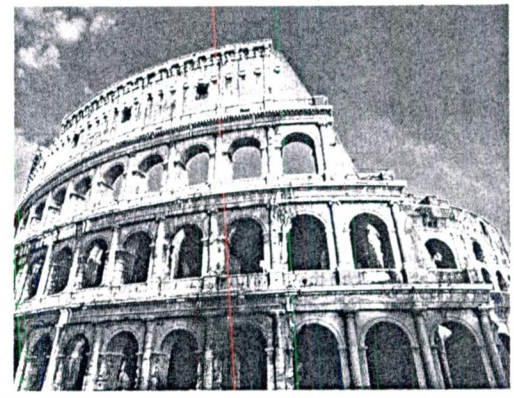


Fig. 37 Monolithic Shapes of objects

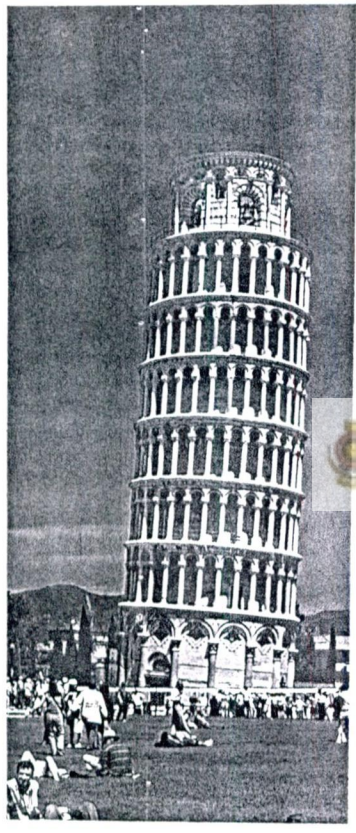
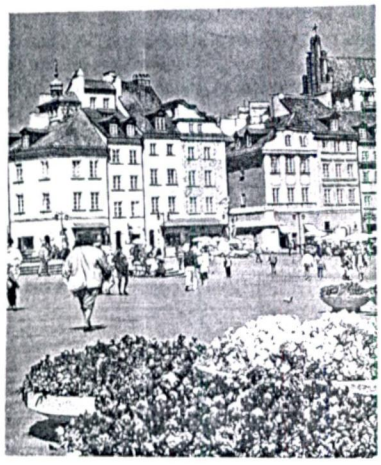


Fig. 38 unique appearance of objects

(ii) Characteristics of Fabric

Building in facades, giving continuity to cityscape are primary factors to the historic urban context. Fabric buildings combine to form a visual whole. It will therefore include all these buildings which are seen together and which interacts visually to create a single image or scene. This will obviously include a single row of buildings on one side of the street or on either sides and it might also include on the sides of a square. Combinations of buildings



create an overall visual completeness, which acts as a cohesive discipline. Building line, skyline, storey height, element composition and materials are primary important in this connection. Hence, fabric in a historical urban context create a harmonious environment. (Fig. 39)

Fig. 39 Harmonious Environment

2.2.1.2 Space

Cities were build space. Therefore the art of city design had been chiefly concerned with the formation and equipment of space. Hence, the earth is not a dead flat featureless plane. The buildings and other objects are placed in the topography, which modifies their forms and is itself modified by them. (Fig. 40)

Fig. 40 Special Continuity

Historical cities establish a satisfactory relationship between the natural forms of the land and the geometric forms of the buildings placed on them. This relationship tends to harmonize the geometric with the natural forms by bringing them into sympathy with each other or dramatise them by bringing into conflict. (Fig. 34)

What ever the topographical features may be and whether on public or private land, urban spaces form an important component of the urban fabric. Their functions vary from the main public square expressive of civic dignity and status, to the humblest quiet corner. Between these two extremes, spaces may be for relaxation congregating public meetings, shopping, markets for residential areas and spaces around which entertainment buildings like theatres, cinemas and office buildings are grouped.

The manner in which these spaces are arranged can clarify their relative importance and functional or symbolic role in the urban context. They can be summarized as squares, paths and districts. Each of these urban spaces is based on their formal characteristics, spatial relationship and contextual responses.

(i) The Square and City Centre

Fig. 41 Buildings enclose the (Nuclear) Square

One of the most important elements of a historic urban context is the square. There are two main methods of categorizing squares; it is by function and by form. (Fig. 41)

Activity in a square is important for its vitality and therefore, also for its visual attraction. Their functions vary from the main public square expressive of civic dignity and status, to the humblest quiet corner. Between these two extremes, squares may be for relaxation, congregating, public meeting, shopping, markets, and cultural activities and for residential areas. (Fig. 42)

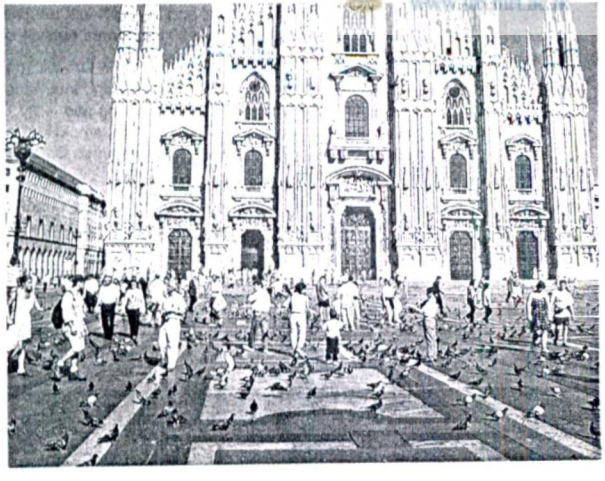
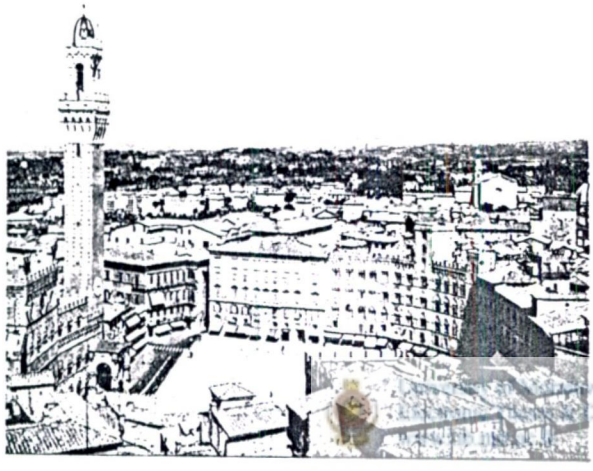


Fig. 42 Activities – Raise Vitality of the Square

The form of the square is mainly determined by the degree of enclosure of the space and the proportionately difference between the height of the buildings and the floor space. Paul Zucker distinguishes five archetypal forms that squares may take. "The closed square where is spaces is self contained, the dominated square where the space is directed towards the main buildings, the nuclear square where space is formed around a centre, groped squares

where spatial units are combined to form larger compositions and the amorphous square where space is unlimited." (Moughtin, Cliff 1992) (Fig. 41, 43)

Other important qualities of squares include the nature of the enclosing buildings, roof line , the height of the enclosing buildings in relations to the size of the space, the degree of their three dimensional modelling, the presence or absence of a unifying architectural theme , the approaching path to the square visual queues, focal points , floor scope, furniture , planting and the overall shape of the space itself, assist to reinforce the impressions of the square and their variation will produce diverse results. (Fig. 43)



The public square is probably the centre of the city. It is the chief method by which a town or city developed, decorated and given distinction from ancient times. It is the natural setting for the most important civic and religious buildings, a place for business, entertainment, centre for cultural activities above all else, a place where people meet and socialise. This integration of various activities makes the centre the heart of the city structure.

Fig. 43 Buildings determine the overall shape of the (Dominated) square

The square being a distinctive spatial entity in the city structure helps to build the meaningful images, which will give a comprehensive idea about the city.

(ii) Path

Streets, Walkways, transit lines, canals, railroads are a typology of paths. Paths are the predominant city element. In urban context paths act as a medium for directional quality and separation from one segment to the other. Paths give a pattern to a city. Adjectives like planned city - unplanned city, organic city, irregular and geometrical, radial city, gridiron city

Fig. 44 Entrance path to the city square

are derived mostly form the method or according to the paths have been organised within the city and knitting the other elements to a coherent whole.

In medieval cities the streets often followed the contours of the ground on which the town was built or the curvature of the river which enveloped it. The town derived its visual character from the natural feature, which gave rise to hill, river bend, and bridge, cross roads. But planned towns are regular in layout. (Fig. 44, 45)

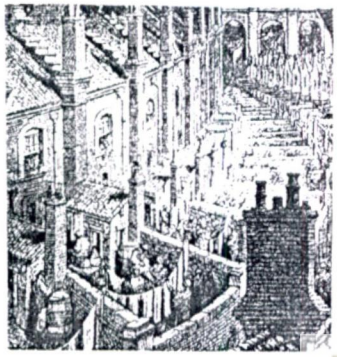


Fig. 45 An Enclosed path – Medieval town

In classical city, the axial path predominantly contributed to the ground image of the city. Characteristic spatial qualities were able to strengthen the image of particular path. In the minds of observers the perception of the path can be enhanced by the activities along the street. The identity of the path is determined by the special façade characteristics. He facades give the street a 3D image. The degree of enclosure of the path is determined by its facades. Width or narrowness give spatial hierarchy to the street pattern.

Fig. 46 Functions along the routes

Local trade, regional politics, power struggles and religion cause the movement of people, wagons traders, and even armies across the city. Path valley slopes and river crossings link up into routes and roads. The path becomes known as part of the matrix of routes across the area. Fortification, buildings for trade, resting houses, and places of worship are constructed along these routes. It is these places that we now see as historic sites and historic city as a whole.

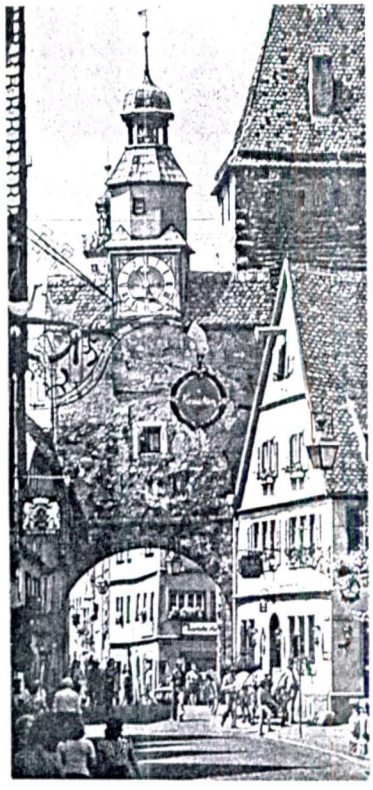


Fig. 47 Sense of enclosure gives character to the path

Many of historic cities hold a specific relationship with this matrix of tracks, paths and roads. People who now come to these historic cities probably use perhaps unwittingly, part of this system of ancient routes. (Fig. 46)

Lines of defence stand across routes, at right angles to them; gatehouses and city gates straddle across the routes. And lookout towers and artillery positions command high ground located to overlook the route. (Fig. 47)

Proximity to special features of the city could also endow a path with increased importance. In this case, path would be acting secondarily as an edge. Visual exposure of the path itself or the visual exposure from the path of other parts of the city are other qualities that gives importance to single paths.

Characteristics giving continuity to a path are the other physical elements, nodes, edges, landmarks the planting, visual queues and activities. Names in themselves played a role thus giving a pleasant feeling of relationship gained simply from standing on a street, which by name continues to the heart of the city. (Fig. 48)

A path also can be gained a strong identity through its activity pattern, its functional role and through cultural meaning. Hence, paths with clear and well known and origin and destinations have strong identities helped to tie the city together, and gave the observer a sense of his bearings whenever he crossed them. (Fig. 49, 50, 51)

Fig. 48 Different activities give different character to the path

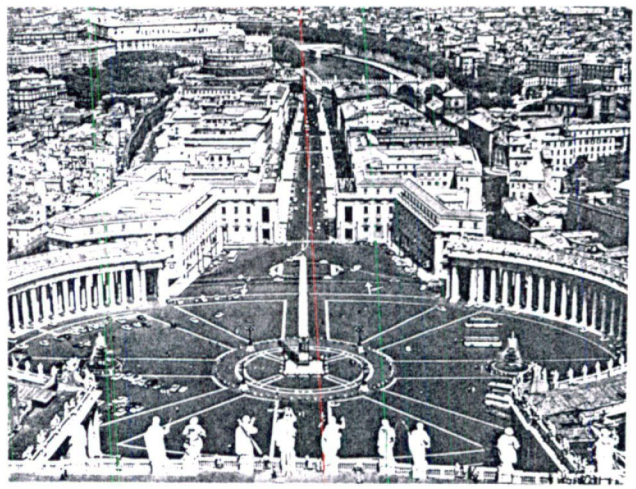


Fig. 49 Axial Arrangement

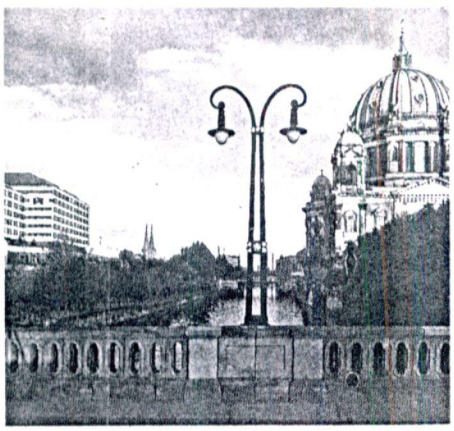


Fig. 50 Bridge links two entities

Fig 51. Change of levels create sense of "here and there"

(iii) Districts

Paths, nodes, edges and landmarks contribute the skeleton of the urban image, which is fleshed out with areas of less strongly differentiated urban fabric. The distinction between skeleton and flesh comes over strongly in Historical Cities. The flesh itself is organised into districts: medium to large sections of the city, recognizable as having some particular identifying character. The organised and well-composed city structure can be achieved by the application of the district get more cohesive and meaningful pattern.

Texture, space, form, detail symbols, building type use, activity, inhabitants, degree of maintenance, topography contribute to the physical characteristic of the district as well ad give meaning and a common theme to the district (Fig. 52)

Fig. 52 Housing district

In Historic City context, homogeneous of facade, material, modelling, ornament, colour, intimate scale, steep narrow streets, skyline, and fenestration were all basic clues in identifying the district.

The market area, the residential district and the religious centre were the thematically vivid districts in historic urban areas. In most cities the market areas and the religious centres were located at the central space of the city or in high-elevated lands. Public squares, market areas, various landmarks, well-defined edges and the configuration of paths gave these districts an internal as well as an external public image. Hence, a strong core, surrounded by a thematic gradient, which gradually dwindles way or a strong node, may create a broader homogeneous district.

2.2.1.3 Movement

The cities seen and experienced as the observer moves about either on foot or by some other means of transport. The quality of the observer experience depends on the speed, which he or she moves. The faster he or she travels the less details is perceived. (Fig. 54)

Since we move in time through a sequence of spaces, we experience a space in relation to where we're been and where we anticipate going". (Ching F.D.K. 1977: 24). Hence the movement path can be conceived as the perceptual thread that linked the spaces of context together. In medieval towns where narrow lanes open out into a town square and where one space leads to another creating a contrast effect of spaces, delights the observer. The scenery in the town is presented to the observer not as a constant evolving motion picture, but more like a series of clips or snap shots of memorable events on the root.

Gorden Cullen terms this feature of perception as 'serial vision", the scenery of town are often revealed as series of jerks or revelations. (1971: 9) Thus if one can establish track through space, which becomes the actual path of movement, of large number of people, can design the area, adjacent to it to produce a continuous flow of harmonic experience. (Fig. 53, 55)

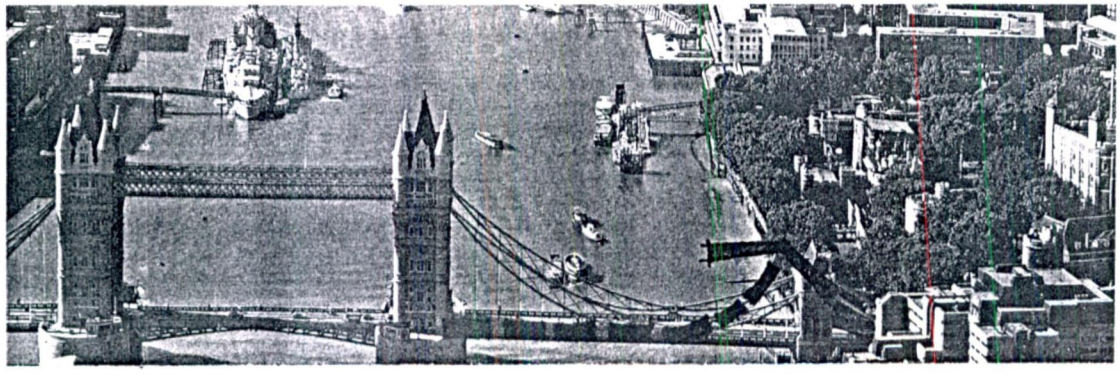


Fig. 53 Contrast of spaces

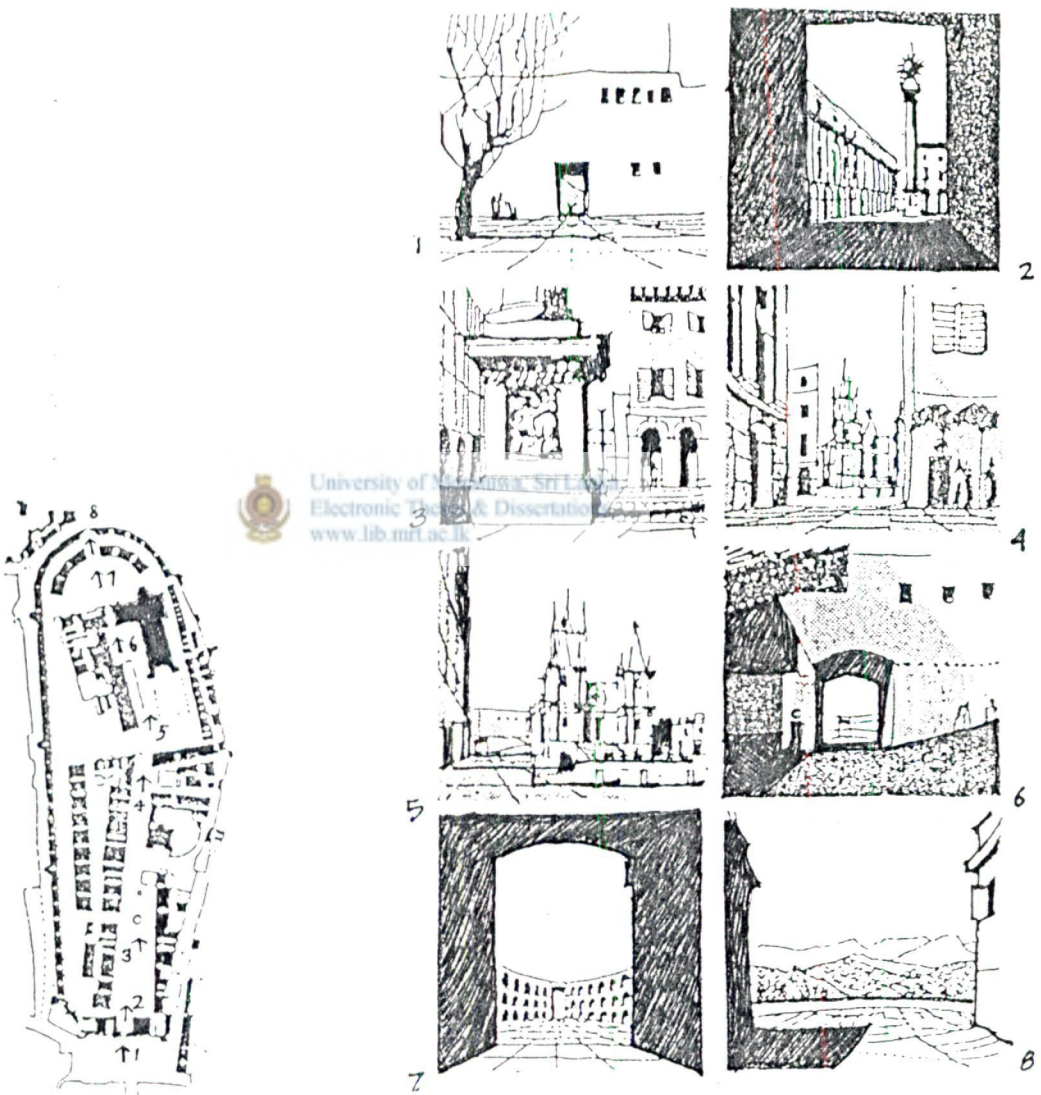


Fig. 54 Serial Vision

Fig. 55 Visual Sequence

(i) Sequence of Space

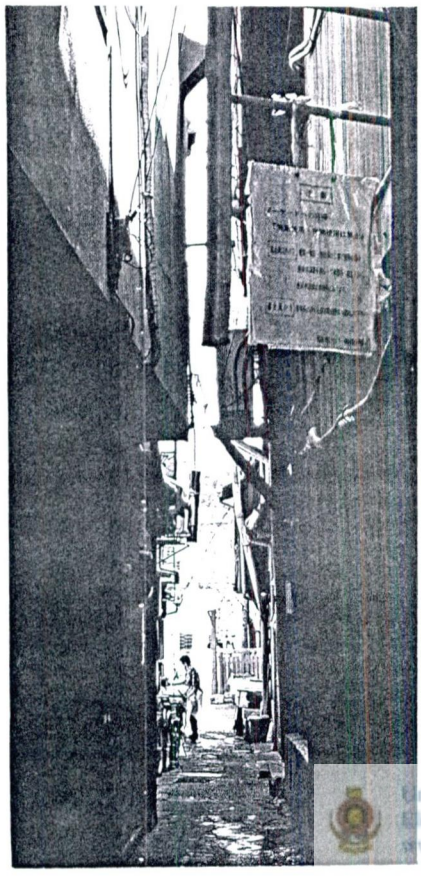


Fig. 56 Informal Glimpses

Zucker compares the sequence of space to the relationship of successive rooms in a Baroque Palace. "The first room preparing for the second and the second for the third etc. Each room meaningful as link in a chain, beyond its own architectural significance. (1959: 165)

The changing composition of spaces creates contrast and surprise and maintaining the overall continuity and coherence.

In most of historical urban context, the layout of the spaces, in which the public moves, is not a pattern of streets but a sequence of spaces created by buildings. Therefore these spaces take different shapes such as narrow, wide, enclosed and so on. When the sequence is changed from the wide to the narrow and out again into some fresh space, it creates a fluctuations or a pause at the pedestrian. This change is acknowledged by some physical signal, thus interrupts the alignment of the street and so closes one phrase and conceives the next, so that a pause is created. Spatial sequence is further enhanced by he continuity of the building line, skyline, and repetitive elements, surface texture of the facades, and by change of levels. (Fig. 56,57)

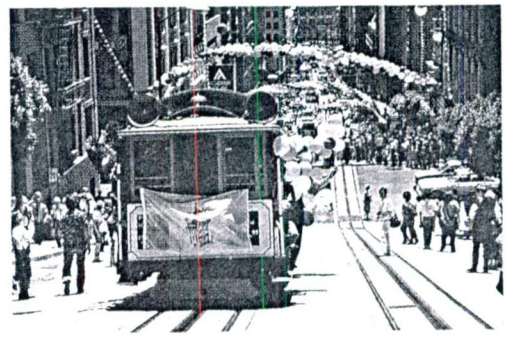
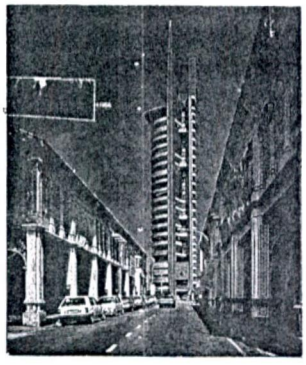


Fig. 57 Grand Vista

(ii)Views



The movement within a space is strengthened by providing different viewpoints as the viewer moves in space. The total experience the viewer get is a summation of the consecutively experienced view pints, grand vistas, long distances, and broad panoramas, complimented by smaller framed views and informal glimpses, give richness to the context. The combination of different types of views and the discipline of their arrangement create strong character in historical context.

Fig. 58 Buildings create a frame vied

The common method of relating buildings in the manner through axial vistas. In this system, the buildings are designed as symmetrical composition about a principle line and they are then ranged to face each other in such a way that there centre lines coincide to form an axis.

Fig. 59 Focal points

The radial focal point system in early cities combined together to crate a rhythm along the path. These focal points act as intermediate goals giving the sensation of the journey is completed. Hence focal point is a terminating element, which helps in the movement of space. Series of such focal pints and views crate a sense of 'tins ' and 'that' and 'herd ' and 'there', which tends to move from one position to another, or to move from one space to another. (Fig. 58, 59)

2.2.1.4 Dimension of Time

(i) The memory of the city

History exists so long as an object is in use; that is, as long as a form relates to its original function. However, when form and function are severed and form remains vital, history shifts into the realm of memory. When history ends memory begins. History comes to be know through the relationship between a collective memory of events, the singularity of place and the sign of the place as expressed in form.

Urban landscapes are store houses for social memories, because natural features such as hills or harbours as well as street buildings and patterns of settlements, frame the lives of many people and often outlast many lifetimes.

Thus it can be said that the process of which the city is imprinted with form is urban history but the succession of events constitutes its memory. The 'soul of the city' - an idea derived by Aldo Rossi, resides in its history, once this soul is given form, it becomes the sign of a place memory becomes the guide to its structure.

"The value of history seen as collective memory, as the relationship of the collective to its place. It also helps us to grasp the significance of the urban structure and its architecture which is the form of the individuality" (Rossi. Aldo. 1982)

Thus the union between the past and the future exists in the very idea of the city and it flows through the same way that memory flows through the life of a person. The accurate perception of what the city is about, what it feels like, its culture and its characteristics trigger out memory. In order to be realised, these ideas must not only shape but be shaped by reality. This shaping is a permanent aspect of a city's unique artefacts, monuments and the idea people have of it, these are the references that form their associations.

(ii) Layers of History

Over the years the use of a building may change the architecture style may become unfashionable, living patterns changes, cultures change. What is perceived today is a 'palimpsest' of history, signs of previous change, evidence of previous defensive ditches, clues of carded walls, remnant of abandoned out buildings. The layers of history are visible for those who look. The evidence can also be traced and established through historical research.

'Palimpsest' is a useful world 'a parchment' on which two or more texts have been written, each text effaced to make room for the next. Many historic cities have this same characteristic the most existing buildings stand on the ground of previous buildings, which have been removed.

These layering leaves the remains of historical fragments which appear tantalising unresolved, built around and absorbed into more recent history. The layering is not always immediately visible. The layers of history physically manifested as architectural styles, regional tradition, interiors, and as group value.

a. Architectural Style

Architecture in different periods and geographical locations tend to vary in style reflecting the different social, economic and cultural contexts. Styles take their name from the physical or visual features of building (Classical, art nouveau), from historical periods or from a geographical area (Indian, Chinese.)

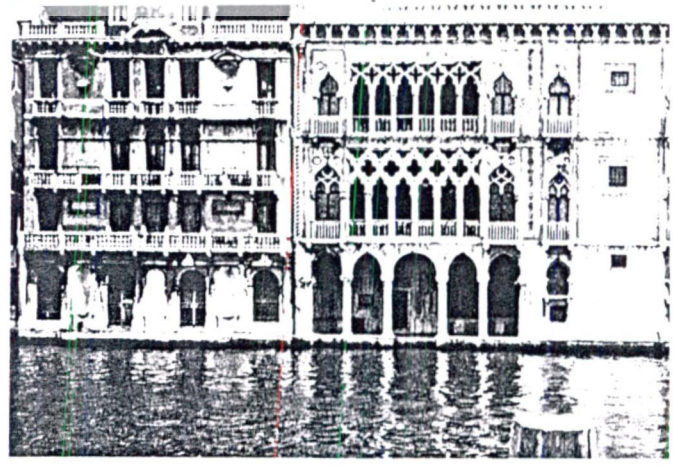


Fig. 60 Buildings of different periods

The concept of style is used in all the visual arts such as architecture, art and design, not only by historians, but also by archaeologists, anthropologists, sociologists and philosophers.

Further more, since style relates society in a particular place and at a particular time, it could also be used as a tool for dating. (Fig. 60)

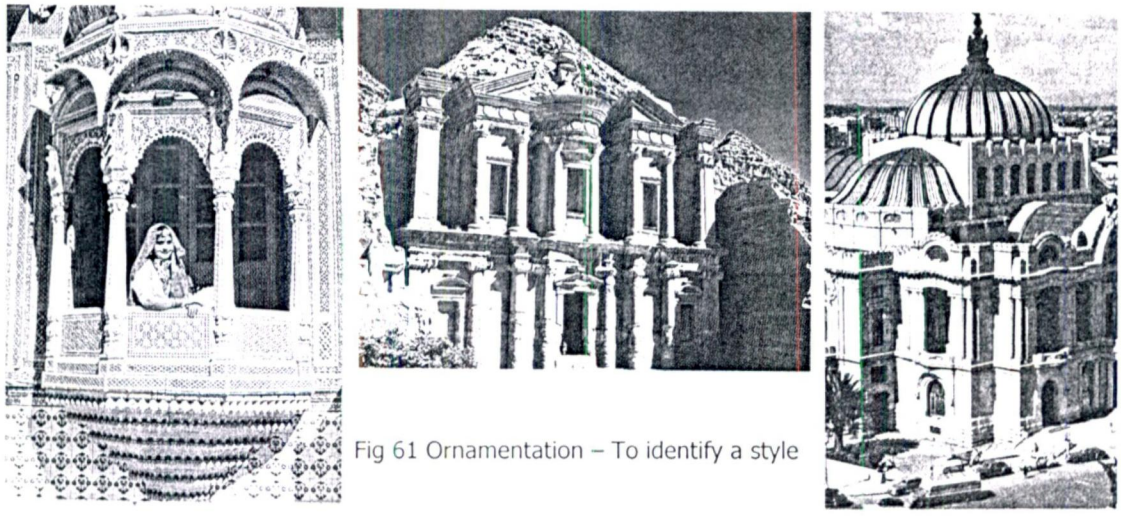
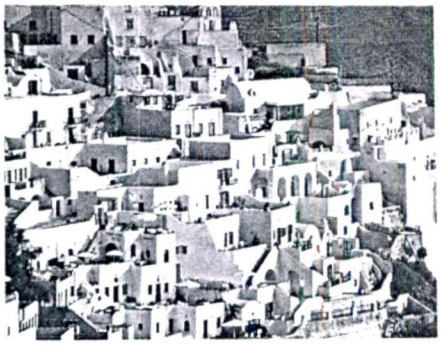


Fig 61 Ornamentation – To identify a style

Style is defined through the physical or visual characteristics of buildings. Structural elements such as columns, protective elements, facade treatment, ornamentation, materials, quality of detailing used to identify a style (Fig. 61)

The novelty and familiarity of architectural style exemplified by Roy Worskett (1969; 172) says, "... the overall architectural character of street has in nearly every case come about simply because architects and builders in the past have not copied previous style but built according to the ideas of their own age. Looking at any street in a town which has grown slowly over the centuries, one is immediately impressed by the way in which styles of architecture have changed and developed and materials have been used in different ways."

In each country the style was modified by local stylistic idioms. In certain instances some ornamentation were repeated in almost every street but, were of course executed by different craftsmanship, resulting on high degree of individual interpretations within the limits of the system. Sometimes several styles may coexist at the same time and in the same pale, each evolving and developing at it's pace, or even borrowing elements from one another. The style is also associated with order, symmetry, proportion and harmony to give an overall cohesive appearance of all buildings in the style of group entity (Fig. 62)



Greek

French

Fig. 62 Regional Traditions

b. Regional tradition

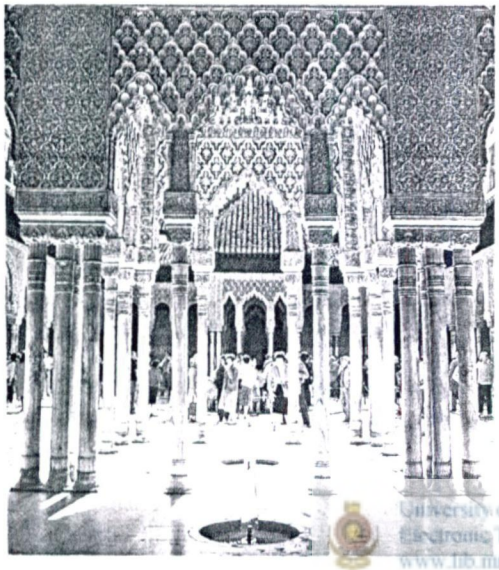
Prior to the industrial revolution, each region has its own methods of buildings of buildings, based on local materials and local methods of construction. These local traditions gave the city a regional identity.

Kurt Rowland in. "The shape of Towns describe the regional traditions of the medieval towns; the building materials were those normally found on the spot or near by. The early town developed a harmonious relationship with its surrounding not only through its overall shape and the layout of its streets but also because the street and the houses which lined them depended on the natural resources of the region. As only materials found in immediate neighbourhood on the town could be used, such a town had a harmonious, unified appearance, for all the houses had similar structure, colours and textures.

Mostly the use of regional traditional materials and techniques are influenced by the climatic and the geology of the region. It is interesting to observe that the increase need for human comfort within buildings has moved architecture to respond to this regional; variations of climate and terrain; roof sweep against the prevailing wind, window size and position reflect site conditions and alignment.

Although regionally is primarily caused by geological or climatic forces it is in the direct effect of these that the distinctiveness touches the human response. Therefore it is possible to make generative use of local materials by establishing exactly what it is that gives the area its distinctiveness.

(c) Interior



Existing buildings in historic context reflect it's past in a very tangible way and provides an area with a sense of place. Sadly, these structures representing real opportunities, when occupying sites with development potentials. Their true qualities remain hidden beneath layers of grime, their wealth of detail, craftsmanship and often the interior. But the interior of the existing historic buildings are often undervalued. (Fig. 63)

Fig. 63 Interior of a Historic Building

(d) Group Value

Fig. 64 Group of buildings

The familiar urban scene is generally composed of sequences of individual buildings. Alternatively a street may comprise a collection of structures that have certain common features such as general scale, plot widths and a common architectural

language which sit harmoniously to gather, yet exist as a group of essentially individual buildings. (Fig. 64)

What comprises a group will be the degree to which the buildings combine to forms a visual whole. It will therefore include all those buildings which are seen together and which interact visually to create a single image or scene. This will obviously include a single row of building on one side of the street, it might also include opposite sides of a street or the sides of a square.

The qualities that make a group of buildings that gives its visual cohesion, are as many and as various as the groups that exits. Roy Worskett in his book. 'The Character of Towns' identifies three such groups; the terrace, similar period individual buildings and mixed group of buildings of different period.

Qualitative Attributes

2.2.1.5 Character of City

Other than the above identified components, historical context has its unique historical in character. Through spatial organization, arrangement of build fabric, culture, tradition, and their historical growth express their historical characters. In fact most of the cities express historic character unless they are internationally cut off from their history. And when the historic character predominate any of the other character; "sacred, dynamic and organic"; that city is referred to as having historic character. History of a city and the cultural aspirations of its people, functions associated with a city, regional traditions and geographical settings of a city can be described as major determinants of city character.

2.2.2 Historic Urban Context: City Formation

Fig. 65 Early City Formation " Mandala Concept"

There are common structural and physical features in the layout of cities in most of the great early civilizations of Egypt, Mesopotamia, India and China. These common features included the use of the grid, the straight axial street and orientation of the settlements or its main building to the path of the sun. (Fig. 65)

Orientation and relation to the environment was of paramount importance in the planning of the early city. The parts of the building were also organized to be in harmony with the forces of nature and the local environment. Chinese city planning emphasized the need to relate built form with the environment.

In traditional non - Muslim Hausa society, the layout of fields, houses, granaries and towns are regulated by an ancient cosmology which also regulates numerous facets of daily life.

The physiological efficiency of some of the forms, which controls behaviour, still permeates western city building. China and India have left to prosperity the most highly developed heritage of cosmic city models. According to this analysis most of the historic cities emphasize the features of cosmic model and organic model.

2.2.3Historical Urban Context: City Form

In a historical urban context the city form is emphasized as a monument and the sky line acts as the major determinant element of the image.

2.2.3.1 The City as a Monument

As Sigfried Giedion (1944) says, Monuments are human landmarks, which men have created as symbols for their actions. They are intended to outlive the period, which originated them. They form a link between the past and the future. (Rossi, Aldo 1982)

Monuments can be defined as anything by which the memory of a person or things is preserved. Hence it gives a sense of permanence in fact it reflects the past that we are still experiencing. Likewise it is evident that cities tend to remain on their axes of development, maintaining the positions of their original layout and growing according to the direction and meaning of their older artefacts, gives the city a monumental image. (Fig. 66)

Monumentality of a city can be perceived in two aspects; artefacts that enable, to understand the city in its totality and the appearance of the artefacts as a series of isolated elements that can be linked tenuously to an urban system. (Fig 67)

Fig. 66 The City as a Monument – London

Fig. 67 Series of Isolated Elements

The Doge's Palace in Venice or the theatre at Nimes or the Mezquita of Cordoba are few examples that persists which could be identified as monuments, and that a monument persists in a city both symbolically and physically. A monument's persistence or permanence is a result of its capacity to constitute the city, its history and art, its being and memory.

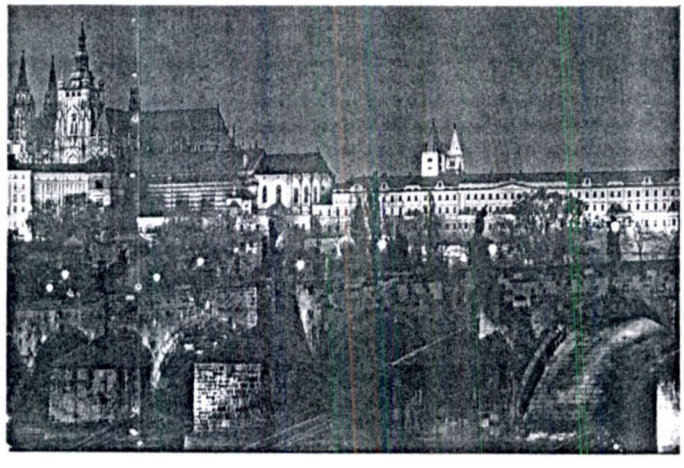
"The axis and the strong centreline symbolized the growing concentration of power. Kings of France became Monarchs, wealthy merchants it Italy became autocratic Dukes, large landowners in England became Lord Barons, and Popes became benevolent partners of all. Hence, out of the cramped medieval towns were carved formal "squares" .The winding streets became grand axial avenues. The modelling of spatial forms absorb the attention and skills of designers and classic elements were ingeniously assembled to form the space. Michealagelo created Capodiglio on the Capitoline Hill in Rome, Bernini designed the Piazza of St. Peters" (Gallion , A.B. 1984 : 41) are few examples which emphasized the monumental character of the classical city. Every form has its centreline and every space its axis and the structural quality of the Middle Ages were replaced by a classic sculptural form.

Monumentalise of a city can be expressed through culture. Culture of a particular society as established by any scholars provides the vase upon which the guidelines of behaviour of the survival.

2.2.3.2 The Urban Skyline

The skyline gives the first impression of the city image. The shape of the skylines is the familiar, fond icon of the city, a vision to cherish. It is also the urban advertisement to the world and the shorthand for a broader audience. The skyline can be featured through landscapes; the acropolis and though pre - eminent buildings; the Cathedral or Church of a medieval town; the Eiffel tower etc. Hence, topography is an important determinant factor of perceiving the skyline as a whole. The primary distinction is between flat land and towns on a hill.

In historic urban context the urban skyline celebrated institutional landmarks, buildings of communal importance having to do with religion and political power. The medieval city form was meant to be visually expressive of social and political order, it was necessary to have no towers higher than that of the town hall, so that the primary of the public order as against private interest, would be made palpable on the skyline. Although there are classic skyline conformations of Cathedrals and Town Halls, of princely castles and civic centres, the nature of the skyline is not determined by one or more distinctive buildings. Shapes as much as it is by the repetitive use of one architectural feature, minarets, domes, spires, industrial chimneys etc.



But in most historical cities, the dominant accent of the skyline was the architecture of the sacred buildings. These were often situated on eminence, natural or artificial, their architectural mass was piled up high, and their visual prominence was enhanced by sky aspiring props. (Fig. 68)

Fig. 68 Urban Skyline

A number of design criteria can be isolated which determines the physical validity of the skyline as well as the image of the city; these are height, shape and approach. The height

and shape refer to the landmark features of the skyline, the approach refers to the urban profile.

Height; is a relative matter. The actual impression the building will make depends on what is around it. In early cities, the shaping of the skyline is done through exempting certain kinds of buildings from prevailing height limits - religious centres, civic centres governing institutions etc.

Shape; is the general mass and shape of buildings is a good device to distinguish different competing programmes within one historical frame - castle versus town hall or else the suppression of one regime or historical era by another. In the subject of shaping is represents of bulky element.

Approach; this issue concerns the direct experience of skyline features by the visitor to the city. In historical cities, the experience was more direct as they were small and perception of the urban skyline from approach road form land; water front views along a river or the sea coast; and view to be had from vantage points, within the city limits and the environs.

2.3 Historic Urban Context: Interrelations of Essential Characteristic

As a physical expression the city is a thing that is seen and since the visual sense is a channel to the soul, that which is seen given pleaseru to those who look at it.

But most of historical towns centres, cities are a cohesive entity of interrelated characteristic. This cohesive and unified composition gives a sense of uniqueness identity and meaning to a historical context.

Here the characteristic was understood in its macro context as well as in the micro context. Each of these characteristics do not appear in isolation and nor do they are static; it takes on an active role in improving the contemporary and future architecture, town planning and urban environment. In order to understand the historical context it is important to study the combination and interrelationship of the characteristics.

2.3.1 Overriding and Combination of Characteristics

Identifying the co - existences of several characteristic in a historical context infer the question as to how the person experience the particular space and what he perceives.

Generally one characteristic dominate the rest of the combination and play the vital part in maintaining the identity of the particular context; for example most of the medieval cites the architecture of the sacred buildings create a dominant accent. Their visual prominence was enhanced by the city image. They become objects and other characteristic combine together to create the fabric, hence to maintain the image.

The dominant character can be turned as the overriding characteristic, since it is the apparent quality of the particular context or space give its identity. Other characteristic generally affect and change the overriding character by enhancing, weakening or by modifying the intensity of it.

2.3.2 Enhancing the Overriding Characteristic

Two or more characteristics can exist in a particular micro context, which process similar qualities, thus enhancing and strengthening the over riding characteristic of the context. As discussed in the earlier example, the image of a city is enhanced by maintaining the heights of the other masses. Spaces were given a hierarchical order up to the climax; spatial progression is achieved through the intermediate focal point, building character is maintained by using regional materials, detailing and architectural style. Hence, by enhancing the over ridding character the context can be perceived as a unified whole.

2.3.3 Weakening the Overriding Characteristic

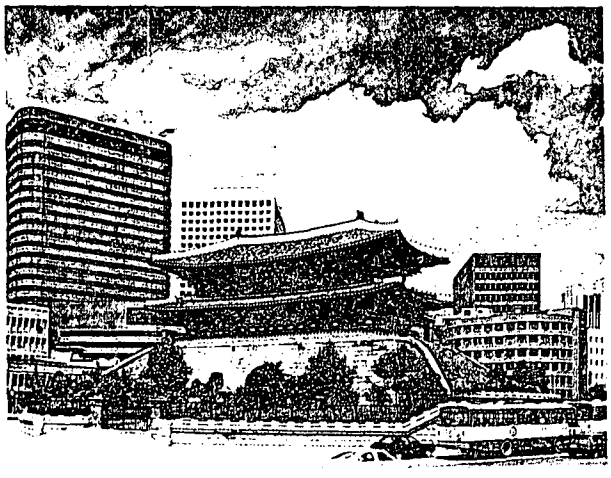
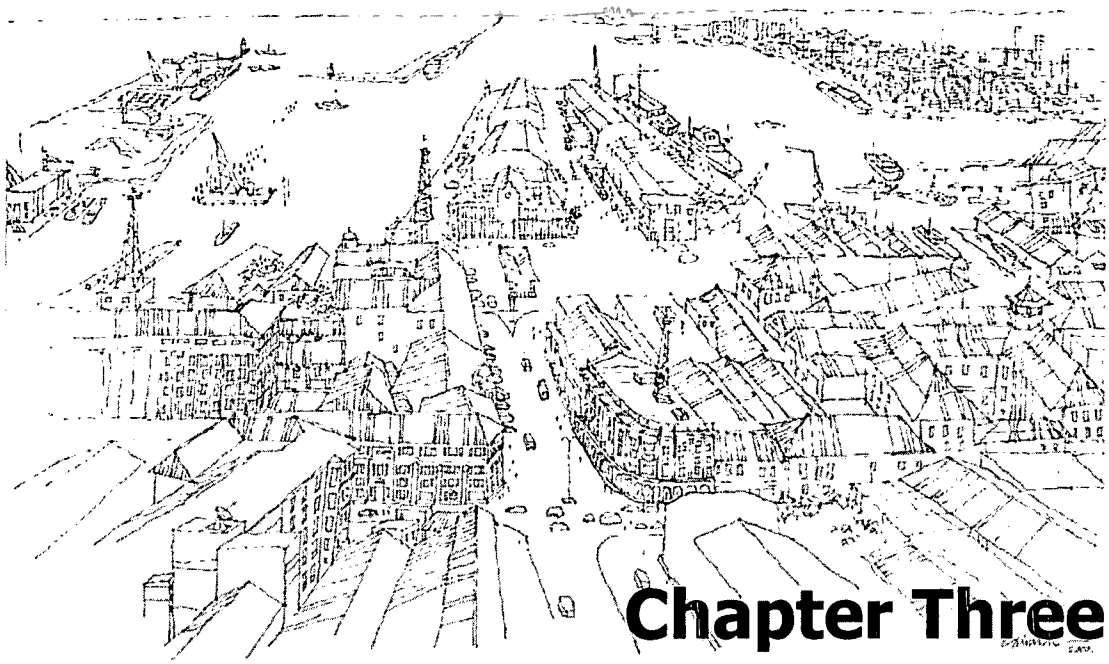


Fig. 69 Weakening the overriding character

A particular characteristic may exist in urbanscape, which possesses a contradictory quality opposing the overriding characteristic accordingly, moderate the intensity of the overriding characteristic and weaken its impact. Most of the historical cities have lost its image by new high buildings, use of modern materials architectural style of modern movement though they may obey the guidelines of spatial sequence and so forth. (Fig. 69)



Chapter Three

The Historic City of Colombo

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The Historic City of Colombo

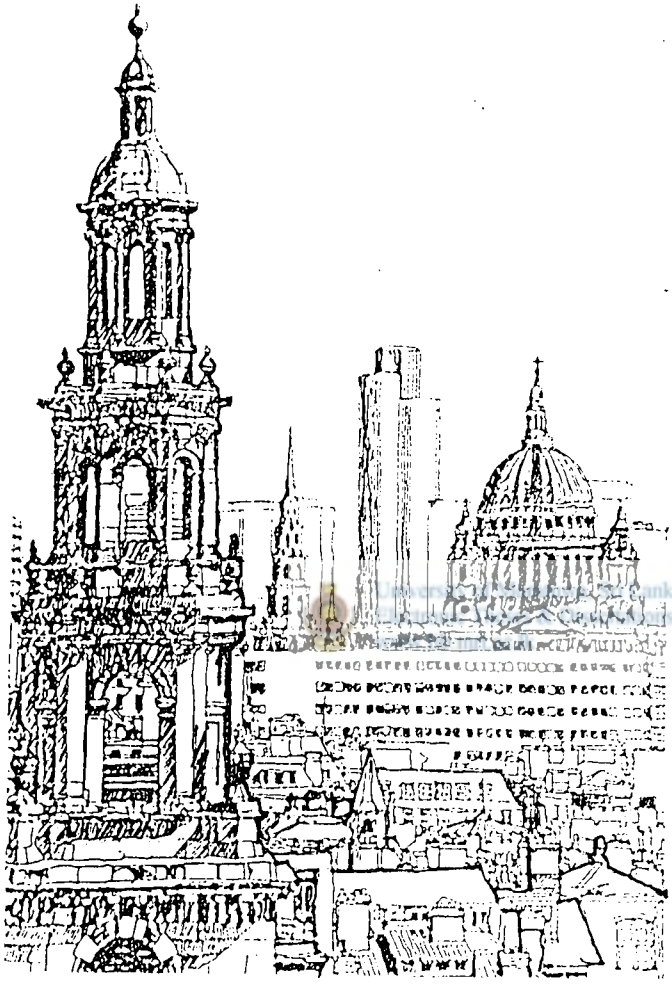


Fig. 70 An Urban Context

Previous two chapters presented a theoretical basis to understand the pollution of built environment in a historical urban context. In the first chapter, principle of composition is used as an operational definition to judge the pollution in the visual environment and the second chapter led towards the historical urban context, and its essential characteristics. This chapter attempts to provide facts and information on the city of Colombo special reference to the character of the Colombo Fort area and its evolution.

3.1 Introduction: " The City"

"Cities are amalgams of buildings and people. They are inhabited settings from which daily rituals. The mundane and the extraordinary, the random and the stage, derive their validity. In the urban artefact and its mutation are condensed, continuities of time and place. The city

is the ultimate memorial of our struggles and glories, it is where the pride of the past is set on display". (Kostof, Spiro 1991: 16)

Cities have grown up over centuries and during which time successive generations have added ideas and methods to those they inherited from their forefathers. In this raw evolution they unconsciously gave expression not only to their material needs, in the construction of houses, layouts and composition of streets, but also to certain spiritual and emotional demands. These not only influenced the solutions of larger issues but also the "manner" in which they were carried out and related. The many details of cityscape, which determined the quality of the city, its peculiar flavour, character or charm. (Fig. 70)

The inherent relationship between the city form and purpose that has evolved through local tradition and regional context are important to be considered. The new architecture of urban space must be replaced by respect for the indigenous nature of the city. Responsiveness to the historic evolution of a place will avoid superficial repetition and retrogressive, cosmetic treatment that does not respond to the spirit of the times. In the process, the common denominators of time and place will knit together the fabric of the city. Studies have been carried out on cities in order to understand what cities are made of, in achieving it's uniqueness. This is a question, which cannot be answered without ambiguity. However there are a few scholars who have attempted to identify and understand the components of cities.

Leon, Krier, has analysed the city into building types and public spaces organised in the form of urban blocks, thus establishing the view that a city is a composition of physical components. (Krier. L, 1984: 40 - 46)

Roger Trancik explaining the figure ground theory in urban design has further supported this argument by expressing the urban form as a composition of solids and voids. He also discusses the importance of historic, cultural and social values in urban context.

The sixteenth century theorist and architect John Shute, likens the city to the human figure: "A city ought to be like the human body and for this reason it should be full of all that gives life to man". (Shute, John. 1563: 45). In other words it can be identified as a product of human beings who make and provide life to it. Hence the city is an element of a peoples spiritual and physical culture and indeed, it is one of the highest expression of that culture. In a broader sense the components of a city can be identified as,

- Physical component (forms and spaces)
- Social component (People - social activities)
- Functional component (activities and behaviour)
- Cultural component (attitudes - values - aspiration)
- Historical component
- Organizational component. (relationship spatial and other component)

It must be clearly understood that these components of a city are extremely interdependent and interrelated that they cannot exist in isolation form. In a good city form, these components are composed to create a harmonious and imageable city and give character to the city.

Man exists in space. As he lives in space he experiences it, weave relationship and reinterpret it in the way he likes. This interpretation makes the architectural space. An urban environment is also a collection of spaces in which people weave relationship and reinterpret in to architectural spaces. Cities are urban settlements of people in which the natural surroundings are dominated by man-made feature.

It also can be defined as an extensive physical arrangement of building forms streets. Open spaces composed with complexity and variety within a limit demarcation of an urban environment, where people exist in society in social groups. They seldom live along at one time of another and they form into either small or large groups based on factors such as sex, age kingship, mutual interest and territory, which is, associated inherent spatial concept. It is observed the people relate to associate with and tend to organize their physical environment respectively to particular spatial concept of the social groups they represent at a particular time.

In spatial point of view space creates spatial relationship between function and social meaning in buildings. The ordering of space in buildings is really about the ordering of reactions between people. Because this is so society enters into the very nature and form of buildings. They are social objects through their very form as objects. Architecture is not a 'social art' simply because buildings are important visual symbols of society, but also because, through the ways in which buildings individually and collectively create an order, and is able to recognize society, that it exists and has a certain form.

Activities as components of a town are known to influence and determine the formation and relationship of spaces catering the functional needs of a community. Activities happening in a town either be regular such as every day domestic, commercial, recreational, religious, educational, administrative etc. or seasonal such as cultural pageants or they can be occasional activities as well. They happen at different levels and scales from a most private level to a most public level and these different levels and scales add diversity to the city and as a collection determine the overall function of a town.

Activities are representations of attitudes and values of its people, which indicate the presence, and the contribution of the cultural component in a city.

Culture, of a particular society as established by many scholars provides the base upon which the guidelines of behaviour for the several and continuation of a society.

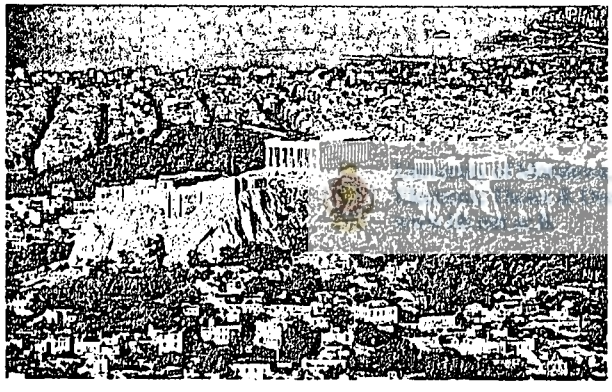


Fig.71 Historic Environment – combines the past, present and the future, Acropolis – Athens

The communities inhabiting cities are complex heterogeneous groups made - up of diverse sub cultures with differing values and aspirations. These values and aspirations in turn determine the social hierarchy of a society and the spatial hierarchy of these spaces that use. As seen from spatial point of view, it seems not only in the type of physical configuration, but also in the degree to which the ordering of space appears as a conspicuous dimension of culture. Which in turn gives the city its own uniqueness.

People response to a historic environment, not because it occurs a nostalgic retreat in to the past, but because it contributes to the quality of life now. It combines the past, present and future together. Every town or a city is blessed with its own specific history, which naturally represented by its spatial organization. (Fig. 71)

A city's history may cover two specific aspects of it. The presence and influence of various visual and spatial concepts evolved in different civilizations and in different time periods. Existence of a city without undergoing any change in the course of time is very rare, they become silent. Hence, almost every city or any physical entity undergo historical phases which intern lay an imprint on its spatial organization and its people.

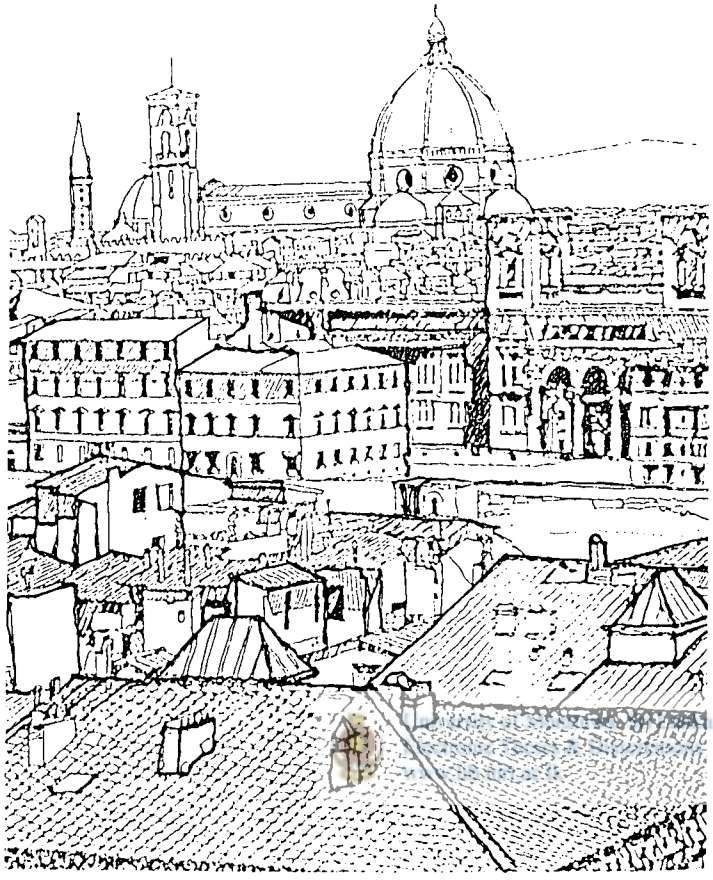


Fig. 72 Good cities are memorable

Organizational component of a city represents its spatial as well as social organization. This component encompasses all other components and establish particular relationship, order, hierarchy continuity and unity into a cohesive entity which intern express the uniqueness of the city and create a sense of place.

Good cities are those in which people have memorable places and an identifiable structure to organize them. If the environment is well organized and sharply identifiable, then it becomes a true "Place". (Fig. 72)

"In a traditional city, the rules were clear. Buildings were subordinate to the more powerful collective realm to an implicit vocabulary of design and a difference to the larger order of things. The manners and rules of a place gave instruction how to connect".
(Trancik: 1986: 11)

Once these cities become associated with meanings and connections strengthening the memorability of both inhabitants and visitors, these places become unmistakable and remarkable.

In order to create these city qualities it is important to understand the city: it's attributes; it's formation, the city form and the imageability of the city.

As a physical expression the city is a thing that is seen, and since the visual sense is a channel to the soul, that which is seen should be as beautiful as man can make it. The city must work properly and be economically sound, but it should also give pleasure to those who look at it. Coupled with these the city gets it's "manner" in which the city can be perceived and identified as coherent whole.

3.2 Historical Background of Colombo

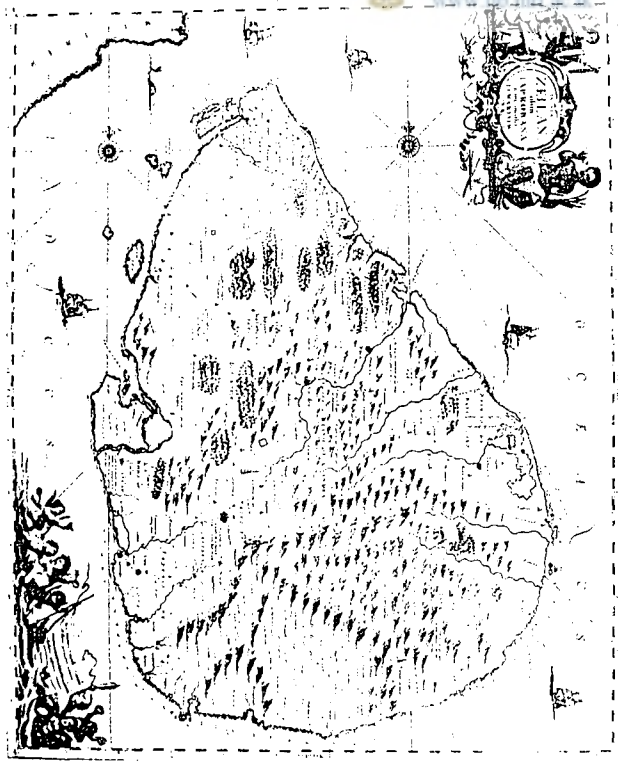


Fig. 73 Zeilan – The early maps of Ceylon

(Source – Brohier, R.L. – Changing Face of Colombo – 1984)

Colombo is located in the west coast of Sri Lanka. It has a rich past as a commercial and an administrative capital. In the sixteenth century, Portuguese first colonised Colombo. During the time of Portuguese the Fort of Colombo not only housed the administrative activities and commercial functions, but also the residences of governor and other officials. (Fig. 74,75)

In 1656 Dutch overpowered the Portuguese. They laid out both Fort and Pettah areas of the city in a geometrical, gridiron pattern. (Fig. 76,77) But the major changes of physical structure of the city was done during the British period from 1796. During this period, city was expanded towards Pettah area due to the

novel introduction of plantation economy and related activities. (Fig 78,79) In this period all the Dutch buildings in Fort were replaced by British colonial buildings. Water ways within the Fort were reclaimed and built upon while keeping same street layout. Because of the removal of residential activities from the city centre, Fort area of Colombo became a more commercial and an administrative centre.

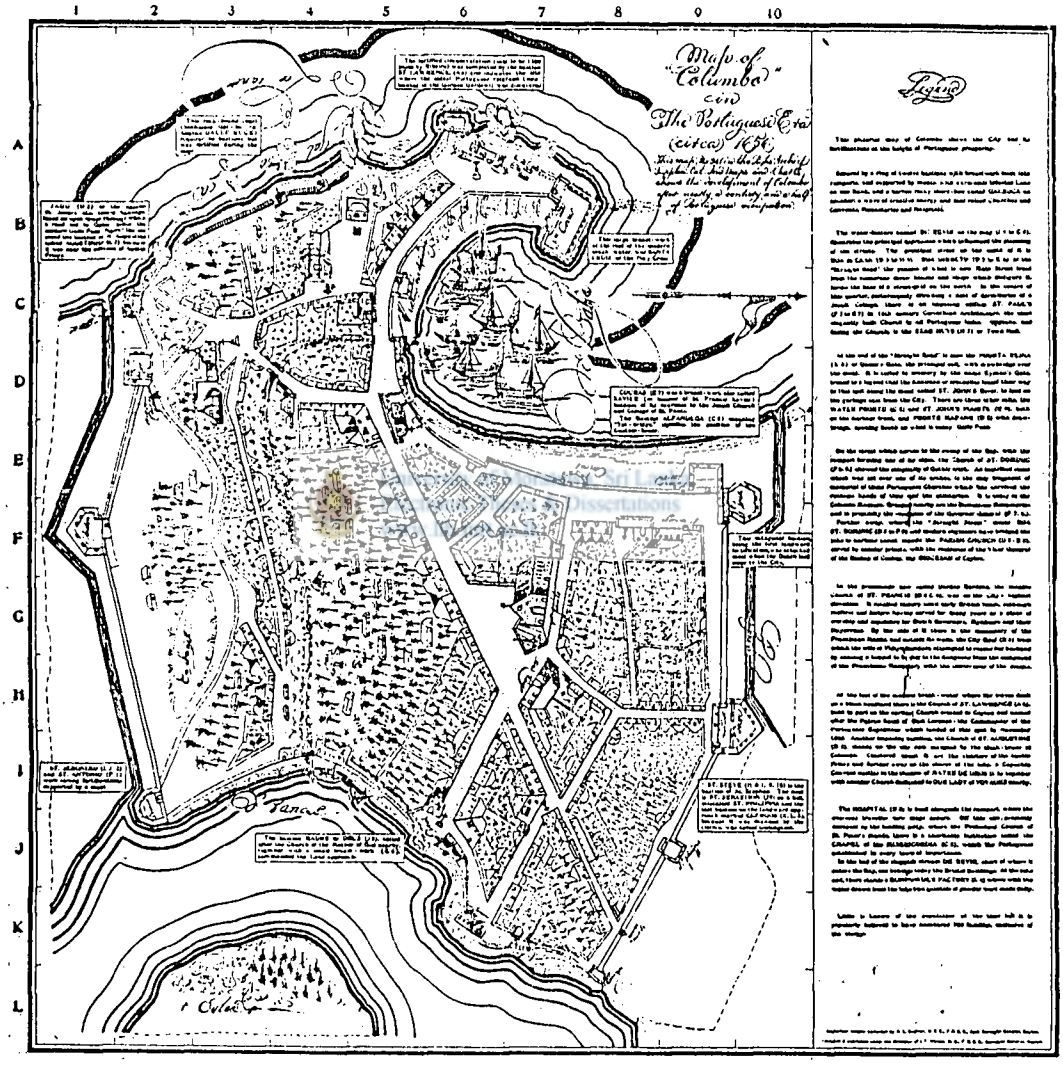


Fig. 74 Map of Colombo – 1656 (Source – Brohier, R.L. – Changing Face of Colombo – 1984)

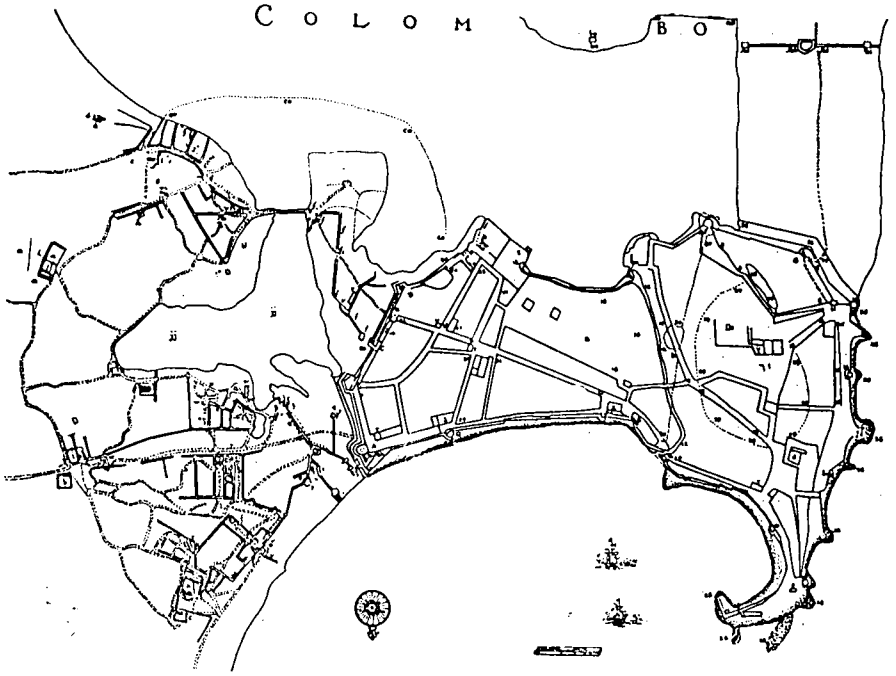


Fig. 75 Portuguese – Dutch map of Colombo (Source – Brohier, R.L. – Changing Face of Colombo – 1984)

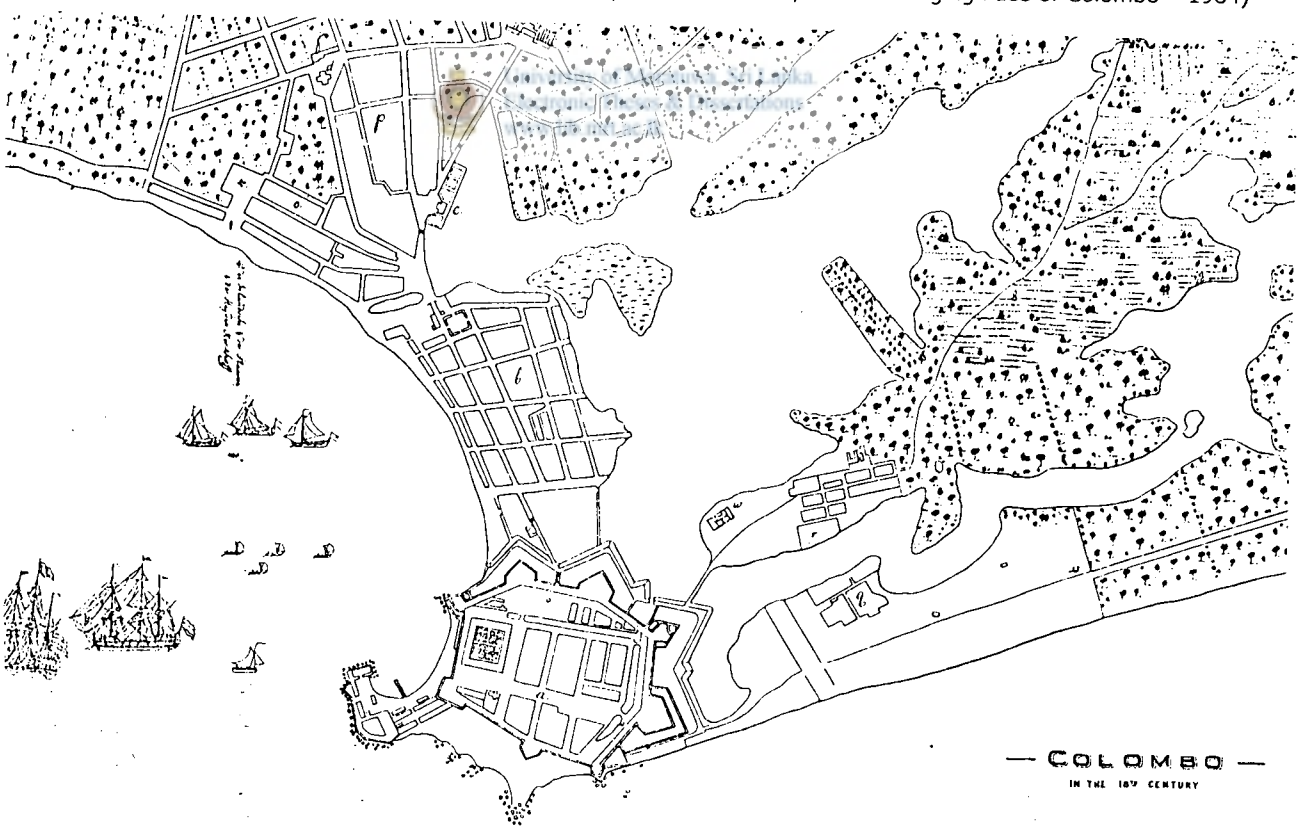


Fig. 76 Gridiron pattern – Fort and Pettah (Source – Brohier, R.L. – Changing Face of Colombo – 1984)

(18th centaury) Fig. 77 Sea street - Colombo

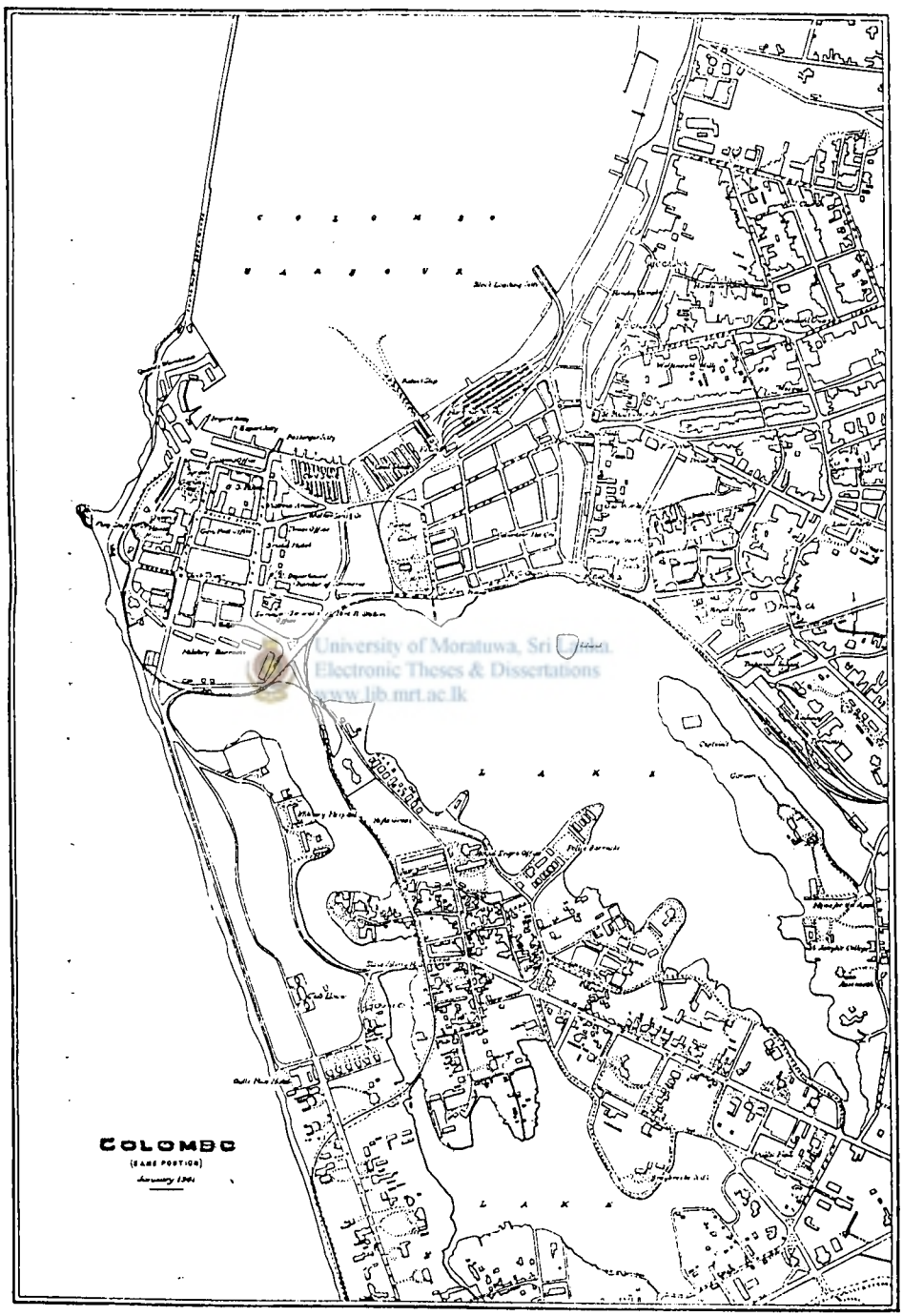


Fig. 78 Colombo in 1901 (Source – Brohier, R.L. – Changing Face of Colombo – 1984)

After getting independence in 1948 new buildings were introduced to the city but basic structure of the city was not altered. With the introduction of an open economy system in 1977 Sri Lanka was exposed to new trends in technology and commerce. Because of this open economy new types of buildings were introduced and the use of new materials and technology became widespread. In the meantime the administrative function was shifted to Sri Jayawardenapura. As a result Colombo took a new face as a commercial capital of Sri Lanka.

3.2.1 The Fort - An Introduction

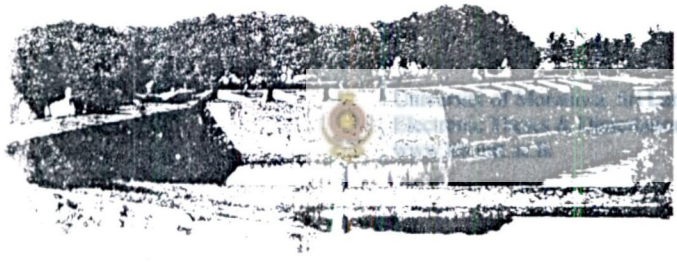


Fig. 79 Dutch Fort – Colombo (Source – Raheem, I, P Colin – Image of British Ceylon)

This part of the city which is known as the "Fort" exists only by name which has been the centre of colonial administration of Ceylon ever since the Dutch established their authority, and gradually transformed into the city centre of Colombo metropolitan. The old earth wall (cabook and mud) fortification on the landward sides were first erected by the Portuguese ostensibly to protect a factory, (i.e. trading station) on the narrow point which now forms the foot of the South - West break water. (Fig. 80)

The new fortified town comprised the land, which now lies between Galle Buck and York Street and between Canal Row and the Harbour. Within the cabook wall which enclose it, there was a Fortress, two Churches and official residences (including Governor's Palace, which is a most superb building) and some private houses.

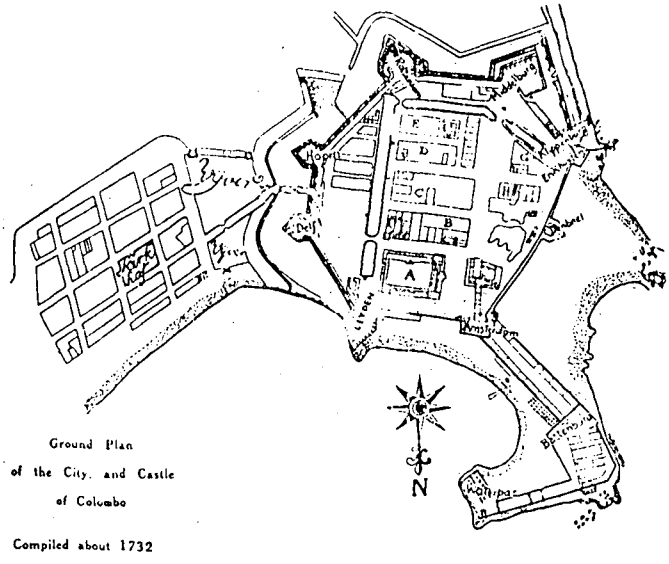


Fig. 80 Ground plan of the City and the Castle of Colombo – 1733 (Source – Brohier, R.L. – Changing Face of Colombo – 1984)

In the following century the Dutch who ousted the Portuguese and strengthened the Fortress and existed in its Dutch form until 1871 with better guns being installed by the British. The Dutch has taken full advantage of the rocky nature of the ground towards the sea , and of lakes and marshes on the landside, in positioning their fortress. The British therefore found themselves, in a military defensive sense, strategically secure. The only alternation they made in the fortifications of Colombo was to raise the bastions and to provide a counterguard, on the land approach form the Galle Face Esplanade.

The demolition of the high ramparts of the Colombo Fort commenced in 1869 and by 1871 the whole of the fortification disappeared - except the flagstaff battery of twelve guns (dismantled circa 1905 / 1906) used for saluting purposes. The long years of colonial occupation in Sri Lanka necessitated having residential, administrative and commercial buildings to house relative activities. The "FORT" had most government and mercantile offices and banks etc. and gave rise to number of buildings with distinctive architectural character. (Fig. 81)

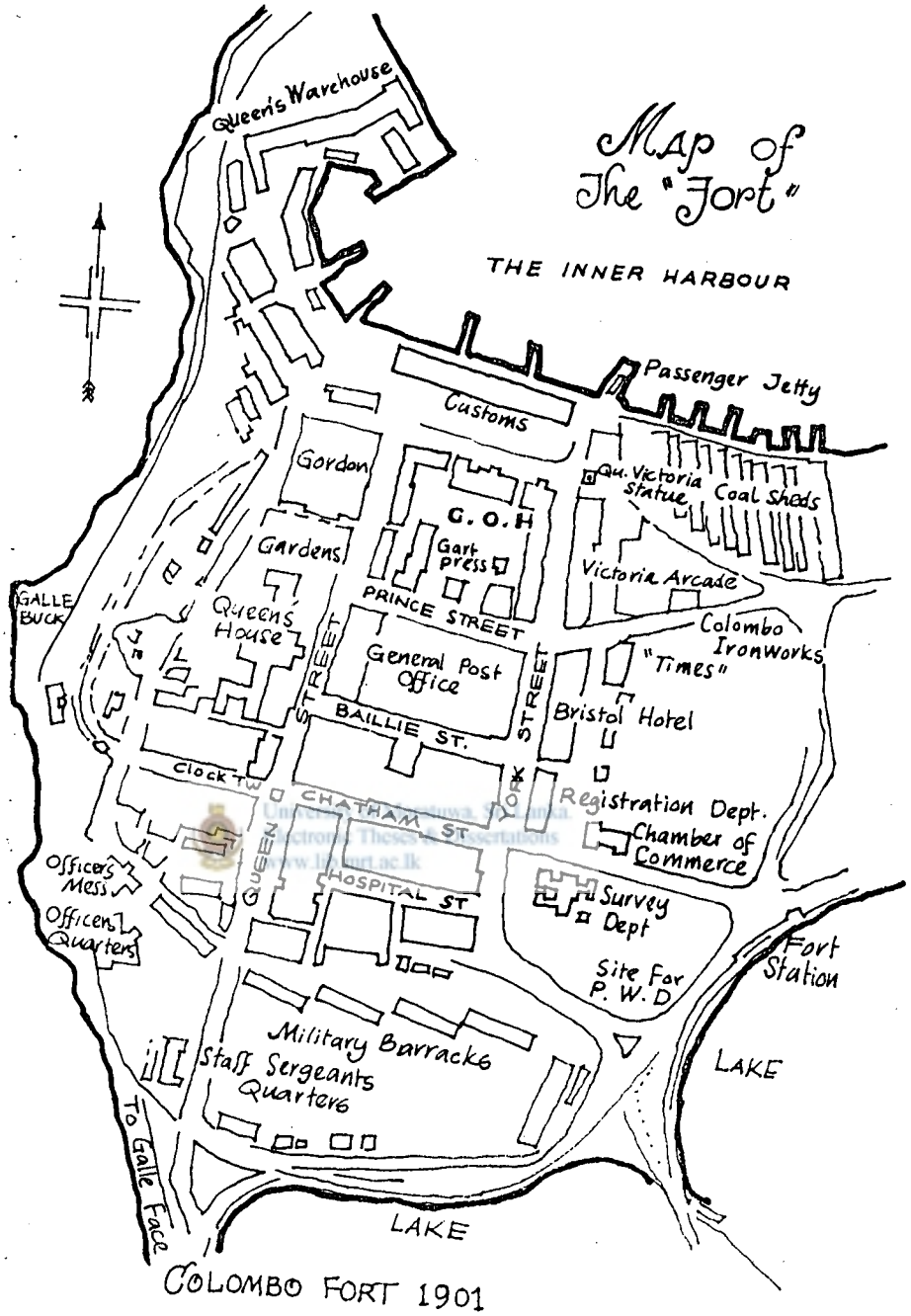


Fig. 8.1 Colombo Fort – 1901 (Source – Brohier, R.L. – Changing Face of Colombo – 1984)

3.2.2 The Fort - The Environs

According to R. L. Brohier's book, Changing Face of Colombo " The British referred to the limits of the City of Colombo which spread itself landwards from the rocky headland on which the for trees stood almost insulated by the sea and the Beira Lake, as the 'Graves'. The term apparently originated from the Sinhalese word, Kadawatha, meaning 'The bounds of a city'. (Fig. 82)

Fig. 82 The Environs of Colombo – (Source – Brohier, R.L. – Changing Face of Colombo – 1984)

The Fort was divided roughly into four quarters by two principal streets. A broad street, which went round, the rampart served both the bastions and the soldier's barracks. There were seven bastions of which four looked towards the sea and three faced the lake. All these were demolished in 1869 with the levelling the city walls and filling up of the moat. The principle street in the fort was what is now known as Queen's Street (Janadhipathi Mawatha) and was called King Street before Queen Victoria began her rule.

George J. A. Skeen in his book " A guide to Colombo" provides fair idea of some buildings and features and around Fot area.

"Standing on the deck of a vessel a glance round the harbour reveals the following objects on shore in the order in which, commencing at the North, they occur:

- Prison for convict labour employed on Harbour Works (the stone quarry being behind).
- The Graving Dock Pumping station at the entrance to the Dock.
- Uplands, a residence (on a grassy elevation), beyond the Dock. Tower of the Anglican Cathedral, just visible.
- Hutson's Engineering Works
- Dome of the Roman Catholics Cathedral,
- St. Anthony's Church (R.C) on the beach
- Customs warehouses for grain.
- St. Thomas's Church (triangular front: Anglican for Tamils)
- Wolfendohl Dutch Church (on the hill)
- Jampettah street Weslyan chapel (triple - pointed front).
- All Saint's Church (with steeple: Anglican for Sinhalese).
- Red - bricked Municipal Markets.
- Harbour extension offices and workshops (on foreshore)
- Top of Town Hall.
- Holy Trinity Church. (with tower : Anglican)
- Walker's Foundry and Saw Mills
- Coal sheds
- The Colombo Ironworks
- The passenger Jetty
- Fort Land Co.'s Buildings (with P. & O. Co. 's Office)
- Grand Oriental Hotel
- Shipping Warehouses and wharves with Government
- Offices (Treasury, Secretariat, Customs, General Post Office.)
- A glimpse of the top of Queen's House
- The flagstaff with the Pilot's circular watch Tower

(Source – Skeen, Gorge – A guide to Colombo – 1906)

On leaving the landing Jetty, records indicate, that unlike in many of the world's large ports, the traveller at once steps on to pleasant surroundings in Colombo - with impressive landmarks such as a white marble statue of Queen Victoria immediately on the left (erected in 1877 in memory of her diamond jubilee. York Street in front describes then as a fine spacious boulevard (Fig. 84) with its entrance flanked on one side by the massive pile of buildings of - Grand Oriental Hotel, and on the other side by the elegant terracotta Victoria Building, and the Military Barracks in the background. The Secretariat and the Customs House were located down Church Street on the right.

3.2.2.1 People

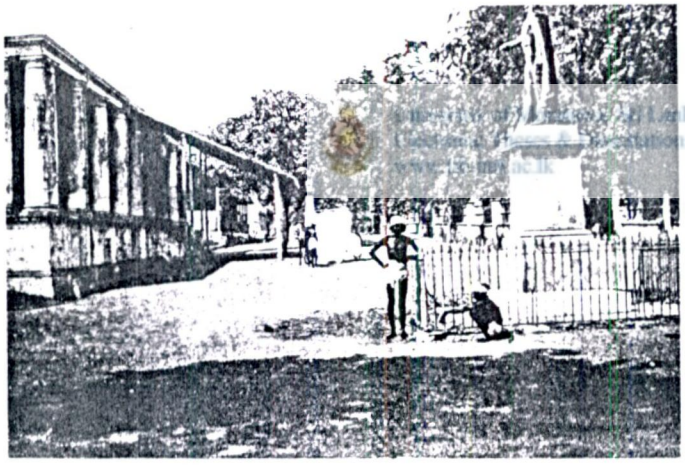


Fig. 83 Men in nothing – No Work (Source – Raheem, I, P Colin – Image of British Ceylon)

Dr. Alen Walters - in his interesting work ' Palms and Pearl's - says,

"The Varied races to be met within the streets of Colombo and more especially in the native parts provide a veritable revelation to an Englishmen, the swarming crowds are made up, like the multitude on the day of Pentecost of Parthians, Medes, Elamites and the rest ; men in fez, men in turbans , men in petticoats , men in trousers, men in boots men in great peaked red and yellow slippers , men in nothing at all but the burnished livery of the sun. Few places can show a more varied mingling of the human race, the majority of whom are collected in groups, with apparently nothing to do but catch fleas and gossip idly with their neighbours."

3.2.2.2 Streets

As Dr. Alen Walters says, the street was the place which people used for meetings and gatherings with there immediate neighbours.

The streets were bordered by variety of foliage and flowering trees affording shades to pedestrians - the more predominant ones being the Inge Saman, or the 'rain tree' of Brazil, the Scarlet and Orange - flowering flamboyant and the "Suriya" or Tulip Tree sometimes called 'Umbrella tree'.

York Street

Fig. 84 York Street – A Spacious Boulevard (Source – Raheem, I, P Colin – Image of British Ceylon)

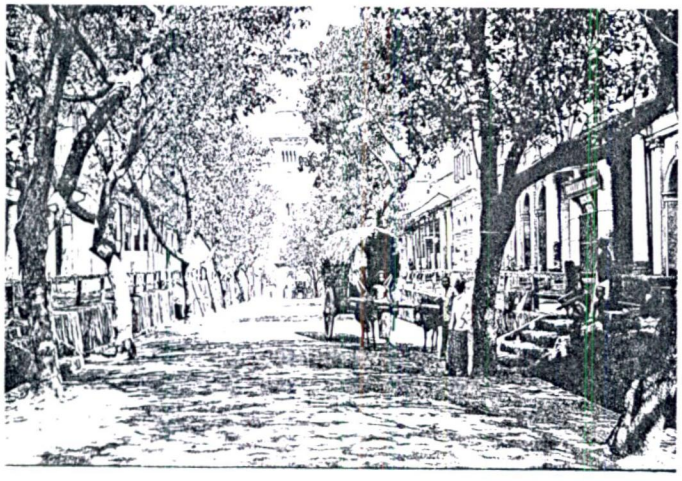


Fig. 85 Chatham Street - 1870 (Source – Raheem, I, P Colin – Image of British Ceylon)

While a greater part of Colombo has been re - built during the present Century, some of the prominent buildings in the vicinity of the Grand Oriental Hotel then were the Victoria buildings, which stood opposite the Grand Oriental Hotel (G.O.H). At the Northern end were the offices of the P & O Steam Navigation Co., while the National Bank of India was located at the Southern extreme, on the ground floor in the Victoria Arcade, Set out with palms , fountains and flanked on both sides by jewellers, were located the most sought after establishments for the travelling public the offices of Thomas Cook & Sons. (Fig. 84, 85, 86)

With Barnes Stature (1856)

1880

Fig. 86 Queen's Street (Source – Raheem, I, P Colin – Image of British Ceylon)

3.2.2.3 Transport

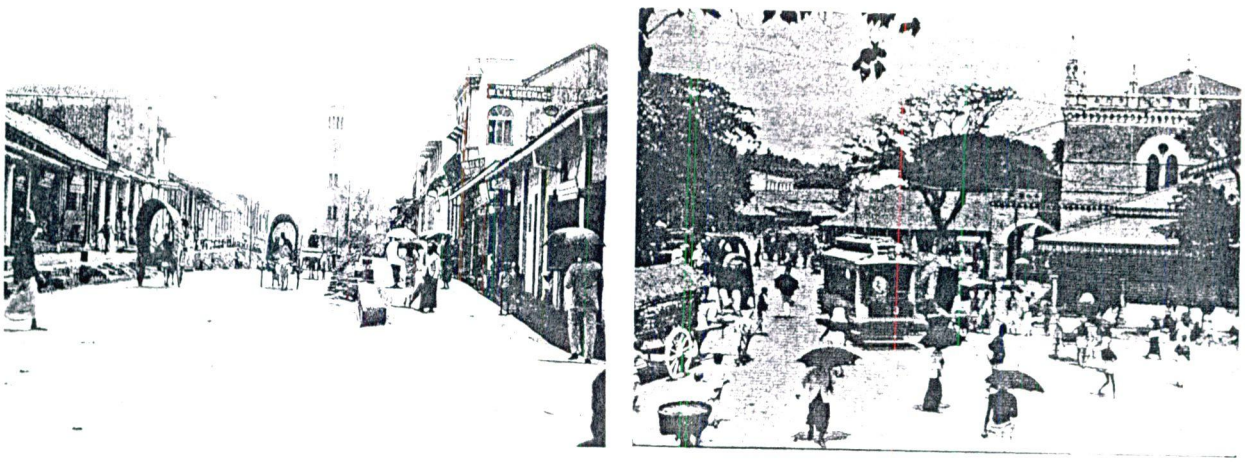


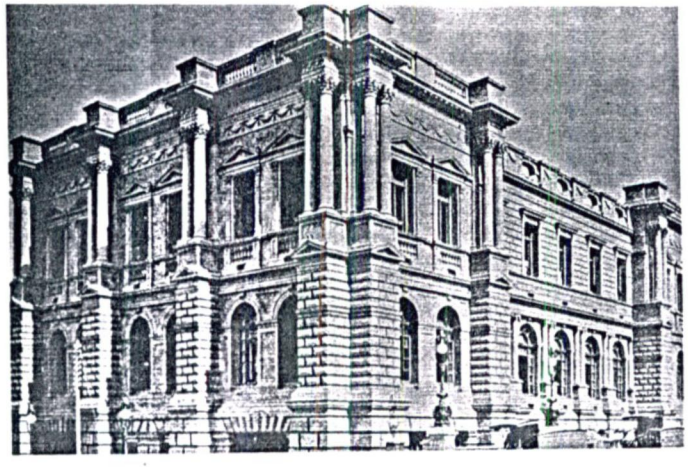
Fig. 87 Transport modes (Source – Raheem, I, P Colin – Image of British Ceylon)

Most of the short distance transportation was carried out by the tramps, Carts, Carriages, Rickshaws and a few taxi cars within the city limit but the railway was the main communicator of the Fort with the other main areas. (Fig. 87)

3.2.2.4 Buildings

a). General Post Office

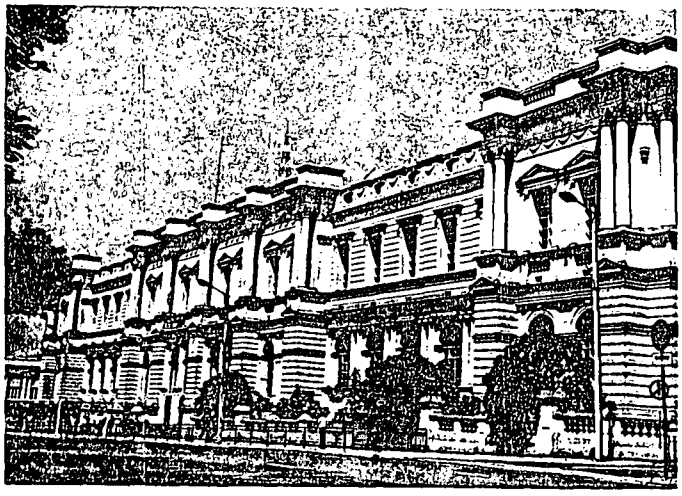
Layout



In 1900

Work commenced in 1891 and completed in 1895. This splendid civic building sited just opposite the Janadhipathi Madura, then Queen's House in the city of Colombo was opened in July 1895.

Construction had taken more time than anticipated, as the Sri Lankan workmen at that time were unaccustomed to those architectural details. But the final product is commendable with much appreciation to its architect, Mr. H. F. Tomalin of the public works department, who had taken a great care in its construction. The total cost of the building in 1895 was Rs.327, 916.65. The architectural style could be identified as Renaissance in its appearance with its basement being on Doric lines, its ground floor in the Ionic style and its ground floor in the

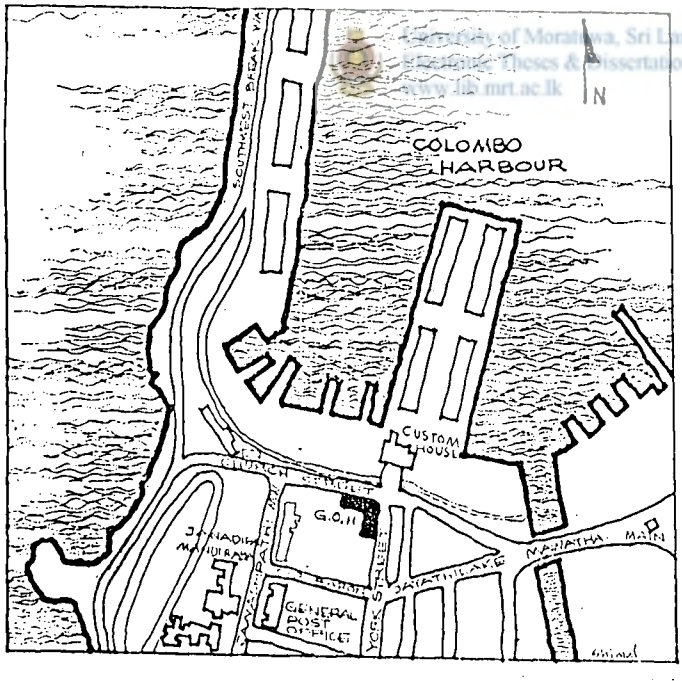


In 1970

Fig. 88 General Post Office Building
(Source – Alwis, Prof. L. – British Period Architecture in Sri Lanka – 1992)

Corinthian. The handsome flight of steps, which leads through the four lofty arches into the public area, is an attractive feature. The floor had been laid with Intaglio tiles in different colures. The bases of supporting pillars and the "dado" and the stairway connecting the upper floor being entirely of polished granite. The ceiling is of papiere mache enrichments. (Fig 88)

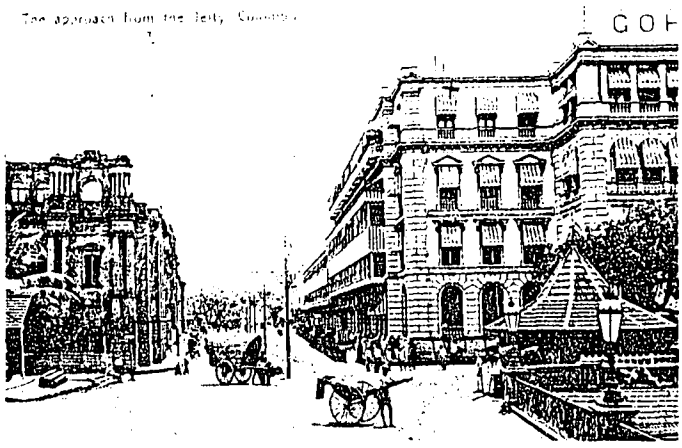
b). Hotel Taprobane



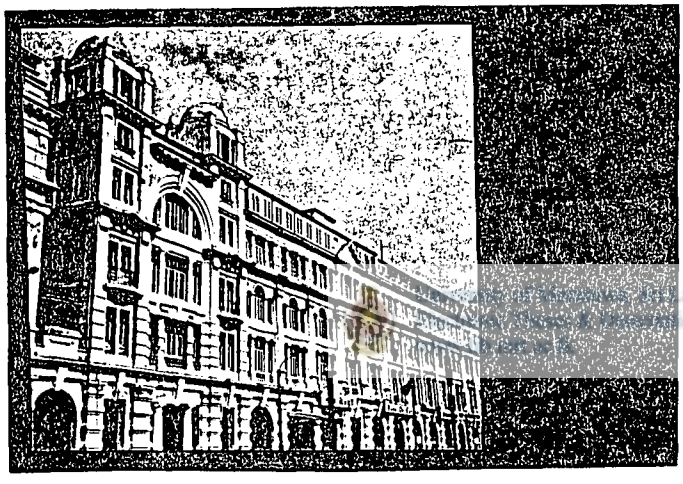
Layout

This extensive range of buildings then known as Grand Oriental Hotel or the G.O.H were built in phases and acquired the present name – Hotel Taprobane in 1963.

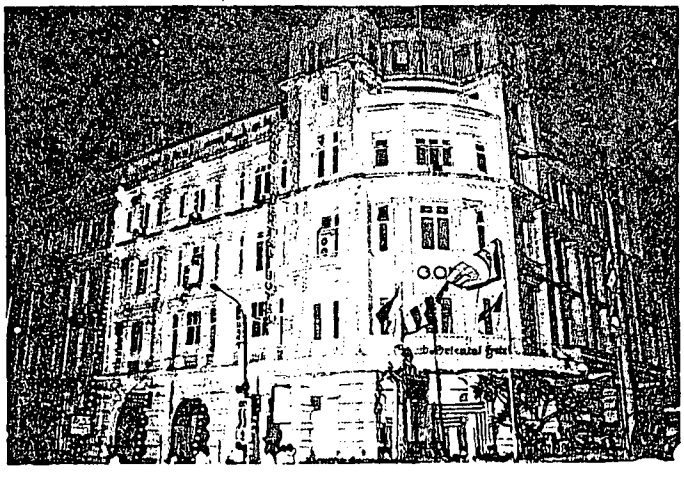
Before the hotel there had been a military barrack on this site built in1837. Building operations in connection with the G.O.H are reported to have commended in or around 1875. The architect was R. Smither, a British. The extensive renovations and extensions done in 1924 completely changed the appearance of the first building.



In 1880



In 1980



At Night

A description by Arnold Wright in Twentieth Century Impressions of Ceylon gives a clear picture of how the hotel was in its heyday.

"The G.O.H. as its familiarly known far and wide was the first of the modern type of imposing hotels erected in the East. With its towering front facing the harbour and the shipping and its main portico separated by only a few yards from the principle landing stage, it occupies both a commanding and convenient position, and passengers by the mail specially catered for at this establishment in the very best style. An exceedingly pleasing feature is the tropical garden. Guest rest in charming surrounding while listening to the hotel band. The building contains 154 bedrooms. The hotel is lit throughout the electricity. On the ground floor are the entrance hall with the managers and the inquiry offices, spacious lounge, a billiard room and the grand dinning room. Upstairs there are numerous suites of private apartments." (Fig. 89)

Fig. 89 Hotel Taprobane (G.O.H) (Source – Alwis, Prof. L. – British Period Architecture in Sri Lanka – 1992)

Unfortunately, today that glory has disappeared; beautiful gardens have gone and only one third of the building is used for the hotel. The rest is used for offices (mainly Bank of Ceylon) and shops. But the "Harbour room" at the top most floor with a panoramic view of the harbour provides an opportunity to spend a most pleasant evenings.

c) Custom House

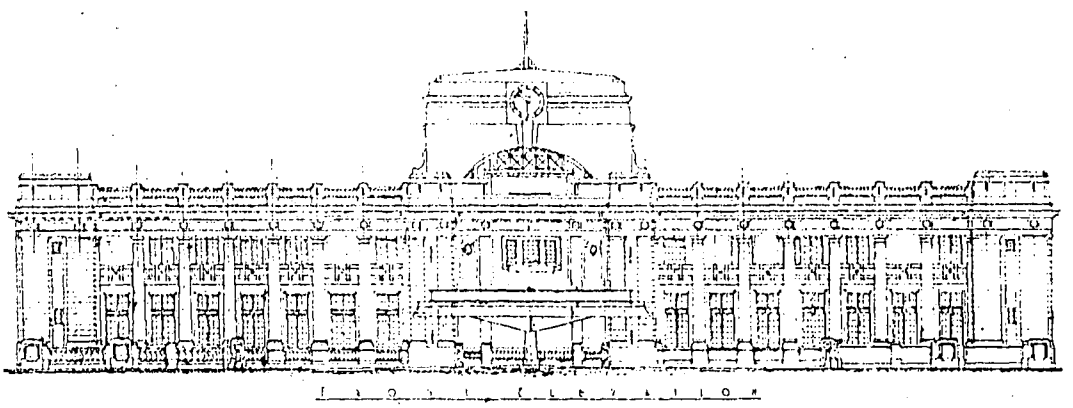
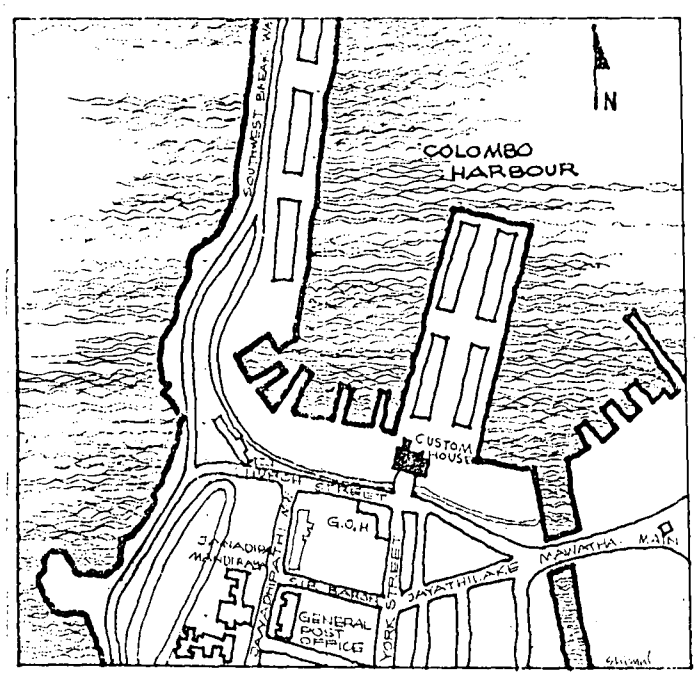
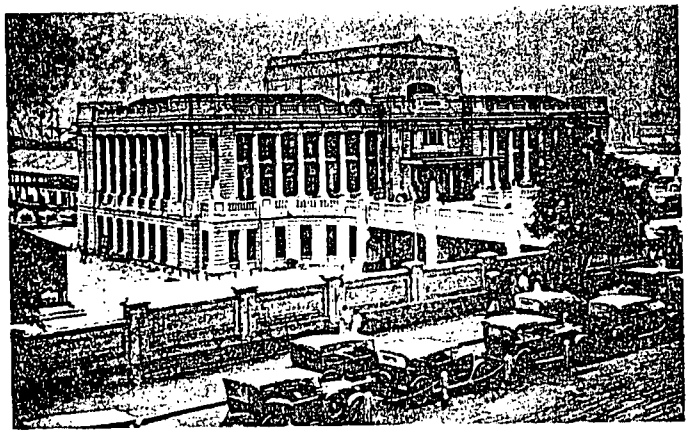


Fig. 90 Original Elevation of the Building
(Source – Alwis, Prof. L. – British Period Architecture in Sri Lanka – 1992)

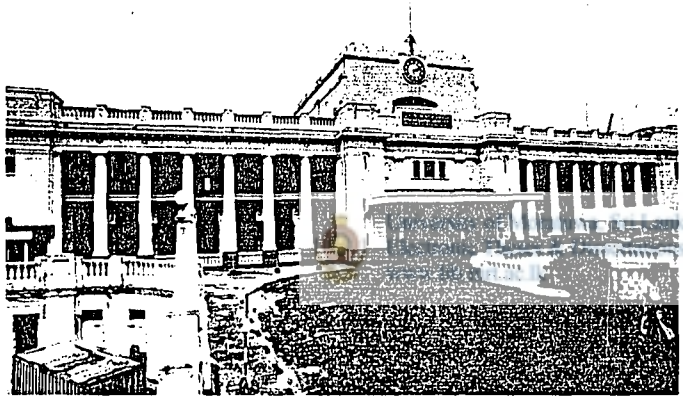


Layout

This strategically positioned Neo-Classical customs building was completed in 1920. It is recorded that a new face had been given to this part of Fort with the erection of the customs building and the construction of the road bridge over the harbour service road and railways. During the times when ship was the only means of intercontinental transportation, this was a more active and lively area functioning round the clock, receiving passengers from many parts of the world.



In 1930



In 1980

Its strategic position in focus to York Street expressively enhanced its importance. The outgoing passengers coming along the bridge from York Street, entered a central hall at first floor, which is carried up through both first and second floors forming a tower to full width of the building and to the inside of which skylights give subbed light. From this lofty central hall a broad flights of steps gives access to the passenger jetty at ground floor level. The jetty too is placed in line with the central hall and tower enhancing their significance. Most of the offices had been located at the first and second floors while stores, examination hall and supportive offices were at the ground floor. (Fig 90)

Fig. 91 Customs House (Source – Alwis, Prof. L. – British Period Architecture in Sri Lanka – 1992)

The Tuscan order in the periphery of first and second floors masonry mouldings and balustrades are typical Neo - Classical elements. In appearance the Custom House resembles the Old Parliament and Secretariat built during the same decade.

With airlines becoming more popular amongst travellers the Customs House and Passenger Jetty have lost its importance, and today it accommodates, mainly offices of navigational works. (Fig 91)

d) Transworks House – Former Public Work Department Head Office

The Public Work Department, which was responsible for the execution of many remarkable structures in the Island, was, formed in 1867 by an ordinance, which amalgamated the offices of Civil engineer and Commissioner of roads. The staff had professionals of various fields and the chief officers were termed the Director of Public Works.

This fine two-storied building; known as the Department itself designed Transworks House. It was practically completed and occupied by the staff on 15th November 1908. (Fig. 92)

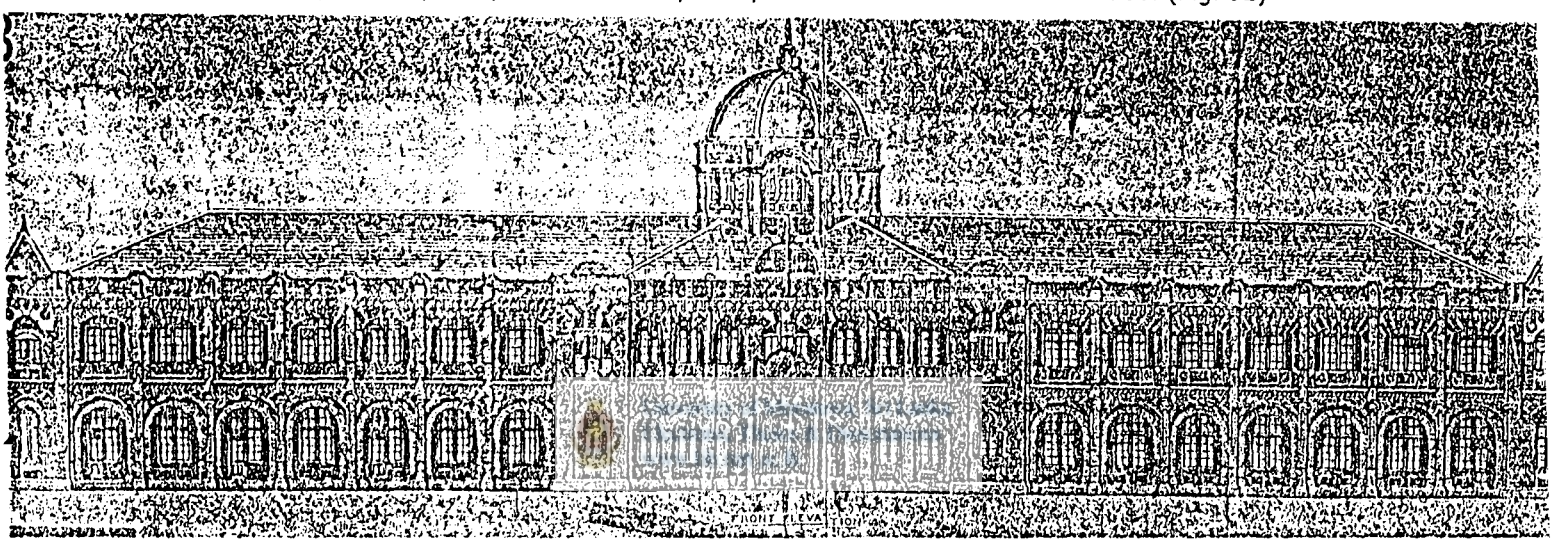
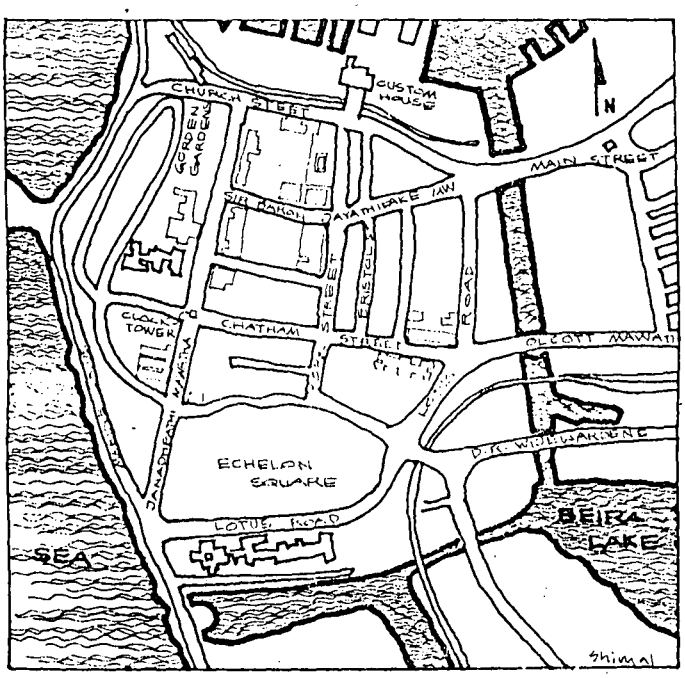
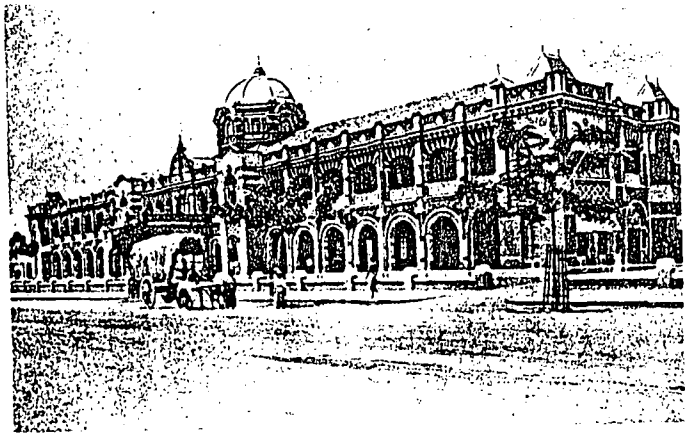


Fig. 92 Original Elevation of the building
(Source – Alwis, Prof. L. – British Period Architecture in Sri Lanka – 1992)



The exterior is neatly finished with red brickwork and slightly relived with designs of bluish-grey brickwork. The front and sides of both floors had spacious verandas some of which have been encroached to get more inside space-the corners of the building are punctuated with pavilions; at the centre of the



In 1915

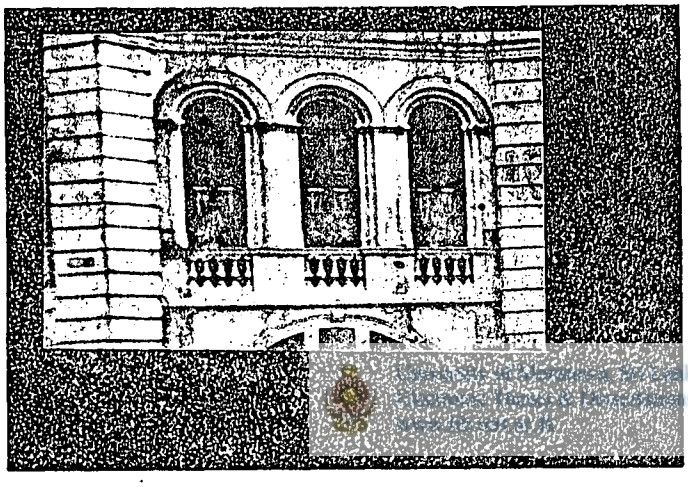


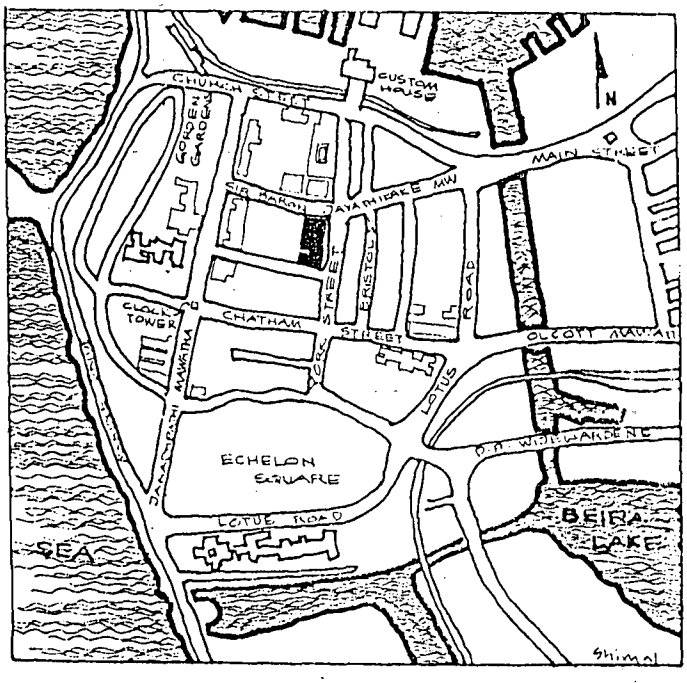
Fig. 93 Transworks House

frontage is a handsome porch while a beautiful octagonal brickwork tower with a dome on top affords a striking finish to the complex.

To reduce the weight upon the foundation formed by sinking concrete cylinders the building is built of composite construction: the stanchions' roof trusses and domes are of steel, with the walling composed of compressed lime and clay bricks. Access is gained through the porch and entrance lobby to an octagonal central hall-the keynote of the whole plan form, which all departments had taken off. This space, which also accommodates a grand staircase, is carried up as a tower and well lit by windows on top.

Even today this building is a familiar landmark in the Fort. Being given a facelift, it was ceremonially opened on 4th of October 1991, as a World Trade Centre-maintained by the Export Development Board of Sri Lanka.

(e) Cargills – Colombo

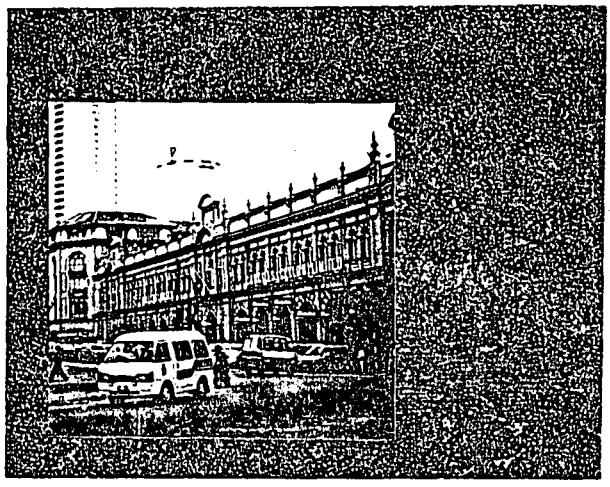


Layout

In 1850

This popular establishment is a development of the firm of Millers, Cargills and company, which had started business in 1844. When Colombo became a port-of call the firm steadily grew in importance. As a result it became the largest and oldest established department store in Sri Lanka. Once Miller retired to Glasgow, D.S. Cargills became the sole proprietor and the firm was named Cargills and Company. In 1896 this establishment had been converted to a limited liability company and in 1946, Late Sir Chittampalam Gardiner, one of the pioneer Ceylonese entrepreneurs took over this business.

On the site where Cargills now stands, there had been a block of old Dutch buildings occupied by high officials including the then Dutch Commander of Colombo. These old Dutch buildings had served Cargills and Company as good premises for many years, till it was decided in 1896 to build the present fine block of buildings.



In 2000

Fig. 94 Cargills Building
(Source – Alwis, Prof. L. – British Period Architecture in Sri Lanka – 1992)

The construction of this beautiful, ornate buildings of the Renaissance style of architecture had been commenced in1902 and completed 1906. The use of hydraulic lifts and electric fans, at that time, had added novelty to buildings. Its location in the Fort bordering three streets viz, the York Street, Sir Baron Janadipathi Mawatha (then Prince Street) and Mudalige Mawatha (then Baillie street) proximity to the harbour and Grand Oriental Hotel (later Taprobane) would have been a convenience to travellers and the local community. As a department store it had served the customers with varied items and services, Ladies drapery, dressmaking, hats, household furnishing wines and spirits, groceries, gentlemen's tailoring and outfitting, drugs and dispensary were some of them. This department store had been considered the finest of their kind in the East. Long established centres of Cargills Ltd., are found in Kandy and Nuwara Eliya too. This centre in Fort still serves people as a department store and has been a familiar landmark in the city of Colombo todate.

(f) Clock Tower, Colombo Fort

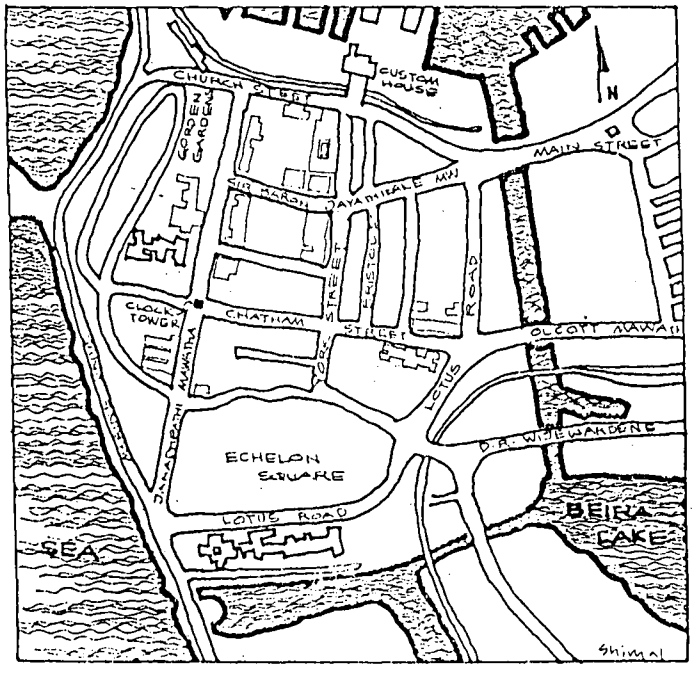
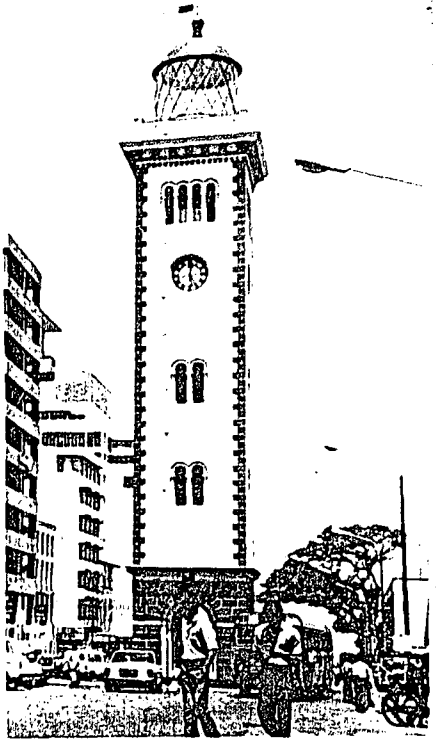


Fig. 95 Layout

This well-known clock tower surmounted with a lighthouse-at the junction of Janadhipathi Mawatha (then Queen's street) and Chatham Street was designed by lady Ward, wife of the Governor Sir Henry Ward and construction work had been commenced in 1857. But the clock itself, although commissioned in 1872, had been allowed to remain in the Commissariat stores for many years to avoid the expenses of putting it up, and eventually installed in 1914.

At that time this 96 feet high tower was a dominant feature in the skyline of the cityscape and as a combination of lighthouse and clock tower it would have been a convenient and interesting feature. Today it is more an ornament to Fort.



3.3 Development of Buildings in Fort Area

Basically the development of Colonial Buildings can be studied under three major periods; namely,

- Dutch Period (1658 A.D. - 1976 A.D)
- The British Period (1796 A.D. - 1948 A.D)
- The Post Independence Period

The development during the Dutch and British periods was greatly influenced by the architectural trends of Hollanders and British, but the Post independence development was more interior bound than exterior. That is to say that they were more conscious about efficient usage of the space.

The grandeur of public and commercial architecture that exist in the Fort is not seen anywhere else in the country.

3.3.1 During the Dutch Period

Though Sri Lanka was under the Portuguese for nearly 150 years, they did very little on their part to improve the building activities in their territory. But they were more concerned about the trade activities and the defiance. This was evident in the impermanent nature of their buildings most of which were destroyed during the continuous bombardment of the Dutch in 1656.

Compared to the Dutch , the Portuguese did very little in the way of Architecture and Town Planning. (even in other maritime stations they occupied.). However, according to Professor Roland Lewcock, Portuguese influence is evident in the first phase of Dutch architecture; projecting screened balconies visible in the drawings of old government houses and in the overall character of models and arches are evidence for that, the basic concepts of the newer buildings however became Dutch, but modified whenever necessary to suit special conditions such as the climate or otherwise, peculiar to the country. Unfortunately most of the buildings that were constructed during the Dutch period have long been demolished to

Unfortunately, today that glory has disappeared; beautiful gardens have gone and only one third of the building is used for the hotel. The rest is used for offices (mainly Bank of Ceylon) and shops. But the "Harbour room" at the top most floor with a panoramic view of the harbour provides an opportunity to spend a most pleasant evenings.

c) Custom House

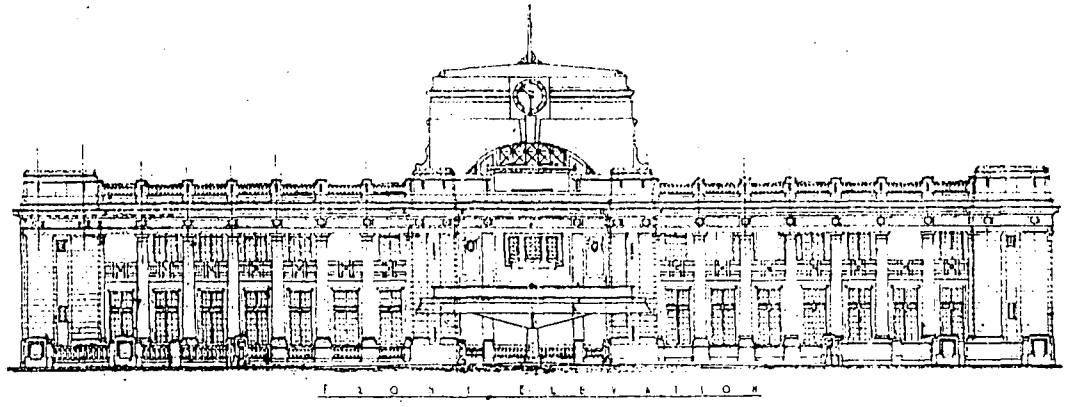


Fig. 90 Original Elevation of the Building
(Source – Alwis, Prof. L. – British Period Architecture in Sri Lanka – 1992)

This strategically positioned Neo-Classical customs building was completed in 1920. It is recorded that a new face had been given to this part of Fort with the erection of the customs building and the construction of the road bridge over the harbour service road and railways. During the times when ship was the only means of intercontinental transportation, this was a more active and lively area functioning round the clock, receiving passengers from many parts of the world.

Layout

came up during the British period were greatly influenced by the Dutch; but had a character and identity of their own although the unified environment was considered harmonious and has a distinctive architectural character.

The large windows that were used during the Dutch period to allow more light into the gloomy interiors were seen used in these buildings also. But unlike in the case of Dutch, the extensive use of verandas and obtaining light indirectly through, were not followed by the British. Instead they were more content with recessed windows. The usage of glass in the doors and windows in the British era is the significant change visible in the British buildings, which indicate the usage of available new materials and also need for more light in their interiors. (Fig. 97)

- General post office Building (1985 - 1900) Archt. H.F. Tomalin
- State Bank of India (1925) Archt. J.G. Smither
- Chamber of Commerce Building (1927 – 1930)
- Parliamentary Bldg. (1924) Archte. A. Woodson
  Alternations and Secretariat Building by Archt. Wynne Jones
- Cargills & Millers Bldg. 1900 (re - built in 1987) Archt. J.G Smither
- Colombo Apothecaries Bldg. (1909) Archt. J.G. Smither
- Caves Bldg. (1903)
- Times of Ceylon Bldg. (1936) Archt. Wynne Jones
- National Grindlays Bank Bldg. (1925) Archt. Wynne Jones
- Charted Bank (1925) Archt. Wynnek Jones
- Waller & Sons Ltd., (1912) Archt. J.G. Smither Bldg.
- Grand Oriental Hotel Bldg. (re- built in 1924 - 1925 Archt. S.J. Edwards)
- Central Telecommunication Bldg. (1910) Archt. J.G. S,otjer

Above list of buildings are significant examples built during the British era.

3.3.3 During the Post Independence Period

The British who were much more concerned about the ornamental elements (Fig. 98) of a building had the privilege of using some of the industrial material like glass and iron during the last stages of their occupation. This limited options available made it possible for them to

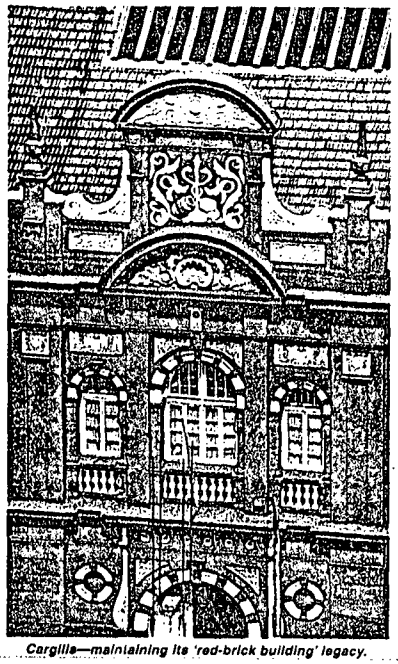

Cargills—maintaining its 'red-brick building' legacy.

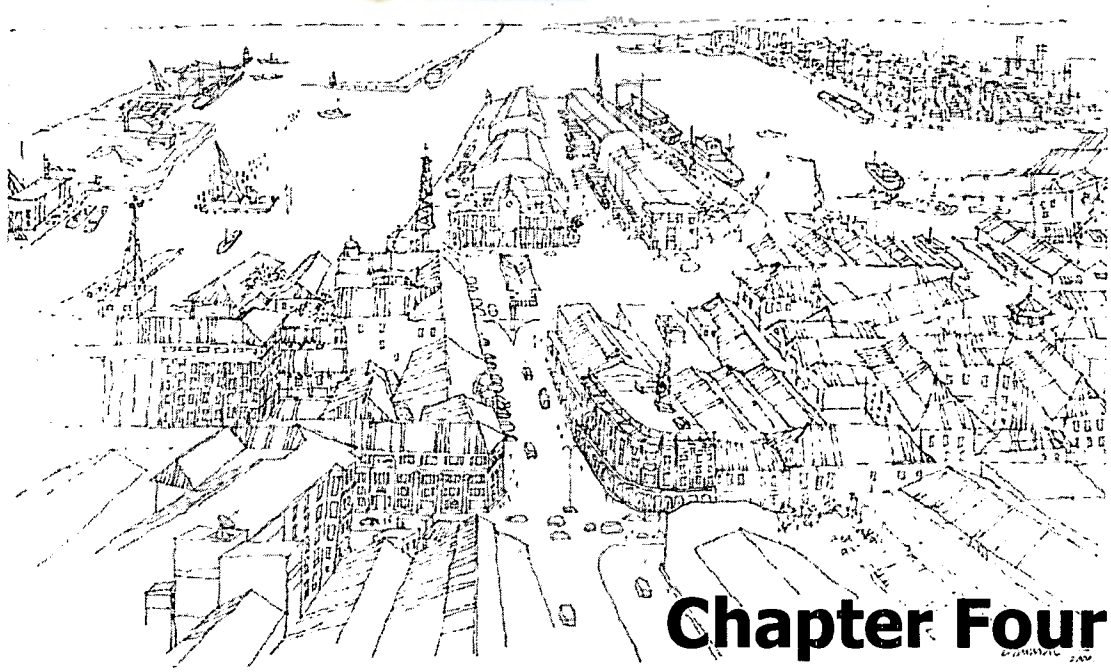
Fig. 98 Ornamental elements – British Period

construct buildings up to four stories during that time, but the free influx of modern materials after the independence had much possibilities to offer and created a lasting impact on the building industry.

The building elements used in this period is much more simple and eminently practical than the elements used in Dutch and British periods. The primary aim of these elements was the utility and all the elements used in that period had a functional value to it.

According to Gerald Burke, additions or replacement in this period townscape evinced greater concern for design as the science of achieving maximum usable floor space and functional efficiency than as art of achieving pleasing appearance.

Existing building character and the Existence of the visual pollution in this historic area will be discussed through examples in the last chapter.



Chapter Four

Architectural Pollution and Colombo Fort

Chapter Four

Architectural Pollution and Colombo Fort

Fig. 99 Birdseye view – Colombo Fort

This chapter attempts to utilize the principle of composition which has been described in the first chapter and the essential characteristics of a historical urban context, explained in the second chapter to the selected Colombo Fort area which introduced in the third chapter, and demonstrate using cases from actual situations.

Although Colombo Fort had specific arrangements in the past it has already been changed now. Cities of present day consist of buildings made out of different forms. Combination of different forms in city context provides different characters to the different cities. If a city is composed in an orthodox manner environment of that city enhance the harmony and rhythm. But if the combination of forms do not harmonies with each other it pollutes the built environment.

4.1 Examination of Aesthetic Principles.

In this study conformity with aesthetic principles are judged by using the principle of unity, principle of proportion and principle of contras. This is done by their application to buildings in streetscapes in selected city context. With reference to the built environment, selected examples from Colombo Fort are cited to testify whether the principles of composition have been violated resulting pollution in the built environment or whether they have fulfilled resulting satisfactorily composed visual environment.

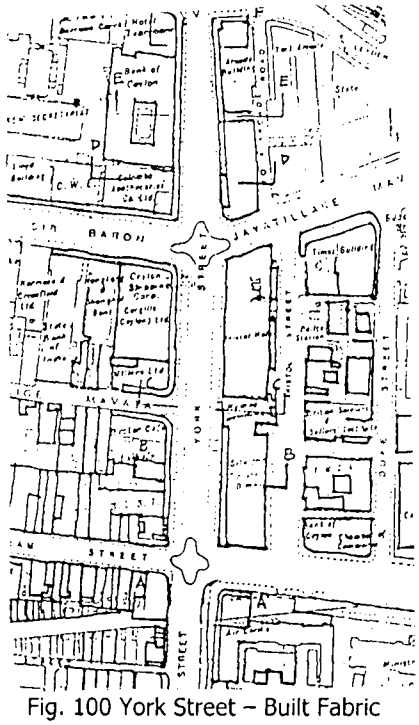


Fig. 100 York Street – Built Fabric

4.1.1 Principle of Unity

The resultant of the manner in which elements of buildings are grouped together to gain the idea of wholeness can be classified as Unity.To study this phenomenon, York Street in Fort has been selected as a case. The raw of buildings along York Street can be divided into three sectors. One sector is from Echelon Square to Mudalige Mawatha, intersection second is from this intersection to Sir Baron Jayathilake Mawatha intersection and the third sector is from that point to the Ports Authority building. (Fig. 100)

Although this is consisted of three sectors, similar characteristics like wall to window proportion, verticality and height help someone to read this as a whole.

The buildings in the Western side along York Street in the first section have combined with the buildings in the third section with the help of buildings in the intermediate section. Absence of buildings in the second sector would separate the other two sections which then would give rise to duality and in turn weaken the unit, but the similar characteristics in the buildings of second section bind the first and last sections. This characteristic helps to read the street as a whole. Therefore Western side of the streetscape fulfil the principle of unity. (Fig 101)

Fig. 101 Similar Characteristics of York Street Layout

In the Eastern side of York Street, street continuity is interrupted by the first and second section. It separates one block from the other and the wholeness of the streetscape is violated causing duality. Absence of verticality and horizontality of Grindlays Bank contribute to the violation of the principle of unity. (Fig 102)

Fig. 102 Absence of Verticality and Horizontality – Grindlays bank

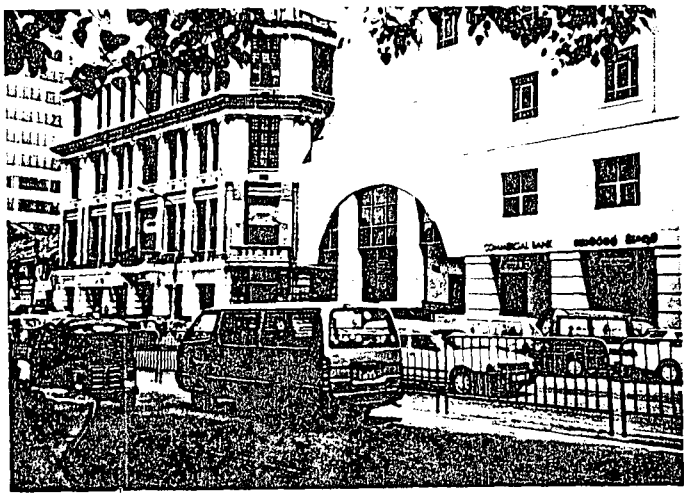
Fig. 103 Violation of Unity – Hemas and Bristol Buildings

Fig. 104 Absence of wholeness – Breaks the rhythm of the street

A similar violation can be seen in the second section by Hemas Building and Bristol Building, which have been clearly disturbed to the unity and harmony. (Fig 103)

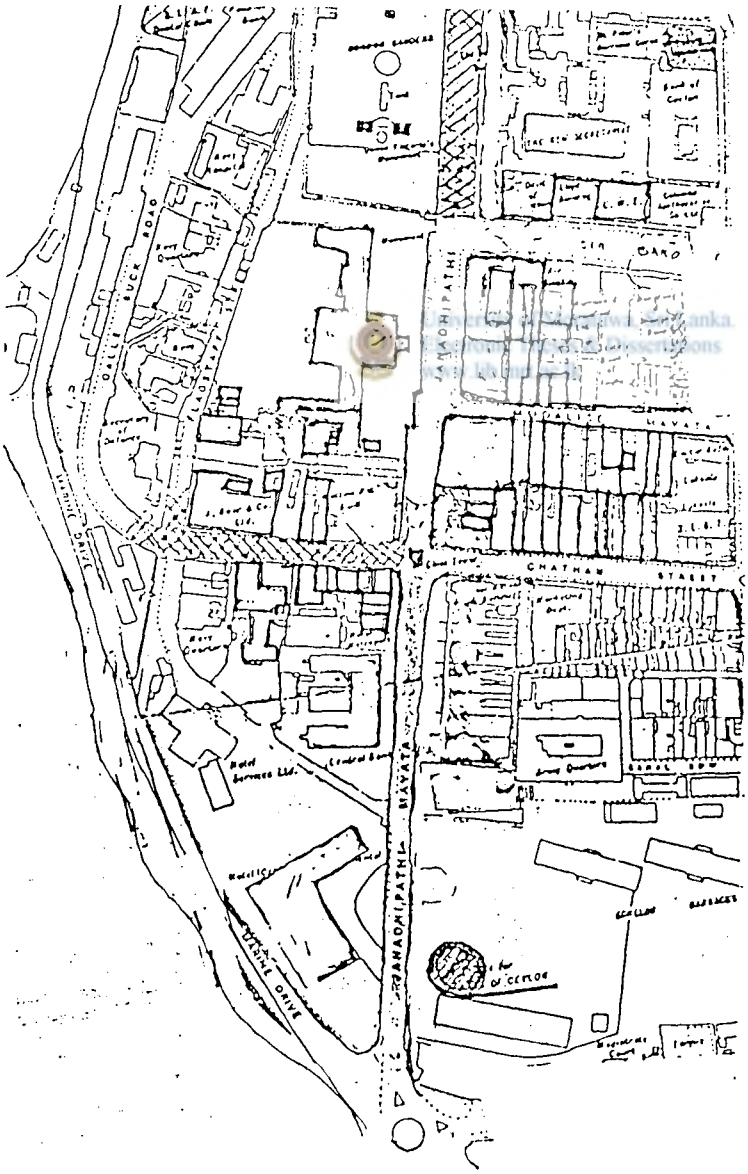
The wholeness of the streetscape is absent due to the absence of buildings in some parts of the streetscape, mismatching the vertical and horizontal balance within the existing pattern of the streetscape. (Fig 104)

Yet another violation of principle of unity can be seen at York Street in the Western side of the first sector of the streetscape.



The Commercial Bank building although follows the ground level details, it violates the verticality through its openings and by using a strange semi-circular arch it disturbs the rhythm of the streetscape (Fig 105)

Fig. 105 Disturbance to the rhythm to the Streetscape



Although the Eastern side of Janadhipathi Mawatha is rich with continuity, it is weakened by the thin, slender form of Bank of Ceylon building at the end of the street. (Fig. 106)

Fig 106: Janadhipathi Mawatha – Built Fabric

The alien built form of the bank has resulted pollution in the visual environment of the street. (Fig. 107)

Fig. 107 Alien Built form – Bank of Ceylon Tower

By the examination of the principle of unity in the Fort area it can be stated that the unity of the Existing historic buildings has been thoroughly disturbed or interrupted by the constructions of post independence period buildings. Wrong connection between elements and buildings has been generated by the absence of wholeness in this historical district. (Fig 108)

Fig. 108 Wrong Connections between Elements

4.1.2 Principle of Proportion

Buildings in correct proportions and use of correct proportional elements contribute to fulfil the principle of proportion as explained in chapter one.

Considering the Western side of York Street it is noticeable that the proportion of the buildings in streetscape is similar to each other. Proportion of the arcades, columns and windows enhance the aesthetic quality of the streetscape. Therefore it is noticeable that the principle of proportion is fulfilled in the western side of the York Street. (Fig 109,110)

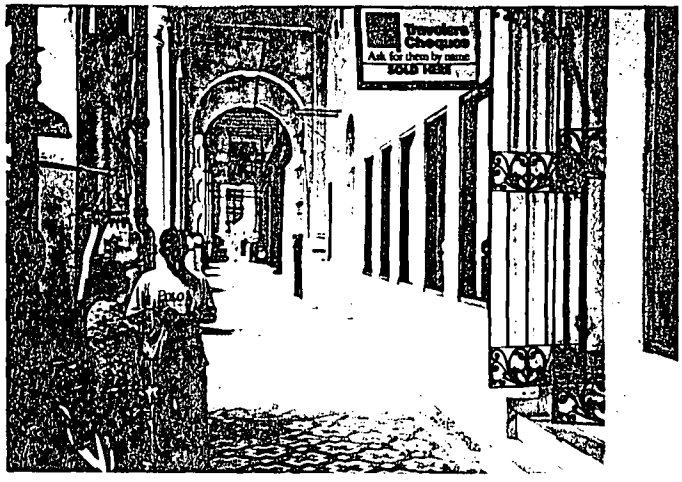


Fig. 109 Similar Proportion of Buildings – York Street

Fig. 110 Same Scale

But the height and the breadth of the buildings in the Eastern side of York Street are equal to a considerable extent. The vertical slender columns used in Grindlays Bank and the absence of vertical elements in Hemas building deter the visual harmony. As a result the principle of proportion is violated in this street. (Fig 111)

Fig. 111 Deteration of visual harmony

A similar violation can be observed in the Marine Drive where two storied linear buildings can be defined as the only building which is prominent in scale but the long windows to wall ratio and built scale are not enough to over power the landscape of the street. Therefore it is noticeable that the principle of proportion is violated strongly in this street.

In contrast the conformity with the principle of the proportion cannot be seen in buildings along the Northern and Southern sides of Chatham Street. Hence the proportions and elements from building to building vary resulting pollution in the built environment.

Fig. 112 Correct proportions enhance aesthetic quality

Fig. 113 Wrong Connection between elements

4.1.3 Principle of Contrast

As elucidate in chapter one principle of contrast explains how to combine solids and voids according to proportion while providing interesting look to the product by using colour, texture, ornamentation etc.

The Western side of York Street can be classified as a good example for the conformity of the principle of contrast, because facades of the buildings are rich with detailing such as columns, windows, arches and colour which are compatible and complimentary to each other. (Fig 101)

This proper combination enhance the visual variety of the streetscape while maintaining the similar characteristics of it. This streetscape maintains the similar characteristics devoid of monotony of the façades and is rich with enhancement.

On the other hand Hemas building creates monotony due to not responding to the other elements in the neighbouring buildings (Fig 103)

Yet another violation can be seen in buildings along the Upper Chatham Street, which are constituted with solids and voids with a similar window to wall ratio (Fig 108). Although the shape of the windows varies from square to arch they adhere to the vertical rhythm and provide variety to the street. Nevertheless the use of curtain walls in facades of the building violate the principle of contrast. (Fig 114)

Fig. 114 Use of Curtain Walls – Chatham Street

Fig. 115 Built Fabric Chatham Street

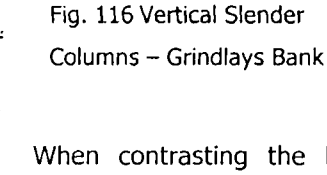


Fig. 116 Vertical Slender Columns – Grindlays Bank

When contrasting the buildings in Chatham Street with that of York Street or Janadhipathi Mawatha they appear to have sort of a multi national outlook in characteristics such as windows and roofs. But this is not successful in enhancing its character. This adds monotony to the streetscape. (Fig 114)

4.2 Examination of Functional Principles

The functional principles are determined by the principle of composition. This is examined as to how these factors involved in creating pollution in the visual environment. It is examined under the buildings in relation to physical context, form of circulation and also the expression of activity and context.

4.2.1 Streetscape in relation to its physical context

As mentioned in chapter one, when producing an architectural product it is necessary to consider the neighbouring tangible elements like buildings with streetscape, topography, natural elements in order to create compatible built forms to match with the context which may not lead to pollution in the built environment.

This can be avoided by maintaining the pattern of a streetscape, which can be achieved, by the rhythm. Rhythm consists of building line, skyline, height and breadth of the building.

4.2.1.1 Built scale

Fig. 117 Similar Built scale – York Street

Built scale is determined under the size of the building, height of individual building and the average height of total buildings in the street.

When determine the buildings in the Western side of York Street, height of buildings and elements used are in similar size. Therefore built scale is not violated in this street. (Fig. 117) The elements and heights of the buildings in the Eastern side of York Street are according to human scale, but the linear openings of the Grindlays Bank have violated this condition (Fig. 116)

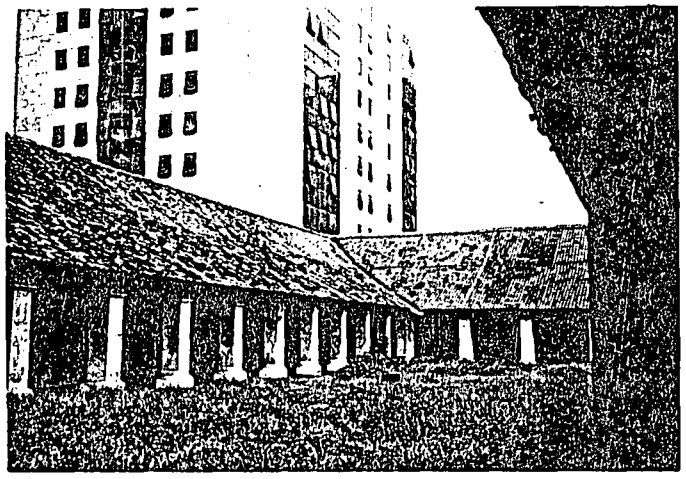
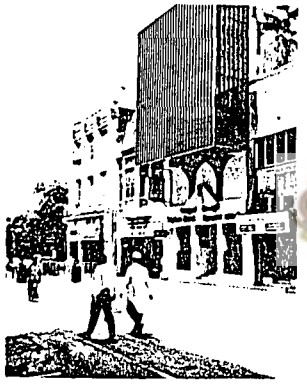


Fig. 118 Breaking the Horizontality – Ceylinco Building

Yet another violation of built scale can be identified from the Echelon square area. New Ceylinco Head office building, which is located at Janadhipathi Mawatha, is clearly breaking the built scale of its immediate neighbouring old Dutch hospital building. The height and the breadth of the building break the rhythm of the linear shaped old Dutch hospital building, which is to be converted to a tourist hotel. (Fig. 118)



A similar violation can be seen in the upper Chatham Street. Built scale is of human scale except some buildings such as Seylan Bank with black glass panels. It has violated the built scale (Fig. 119)

Fig. 119 Violation of Built Scale – Seylan Bank

4.2.1.2 Skyline and Building line

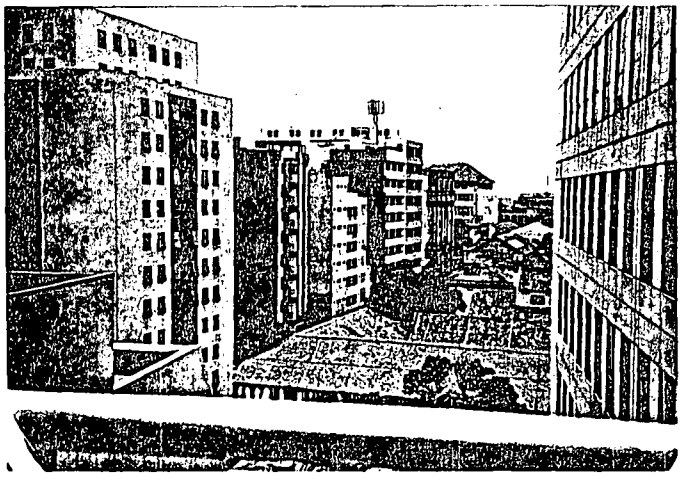


Fig. 120 Skyline of Janadipathi Maewatha

This is an imaginary line composing individual buildings. This can be explained as a good example for the use of proper skyline and building line. Almost all the buildings on the Western side of York Street have fulfilled these aspects. (Fig. 101)

On the Eastern side of York street absence of buildings in second sector interrupted the continuity of the skyline, but in the third sector it is maintained. (Fig. 124,125)

4.2.1.3 Height and the Breadth of the building

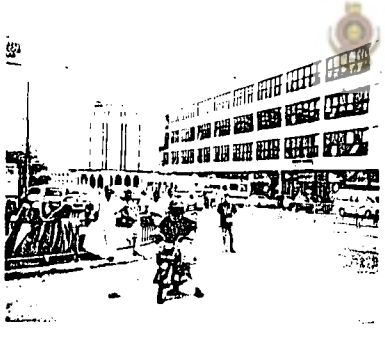


Fig. 121 Disharmony of Height and breadth

The street facade on the Western side of York Street fulfils this aspect. (Fig. 101) However due to the tall and narrow form of Hemas building in the Eastern side of York street, the height and the breadth of the building do not harmonies with the neighbouring buildings and thus originated the pollution the environment. (Fig. 121)

4.2.1.4 Floor to floor height

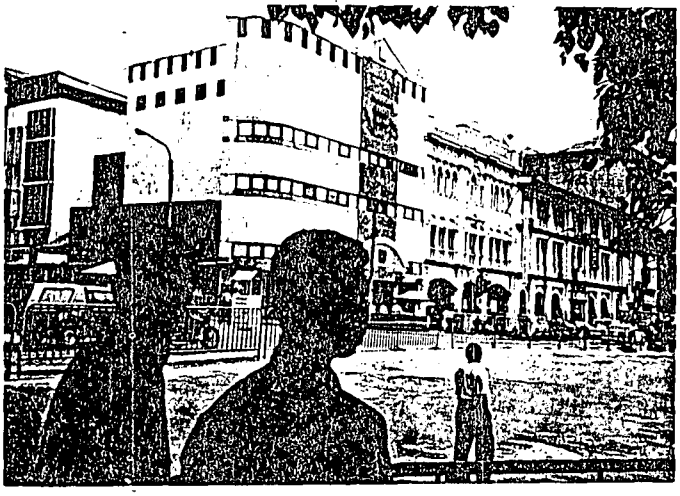


Fig. 122 Violation of Floor-to-Floor Height

Horizontal rhythm is maintained by the floor-to-floor height. Buildings in the Western side of York Street have maintained the floor-to-floor height in the first section and the tired section. In the middle section Nations Trust Bank building disturbs this rhythm by violating the principle of maintaining the floor-to-floor height. (Fig. 122)

On the other side of the street, floor-to-floor height of the buildings in the streetscape is violated due to the presences of Grindlays Bank and Hemas building (Fig. 121)

4.2.1.5 Corner Treatment

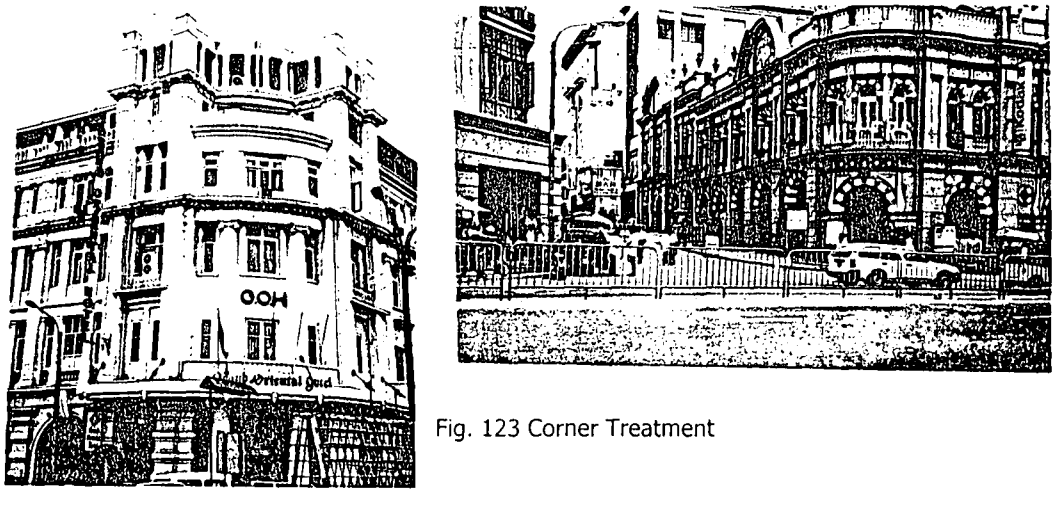
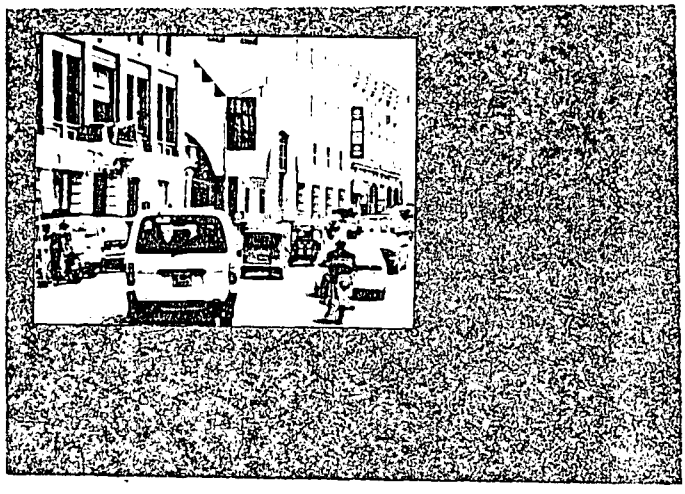


Fig. 123 Corner Treatment

According to this principle, buildings that are located in the corner plots should respond to the junction. (Fig. 123)

Almost all the buildings in York Street respond to this principle except the building at the corner of the upper Chatham Street and the corner building at Sir baron Jayathilake Mawatha.



Commercial Bank building next to Sathosa building at the Western side of York Street does not respond to the corner in ground floor, but only the upper portion has responded to the corner. (Fig. 124)

Fig. 124 Violation of Corner Treatment

4.2.1.6 Roof

Except for a few buildings in York Street the roofs of all the other buildings have been covered with decorative cornices and details. This avoids monotony and ads variety to the streetscape as well as to the facades. (Fig. 125)

Fig. 125 Violation of Roofscape – York Street

4.2.1.7 Horizontal and Vertical Rhythm

Doors, windows and columns contribute in providing horizontal and vertical rhythm.

Buildings with similar floor height in York Street provides horizontal rhythm. Monotony in this street facade is avoided by using variety of columns. The continuous arcade maintains horizontal of this street. Balance between horizontal and vertical rhythm is maintained by the windows to wall ratio. (Fig. 126)

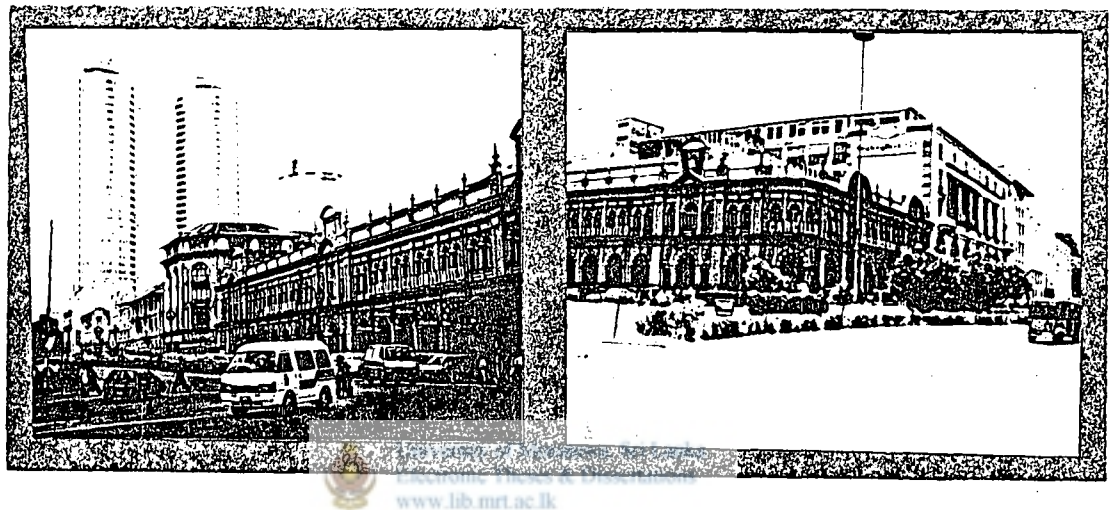


Fig 126 Vertical and horizontal Rhythm – York Street

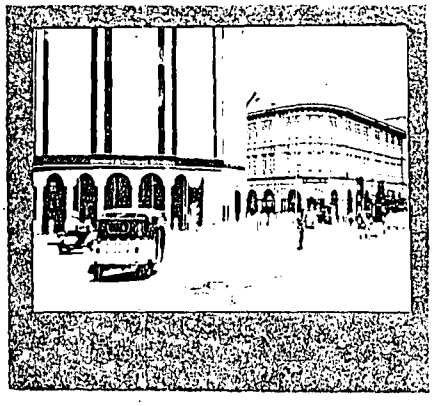


Fig. 127 Violation of Horizontality – Grindlay's Bank

But the vertical rhythm of the building on the Eastern side of York Street has been violated by the thin vertical windows of Grindlays Bank building whereas the arcade of this street enhance the horizontal rhythm. But the horizontality of the Hemas building is highly emphasized. Therefore it does not merge with the neighbouring buildings and it is totally inappropriate to the location. The vertical and horizontal balance is violated and the pollution in built environment can be seen. (Fig. 127)

4.2.1.8 Surface Articulation

Surface articulation enhances the visual and functional aspects of the building. Detailing, colour and material express the purpose of the building.

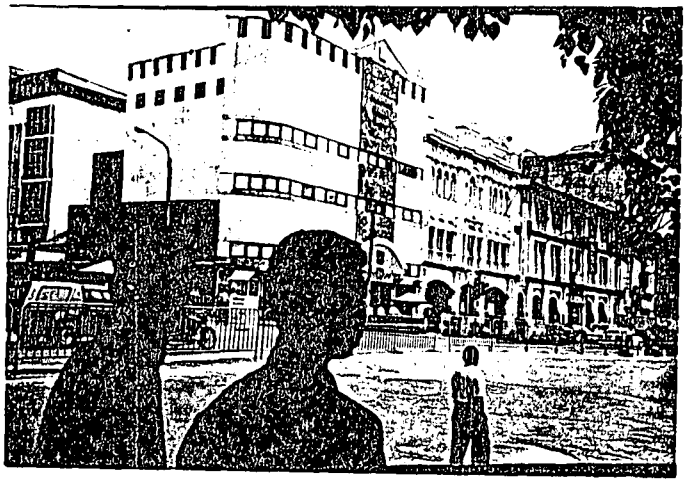


Fig. 128 Violation of Facade Treatment Nations Trust bank

Grindlays Bank violates surface articulation of buildings in Eastern side of York Street. Cylindrical slender columns used in Grindlays Bank building have polluted the existing arcade pattern and thereby the visual environment. (Fig. 127)

However in the buildings on the Western side of York street surface articulation is done properly and well maintained enhancing its quality, except the Nations Trust Bank building, which is on the middle part of the streetscape. (Fig. 128) Except that, windows, doors, columns and arcades together with the colour and texture enhance the visual richness of that street.

4.2.1.9 Enclosure

Enclosure is determined by the scale of building along side of the road and the width of the road as explained in chapter one.

Enclosure of York Street is heightened up in the third section due to the continuous arcade of buildings. But when leading to the second section, absence of buildings next to Hemas building made it incapable to continue the skyline. Due to the absence of buildings next to Hemas building, skyline breaks down but on the other side of the road the skyline continued. Therefore it has not been able to provide sense of enclosure to the street. (Fig. 129)

Low High

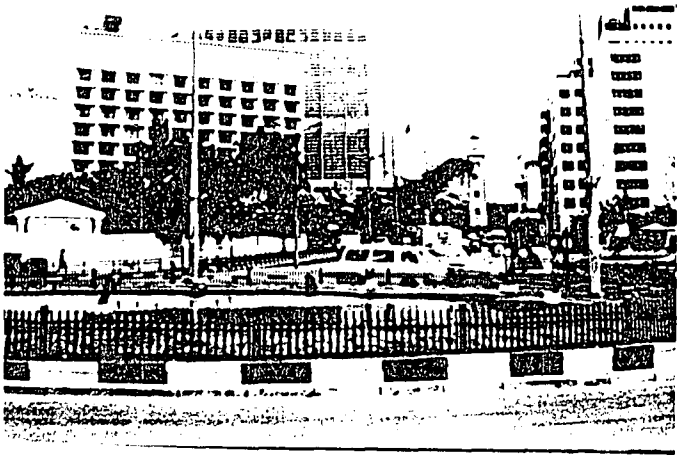
Fig. 129 Sense of Enclosure

Third section posses a high degree of enclosure due to the proportion between the building height and the road width, this sense of enclosure is heightened as the road narrows down when it reaches the end. (Fig. 129)

At the same time, continuity of buildings has been primarily maintained by the row of buildings in the Western side of York Street. Intensified windows of solids and voids facades are similar in all the buildings thus strengthening the continuity with the horizontal pattern they form.

In contrast, the buildings on the Eastern side of the street create an inappropriate situation due to the slender cylindrical columns of Grindlays Bank, to stand amidst the ground arcade of the other neighbouring buildings. Therefore the continuity of the street has retarded. (Fig. 101)

However due to the strong beginning with the Echelon square and ending with the port authority building, directional quality of this street has been enhanced.



Although the skyline and building line are interrupted along Janadhipathi Mawatha, it enhances the directional quality towards the clock tower. (Fig. 130)

Fig. 130 Directional Quality towards the Clock Tower

Summary

As mentioned earlier Principle of composition consists of two aspects. They are aesthetic aspects and functional aspects.

Aesthetic aspects are determined according to aesthetic principles namely principle of unity, Principle of proportion, principle of contrast.

Functional aspects are observed in relation to functional principles such as streets in relation to physical contexts, streetscape and its circulation pattern, and streetscape and its expression.

In this chapter these principles are applied to the city context of Colombo Fort and several examples have been cited from this selected area as to explain how the built environment has polluted.

After examining the aesthetics principles and functional principles one can get a clear idea of the city, its character and harmony. This examination depicts properly used aesthetic

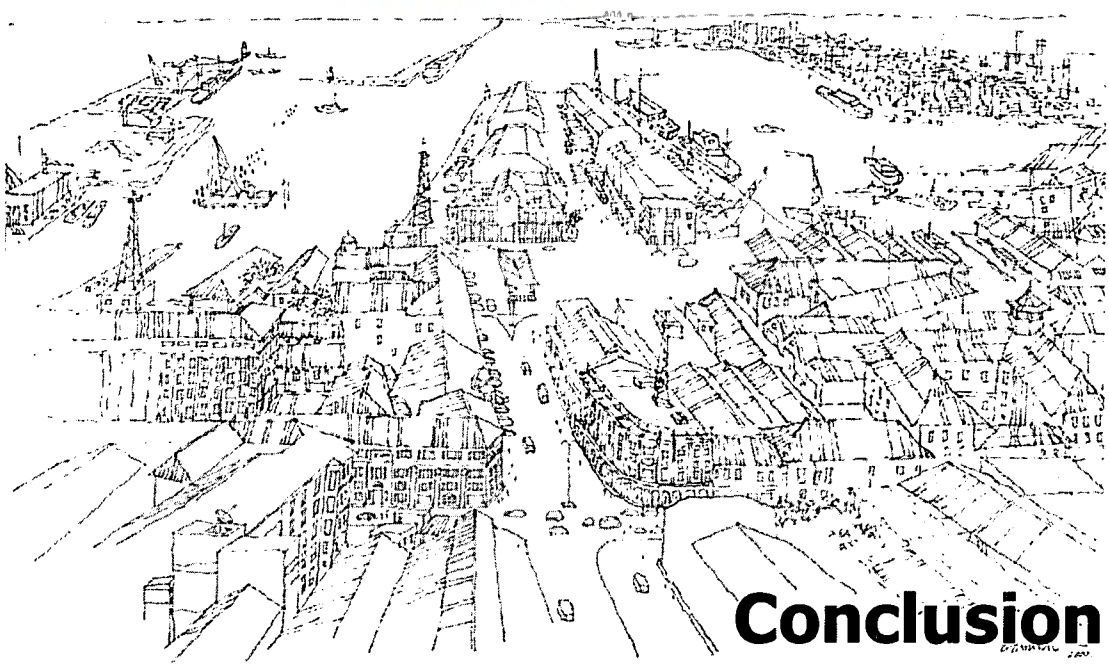
principles enhance the harmony, visual sensation, variety and continuity of a historic city. Sensitive use of functional principles enhance the character of city, its role and purpose

Properly used aesthetic and functional principles mark correct mental images and silhouettes of cities and buildings in beholders mind. Properly composed cities do not mislead the beholder it enhances the harmony and visual sensation thus providing a harmonious non - confusing environment.

If these principles are misuse to creates buildings, which do no match with each other thus creating pollution in the visual environment.

As mentioned in earlier examples, many new buildings like Bank of Ceylon tower, Twin Tower, Grindlays Bank, Hemas building have been introduced to the city form. Due to the exposure for the new trends and technology these bizarre type of buildings have resulted in city composition.

As a result of the new technology; design methods, school of thoughts have contributed to the pollution of the built environment. Most of the buildings which have crop up due to the insensitive use of new technology has severely affected the unity of the city context of Colombo Fort.



Conclusion

CONCLUSION

Towards an unpolluted pack of layers of history for the future

Architecture can be experienced physically, emotionally and intellectually. Work of architecture contains its essence within a visible and tangible physical entity. This can be defined as complicated spatial organization, which creates rhythmic movement through progression of spaces. Due to the experience of the beholder he grasps the rhythmic movement. This happens due to his readiness, temperament at different depths.

Cities have been ruined all over the world due to the use of inappropriate built forms in a disastrous way. This mainly happens due to the use of inappropriate built forms, which are inappropriate to its existing pattern, context and rhythm. This is clearly shown by the examples in the chapter four. For example Grindlays Bank buildings expresses mismatching appearance when comparing with the existing built forms. Therefore it has violated the

existing character of that streetscape. Likewise inappropriateness of built forms may cause diminishing city character as well as its uniqueness.

Due to the exposure to the open economy, development of technology it gives rise to different forms of buildings, with new materials, like Commercial Bank building and Bank of Ceylon tower. This gives rise to pollution of the visual environment. If this development is used sensitively it will avoid the pollution and enhance the harmony. If one creates built forms avoiding pollution, enhancing harmony and rhythm it gives rise to uniqueness of the streetscase and city. Whether this uniqueness is appropriate or not and if the city has rhythm and harmony in between built forms streetscapes may enhance the visual sensation of the beholder.

If a building is added to the streetscape in an unorthodox manner to the existing pattern it pollutes the particular streetscape. Bank of Ceylon buildings at Janadhipathi Mawatha can be taken as an example. This will affect the people's lives badly and a sense of belongingness of that streetscape is vanished.

Imageability and identity of a city depends on the size, arrangement pattern of basic constituents. Therefore it is necessary to avoid pollution in the visual environment in order to obtain identity and imageability.

Firstly one must understand the inherent pattern and qualities of a city especially in a historic city, before adding extensions or doing changes. Otherwise it may give rise to incompatible forms while polluting the streetscape as well as a city as a whole.

In a modern situation urban designers as well as architects are facing a challenge as how to create a city enhancing rhythm, harmony and how to add changes or additions to suit the existing pattern without arising pollution in the visual environment.

Therefore architects as well as urban designers should thoroughly study about the exi8sting pattern and should determine how to enhance the harmony, how to conserve a historic city and which part should be conserved; so that pollution can be avoided and enhance the city character.

Pollution in the visual environment mainly happens due to the violation of aesthetic aspects as well as functional aspects, because aesthetic aspects enhance the variety, visual sensation, and harmony of a streetscape. Functional principles may contribute in enhancing purpose, correct expression of a city. Therefore to face this challenge confidently proper understanding of principle of composition is essential.

What happens to the buildings where the aspect of compatible composition and its relationship between them is violated is defined and discussed with examples in the previous chapter.

In further details aesthetic aspect involves in the beauty of the product. Functional principles involve in the rhythm, enclosure and order of a city or streetscape, proper understanding of these principles may help in enhancing the rhythm, harmony in a product.

Using principle of composition only a value judgement can be achieved. Some times to judge a city and a streetscape by the use of principle of composition may be quite unreasonable, but considering the development and improvement of the streetscape and the city achieved by the use of new materials, technology and school of thoughts one can argue that is quite unfair to evaluate in that manner. Pollution in visual environmental can occur in various degrees at various situations. These may happen due to the lack of understanding and negligence of principle of composition and how to use these in a streetscape as well as a city, in an appropriate manner

Examples discussed in the previous chapter in local context, identified that the uniqueness, character of city is violated due to the incompatible, misuse, insensitive use of built forms. Contextual expression, character, originality of Fort is still at a desirable condition because of the restrictions of the area, which is considered as a high security zone.

Therefore it is necessary to understand and apply the principle of composition when designing or changing the existing built forms.

Therefore this study is important to architects and urban designers because they are the people who are responsible in avoiding pollution in the visual environment. When principle of composition is violated, the visual environment may express restless incomplete city or streetscape as visual chaos.

Though we have indigenous culture, inherent features of our own we must retain those qualities while moving towards the next century. Because tangible physical architectural products destroy our own heritage and layers of history thus affecting the human intangible emotions and expressions.

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