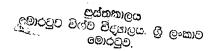
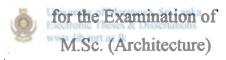
LB/DON/24/00

A STUDY ON THE EFFECTIVENESS OF URBAN DESIGN APPROACH TO CURB HAPHAZARD DEVELOPMENT AND GENERATE HUMANE BUILT FABRIC IN CITIES.



A Dissertation Presented to the Faculty of Architecture of the University of Moratuwa





71576

72 "97"

LAVANYA S. WEERASURIYA
M.Sc. II
DEPARTMENT OF ARCHITECTURE
UNIVERSITY OF MORATUWA
APRIL, 1997.



".....the future city will be everywhere and nowhere, and it will be a city so greatly different from the ancient city or any city of today that we will probably fail to recognize its coming as the city at all."

Frank Lloyd Wright

ABSTRACT

Modern cities, all over the world, are in a serious plight, speeding on towards their decline, losing their identity and character. On account of this, chaos has set in and haphazard development has become a marked characteristic in urban environments making most of the cities inhumane. This is mainly due to the inability of the later designs to capture the character and the essence prevailing in the building fabric and incorporate them in new designs. By analysing various approaches or techniques oriented to curb haphazardness, this study reveals Urban Design approach as the only holistic approach to find out meaningful solutions for problems of the urban built environment. Further investigations on this approach reveal that the three main components of urban design, i.e., the Square or the Plaza, the Street, and the buildings that make up the public face of towns and cities, need to be cohesively arranged in order to avoid haphazardness. Moreover, they reveal that organizing the built environment of the above three urban design components so as to bring out visual, functional, environmental and experiential qualities of towns and cities will not only contribute to avoid haphazardness, but also help in generation of humane built fabric. This study is an attempt to make it clear that the avoidance of haphazard development by the urban design approach would be an achievement which would help to create meaningful urban situations, avoiding chaos or monotony, because it is evident that avoiding haphazard or chaotic development and making cities more humane, would make them more liveable and pleasing to the society as a whole.

ACKNOWLEDGEMENTS

I express my deep gratitude and thanks to -

- * Archt. Dr. Ranjith Perera Senior Lecturer, Dept. of Architecture, University of Moratuwa for the invaluable advice and guidance given and the helpful comments and suggestions made throughout the course of the study,
- * Architects Vidura Sri Nammuni and Madura Prematilake Senior Lecturers, Dept. Of Architecture, University of Moratuwa for the kind guidance and useful comments made at the inception of this study,
- * All my friends and colleagues who contributed to this study in no small measure by offering their thought provoking ideas and comments,
- * The Library staff of
 - University of Moratuwa
 - British Council
 - Indian Embassy
 - Open University
 - Centre for Housing, Planning and Building, for ready help and assistance in finding necessary literature and information for this study
- * My sister Pramoda for producing this document by Word Processing at very short notice,
- * And last but not least, to my dear parents and the members of my family for their patience, understanding and immeasurable help extended to me at all times.

To all of them and all others too numerous to be mentioned individually I sincerely offer my thanks for the help and encouragement given to me by word or deed for the progress of this undertaking and particularly for their appreciation of the importance of this area of study.

CONTENTS

| | | | Page |
|--------------------|------------------|-----------------------------|------|
| Abstract | | | ii |
| Acknowledgeme | ent | | iii |
| List of Illustrati | ons | | vi |
| Introduction | | | 1 |
| a. Topic Ex | eplanation | • | 2 |
| _ | d of the study | | 6 |
| | d Objectives of | | 8 |
| - | nd Limitations | 3 | 9 |
| e. Method | or study | | 10 |
| Chapter One - | The Urban | Environment | 12 |
| 1.1 Urban | space and urb | anity | 14 |
| 1.2 Charac | ter | | 17 |
| 1.3 The qua | alities that con | ntribute to the character | 19 |
| 1.3.1 | Composition | on ac.lk | 21 |
| | 1.3.1.1 | Centralised Organization | 22 |
| | 1.3.1.2 | Linear Organization | 23 |
| | 1.3.1.3 | Radial Organization | 24 |
| | 1.3.1.4 | Clustered Organization | 25 |
| | 1.3.1.5 | Grid Organization | 26 |
| 1.3.2 | Texture | | 27 |
| 1.3.2 | Stance | | 28 |
| Chapter Two - | Haphazard | Urban Development | 31 |
| 2.1 Haphaza | ardness in the | physical existence | 34 |
| 2.2 Outcom | e generated d | ue to haphazard development | 37 |

| | Page |
|--|----------|
| 2.3 Attributes needed to overcome haphazardness | 43 |
| 2.3.1 Visual Qualities | 43 |
| 2.3.2 Functional Qualities | 44 |
| 2.3.3 Environmental Qualities 2.3.4 Experiential Qualities | 45 45 |
| 2.3.4 Experiential Quanties | 43 |
| Chapter Three - Techniques or approaches to overcome | 47 |
| the haphazardness | |
| 3.1 Laissez Faire Approach | 47 |
| 3.2 Land use planning Approach | 48 |
| a. Concentric Zone Theory | 49 |
| b. Sector Theory | 51 |
| c. Multiple Nuclei Concept | 52 |
| 3.3 Master Planning Approach | 54 |
| 3.4 Regulatory Approach | 55 |
| 3.5 Urban Design Approach | 56 |
| Chapter Four - Urban Design and its main components | 63 |
| 4.1 The square or Plaza is mrt ne ik | 65 |
| 4.1.1 Boundary | 67 |
| 4.1.2 Proper linkage | 68 |
| 4.1.3 Scale & Proportion | 73 |
| 4.1.4 Form | 76 |
| 4.1.5 Activity / Function | 77 |
| 4.2 The Street | 85 |
| 4.3 The buildings that make up the public face of towns and cities | 92 |
| 4.3.1 Order | 95 |
| 4.3.2 Unity | 99 |
| 4.3.3 Proportion | 102 |
| 4.3.4 Scale and Proportion | 106 |
| 4.3.5 Symmetry, Balance and Rhythm | 110 |
| 4.3.6 Rhythm, Harmony and Contrast | 113 |
| Conclusion | 118 |
| References | 123 |

LIST OF ILLUSTRATIONS

| Figure | | Page |
|----------------|---|----------|
| 1 | The city is the product of many builders who are constantly modifying the structure | 1 |
| 2 | Features of the built fabric which contribute to the haphazardness | 2 |
| 3 | Linear Organization of space, using physical elements - Galle Fort | 5 |
| 4 | Individualistic approachesHave resulted in haphazard developments | 7 |
| 5 | A building as a work of art - Acropolis - Greece | 12 |
| 6 | The city is the collective memory of the people | 15 |
| 7 | Character of a small child achived through singleness of purpose | 17 |
| 8 | Character is lost, the whole identity or the esence of that particular city will be lost. | 18 |
| 9 | The crescent shape of the bay, intimate scale of buildings and natural response of the built fabric to the surrounding environment produce uniqueness inherent to Galle. - City form - Galle | 20 |
| 10 | Cenrtalised Organization (Worslett, 1969) | 22 |
| 11a) 11b) | Linear Organization (Worskett , 1969) | 23 24 |
| 12 | Radial Organization (Worskett, 1969) | 25 |
| 13 | Radial Spatial Organizatio employed in a city. (Palma Nouva - Italy) (Zucker, 1970: 123) | 25 |
| 14a | Grid Organization (Worskett, 1969) | 27 |

| Fi | Figure | | Page | |
|----|---|----------------------------|------|--|
| 1 | Grid - iron Organization employed in a c (American Frontier Cities) (Lynch, 1981 | • | 27 | |
| 1 | A city is a complex environment with | h many kind of activities | 30 | |
| 1 | Inhumane proportions-Mega Structures | | 32 | |
| 1 | absence of a definite identity or char | acter of the built fabric. | 33 | |
| 1 | Very small child's first space awareness. | | 34 | |
| 1 | The city the powerful symbol of a co | omplex society. | 35 | |
| 2 | The physical environment ended up in a or chaotic manner. | haphazard | 37 | |
| 2 | The physical form of a city, often ignore city building | d in the task of | 37 | |
| 2 | The lack of a visible identity of a city | | 38 | |
| 2 | Monotone city fabric Moraluwa, Sri L | anka. | 39 | |
| 2 | Our cities display many ambiguities, con- | fusion | 40 | |
| 2 | Individual action is a road to personal gro | owth. | 41 | |
| 2 | Relations among the city's parts, fan landmarks | niliar with its | 42 | |
| 2 | Colour and texture strengthen the ch | aracter and identity. | 43 | |
| 2 | Landscape produce visual harmony - Ter | mple of Tooth - Kandy. | 44 | |
| 2 | Glass facades create unease to the mover and vehicles. | ment of pedestriants | 44 | |
| 3 | Open spaces - A necessity in shaping pul | olic spaces. | 45 | |
| 2 | Concentric Zone Theory | | 40 | |

| Figure | | Page |
|--------|---|------|
| 32 | Sector Theory. | 51 |
| • 33 | Multiple Nuclei Concept | 52 |
| 34 | Planning is Urban Design, But there is more to this - Georgepur - India. | 57 |
| 35 | Creating mere collections of buildings - Hong Kong. | 59 |
| 36 | Buildings in an urban situations can never be independent from the rest - Hong Kong. | 60 |
| 37 | New buildings disregards the neighbours and stand as individual statements. (Cervin Robinson) | 62 |
| 38 | Urban Quality. | 64 |
| 39 | Busy traffic flow with scattered collection of non - related buildings. | 66 |
| 40 | Main Square at Salamanca (Moughtin, 1992: 102) | 67 |
| 41 | The Plaza of Del Campidoglio, Rome (moughtin, 1992: 111) | 68 |
| 42 | Neubrandenburg Plan (Zucker, 1970:79) | 69 |
| 43 | Lincolnshire Square - Boston (Moughtin, 1992:120) | 70 |
| 44 | The Amalienburg, Copenhagen. (Moughtin, 1992: 121) | 71 |
| 45 | Open space - Opposite the Super Market - Nugegoda | 72 |
| 46 | Courts Square - at Galle Fort | 73 |
| 47 | Hammerstein, East Prussia - Now Poland (Zucker, 1970 : Plate 19B) | 74 |
| 48 | Colombo City Form | 75 |
| 49 | Present Nepal - Hapahazard development is very prominent | 75 |



| Figure | | Page |
|--------|---|-----------|
| 50 | Piazza del Campo in Siena - Areial View (Zucker, 1970 : Plate 24B) | 76 |
| 51 | A famous square in Britain (Tugnutt, A. & Robertson, M., 1987 : 29) | 78 |
| 52 | A formal sapce (Tugnutt, A. & Robertson, M., 1987:30) | 79 |
| 53 | Formal space with variety of shapes (Tugnutt, A. & Robertson, M.,1987:32) | 79 |
| 54 | Formality lessened to a certain extent (Tugnutt, A. & Robertson, M., 1987:33) | 80 |
| 55 | The Charles Street rotary - A strong junction node in Boston (Lynch, 1990:73) | 81 |
| 56 | The Eiffel Tower, France | 82 |
| 57 | Independence Square - Colombo | 83 |
| 58 | Northen Boundary of Fort - Sri Lanka defined by the continuous wall of Port and a row of Colonial buildings | 84 |
| 59 | The Street provides a link between buildings, both within the street and in the city at large | 85 |
| 60 | The street An enclosed, three dimensional space between two lines of adjacent buildings | 86 |
| 61 | The coherent building of city and street Nerthern Street - Hong Kong | 87 |
| 62 | The physical factors appear most to influence street use | 87 |
| 63 | Streets should be for staying in, and not just for moving through | 89 |
| 64 | Street that forms a disciplined frame work | 91 |
| 65 | Townscape is something that cannot be readily altered (Burke, 1976:III) | 94 |

| Figure | , | Page |
|--------|--|------|
| 66 | Buildings are made to serve particular purpose | 94 |
| 67 | Bijlmermeer in Amsterdam (Moughtin, 1992:27) | 96 |
| 68 | The crescent, Bath (Moughtin, 1992: 29) | 97 |
| 69 | Details of the Circus Bath (Moughtin, 1992:29) | 98 |
| 70 | Chapel at Ronchamp (Moughtin, 1992: 65) | 100 |
| 71 | Ronchamp - In landscape setting (Moughtin, 1992:66) | 101 |
| 72 | Taj Mahal - Agra | 102 |
| 73 | Beautifully composed facades of the Cargills and Millers Buildings | 104 |
| 74 | Continuous level of skyline and the building line | 104 |
| 75 | Uniformilty and Continuity expressed through the built fabric (Similar in height, scale, proportions and also the building line | 105 |
| 76 | Height of the buildings is appropriate to become a visually prominent edge, while the straight building line enhances the effect | 105 |
| 77 | Continuous arcades of Grand Oriental Hotel - Scale & detailing has created its strong appearance | 107 |
| 78 | Arcade of Grindleys Bank - Scale and detailing are inappropriate although the ground floor height of other buildings is maintained | 108 |
| 79 | Low window to wall ratio heightens the effect as a strong edge by giving it a solid appearance | 108 |
| 80 | Various elements of the street facade contribute to the out of proportion | 109 |
| 81 | Monotony of the linear built from is avoided by its roof style | 109 |
| 82 | New buildings disregards the neighbours and stand as individual statements | 111 |

| Figure | | Page |
|--------|---|------|
| 83 | Disregarding the the context end up as chaos or haphazard and meaningless works | 111 |
| 84 | Grindlays Bank - lacks sensitivity to the rhythm; establish by the buildings | 112 |
| 85 | A perfect definition for a corner of a building that has been emphasised with raised element | 113 |
| 86 | A bad composition | 114 |
| 87 | Incorporating a similar texture (harmony) can maintain character of a binding fabric. | 116 |
| 88 | Inappropriate facade treatment - contrast against the neighbours | 116 |
| 89 | Design tends to follow the client's tastes and requirements neglecting the cohesive pattern | 118 |
| 90 | Urban areas are varying and diverse in character - Hong Kong | 119 |
| 91 | Haphazardness in cities becomes a subjective factor Electronic Theses & Dissertations www.lib.mrt.ac.lk | 120 |