

**THERMAL COMFORT AS A MODIFIER OF THE PLACE**  
**DESIGN GUIDELINES FOR IMPROVING THE USABILITY OF THE BEIRA LAKE**

THE DISSERTATION PRESENTED TO THE FACULTY OF ARCHITECTURE  
 OF THE UNIVERSITY OF MORATUWA, SRI LANKA,  
 FOR THE FINAL YEAR EXAMINATION IN M.SC (ARCHITECTURE)



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## **ACKNOWLEDGEMENT**

This dissertation wouldn't have been a success without the encouragement and guidance of all those, to whom I present my warmest gratitude.

Prof. Nimal De Silva, head of Department, Faculty of Architecture, university of Moratuwa for the assistance and encouragement extended in making this dissertation a reality.

Dr. S. Manawadu, Archt. G. Weerasinghe, Archt. D. Fernando: Year Masters of the M.Sc. Year two for guiding us.

Dr. Rohinton Emmanuel and Archt. Ravin Guneratna for being constant sources of information throughout, for your invaluable guidance and encouragement and for looking through my draft and providing.

Miss Antenet Ferdinando, senior lecturer, English Unit, University of Moratuwa, for the assistance given in completing the work accurately.

The Director of Custom, Chief security manager of Port authority, Commanding officer of Rangala Navy regiment and Sevmini for the help given in obtaining the permission to take photographs in Colombo.

Chathura for the help extended in taking site measurements for the research.

My colleagues Malinda, Taraka, Roshani, Waruni, Anishka, Kithmini, Deepani, Charuni, for all your help.

For my Father, sister, Buddika Aiya and Mihiri for the assistances and understanding extended throughout the study.

And at last but not least to my loving mother for your silent prayers which help me through all times, to whom this is dedicated.

## TABLE OF CONTENTS

<b>ACKNOWLEDGEMENT</b>	<b>ii</b>
<b>LIST OF ILLUSTRATIONS</b>	<b>vi</b>
List of Figures	vi
List of Tables	vii
List of Graphs	vii
<b>INTRODUCTION</b>	<b>01</b>
Background to the Study	01
Intention of the Study	02
Importance of the Study	04
Scope and limitations	04
Methodology	05
<b>CHAPTER ONE – PLACE MAKING THROUGH RITUAL BEHAVIOR</b>	<b>08</b>
1.1 Ritual Behaviour Towards the Water Bodies	14
1.2 Determinants of the Place	16
1.2.1 Physical Determinants of the Place	17
1.2.1.1 Location of the Place	17
1.2.1.2 Form of the Place	18
1.2.1.3 Visual definition of the Place	19
1.2.2 Social and Physiological Determinants of the Place	19
1.3 Climate as a modifier of the Place	20
<b>CHAPTER TWO – UTILIZATION OF URBAN WATER FRONTS</b>	<b>25</b>
2.1 Kandy	25
2.1.1. Socio-Psychological Determinants of the Place	26
2.1.2. Physical Determinants of the Place	30
2.1.2.1. Location of the Place	30
2.1.2.2. Form of the Place	31
2.1.2.3. Visual Definition of Place	34
2.1.3. Thermal comfort as a modifier of the Place	34

2.2.	Amsterdam	35
2.2.1.	Socio-Psychological Determinants Of The Place	36
2.2.2.	Physical Determinants Of The Place	37
2.2.2.1.	Location of the Place	37
2.2.2.2.	Form of the place	38
2.2.2.3.	Visual Definition of Place	40
2.2.3.	Thermal comfort as a modifier of the Place	40
 <b>CHAPTER THREE – POSSIBLE ARCHITECTURAL DESIGN TEXTURE FOR BEIRA LAKE</b>		<b>42</b>
3.1.	History of the Beira Lake	43
3.2.	Previous Development Proposals	50
3.3.	Beira Lake Restoration Plan - Action Project One	53
3.4.	Ritual Behaviour of the Selected Zone	54
3.5.	Architectural Texture through Physical Determinants of the Place.	56
3.5.1.	Geographically encoded image of the place	56
3.5.2.	Form of the place	58
3.5.3.	Visual definition of place	61
 <b>CHAPTER FOUR – CLIMATIC RESPONSE OF THE PLACE</b>		<b>64</b>
4.1.	Thermal Comfort in Urban out doors in the Equatorial tropics	64
4.1.1.	Thermal characteristics of the waterfronts	66
4.2.	Climatic conscious urban Design Strategies	66
4.2.1.	Shading as primary cooling factor	66
4.2.2.	Trees as natural air conditioner	66
4.2.3.	Tree as a canopy for cloudy sky.	67
4.3.	Procedure and method	67
4.3.1.	Site Measurement	67
4.3.2.	Computer Simulation of the Existing, Establish and Projected Variation	68
4.3.3.	Analysis Techniques	69
4.4.	Comparisons of Existing & Established Simulation option Models in terms of Operative Temperature and Thermal Heat Index	70
4.4.1.	Comparison between Existing and Established option model one	71
4.4.2.	Comparison between Existing and Option model two for exception situations	73

4.4.3. Comparison between Existing and Establish variation for the option model two	74
3.5. Analysis	76
3.6. Hypothesis	76
3.7. Implications	76
<b>CONCLUSION</b>	<b>80</b>
<b>APPENDIX</b>	<b>82</b>
<b>BIBLIOGRAPHY</b>	<b>84</b>



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## LIST OF ILLUSTRATIONS

<u>List of Figures</u>	<u>Page No</u>
01 Ritual movement created by Dunhida, as a powerful Symbol.	11
02 Symbolic expressions of Water	13
03 Lunugaga – Strengthen the ritual movement by giving a spatial frame through built environment.	16
04 Kandy waterfront	26
05 Temple of Tooth and Kandy Lake	27
06 Wave swell wall around the Kandy Lake	29
07 Plan of Kandy City	30
08 Axial arrangement of the Dalada Veediya, Esplanade, Temple of Tooth and Udawaththa forest	31
09 Cross section of the Kandy Lake front	32
10 View of the Kandy Lake through the trees	32
11 Perspective view of the Kandy Lake front	33
12 Row of canal houses in Amsterdam	35
13 Aerial view of the Amsterdam	35
14 Canal fronts of Amsterdam	36
15 Perspective view of a Canal.	38
16 Cross section through Canal	39
17 Historical layers of Colombo in built form	44
18 Portuguese Fort at Colombo	45
19 Plan of Portuguese Fort at Colombo	45
20 Plan of Dutch Fort at Colombo	46
21 Delft gate with the path	47
22 Colombo during British period	48
23 Colombo during Post Independence period	49
24 View of the West Beira Lake	52
25 East Beira Lake and the land stretch to be develop as Business park	53
26 Proposed building heights according to DGP, in three dimensional form	54
27 Geographically encoded image of Colombo	57
28 Proposed Cross section for Zone One by DGP	58
29 Proposed cross section for Zone One	60
30 Proposed cross section for Zone Two	60

31	Proposed cross section for Zone Three	61
32	Perspective view of the waterfront from Zone three towards the Fort	62
33	Perspective view of the waterfront from Zone Two towards the Fort	62
34	Perspective view of the waterfront from Zone One towards the Fort	62
35	Cross section of Zone one – Existing Profile	70
36	Establish Cross section for Zone one	70
37	Establish Cross section for Zone one on exceptional situations	71
38	Variation of the model for exceptional situations	74
39	perspective view of the lake font form Zone three	78

### **List of Tables**

01	Temperature change scenarios for 2010 and 2070	22
02	Data obtained by measuring	82
03	The outputs of the run simulation models	82
04	Material specifications of the building elements used	83
05	Climatic data	83



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### **List of Graphs**

01	Global temperature changers from year 1880 to year 2000	21
02	Temperature changers form year 2000 to year 2100	21
03	Comparison of OT of Existing and Established option model one	71
04	Comparison of OT and THI of Existing and Established option model one	72
05	Comparison of THI of Existing and Established option model one	73
06	Comparison of OT of Existing and Established option model two	73
07	Comparison of OT of Existing, Established option model two and its Variation	75
08	Comparison of THI of Existing and Variation	75



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## INTRODUCTION

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## **INTRODUCTION**

The dissertation has three general goals. The first is to provide a methodology for interpreting 'Place', through perceived images of a particular socio-cultural entity on natural environment. The second is to illuminate the provided methodology in which the 'Place' could understand in a broader perspective, to make a marriage of Science and Art, as metaphors of architecture. The third is to analyse the relationship between Place and Thermal comfort as one of its scientifically quantifiable modifiers in a particular place and time: the city of Colombo, as the commercial hub of South East Asia, and the role played by the Beira Lake for the above, in the 21<sup>st</sup> century.

### **Background to the Study**

Place is a fundamental concept in the life of a human being. It reveals the external bonds of a person's existence, and is a profound and complex aspect of his or her experience of the world. When the conception of place is applied to humanity as a whole, the manner in which that goal is conceived depends on the answers given to certain questions: such as What is life? Who is man?



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According to the Lord Northbourne, they arrive at different answers to the above questions and they can conveniently be distinguished as traditional and progressive respectively. Further,

The traditional mentality, in the sense in which the word is used here, is characteristic of societies in which a revealed religion, together with the accompanying tradition, exercises a predominant influence, and the progressive mentality of these in which a science founded on observation, together with a humanistic philosophy based on that science, is the mainspring of thought and action. Only within the last few centuries has the last mentioned mentality become predominant. Almost everyone would agree that a profound change of outlook has taken place during that period, and that it first became predominant in Western Europe, from whence it has spread to the rest of the world. This change is commonly regarded as being of the nature of a awakening to reality, or as an opening up of new horizons, or as a development of powers previously latent, and in any case as representing a progress leading from a state of relative ignorance and subservience to one of relative awareness and freedom. (Northbourne, 1991:159)

As a result, in the first half of the nineteenth century, empirico-rationalists were emerged such as Sir William Hamilton, where they believed that all the metaphysics must be rejected as illegitimate because through it is very structure the human mind can know what belongs to the physical and finite world of time and space. Human knowledge can refer only to this world. It must be empirical, because man has no faculty or organ of intelligence by means of which he can perceive the realities of which beyond the time and space.

Given this nature of the perception, which is empirical, it forms the basis of what is known as scientific or rationalist humanism. In other words the human element is gradually being eliminated, and at the same time the world of the artificial environment, of the sophisticated manipulation of machines and technologies were substituted. Eventually man has forced to become a machined of pure functional efficiency.

“Our society is man-made, not a divine order. It is one in fact which represents a projection of the human mind that has cut its links with the divine and with the earth; and in so far as it has any ideals these are purely temporal and finite and concern only the terrestrial welfare of its members.

The inorganic technological world that we have invented lays hold on our interior being and seeks to reduce that to a build inorganic mechanical thing. It seeks to eliminate whole emotional areas of our life, demanding that we be a new type of being, a type that is not human as this has been understood in both the religions and the humanist ages – one that has no heart, no affections, no spontaneity, and is as impersonal as the metals and processes of calculation in which it is involved. And it is not only our emotional world that is deadened. The world of our creative imagination and intelligence is also impoverished. The most average characterless type of mind is quite sufficient to master and apply the various skills, scientific and other, needed to run over our society. At the same time, the objects which we now make or manufacture require little or no imaginative effort on our part; they are all the result of rational planning and design, of technical skill and efficiency, and we produce them are forced to produced them – with least possible personal struggle or commitment, entering into and becoming through producing them part of their objective, impersonal and pitiless nature. For these products – machines, commodities, organizations, programmes – are themselves totally lacking any imaginative quality; they mirror nothing which is not material, they are symbols of nothing, they are entirely consumed by their own lifeless and inorganic indifference; and man who must spend his days among them is reduced to a similar state.” (Sherrard, 1991:170-172)

### **Intention of the Study**

There is no doubt that the meaning of life is lost or made forgetfulness by men of who he is, by make him, himself a pure functional machine. Science created a new type of being, with

eliminated whole emotional areas of life has made them subservient to one of the relative awareness and freedom.

“Accepting the Pritzker Prize for what the jury described as a sublime act of the poetic imagination; Barragan catalogued in his speech the memories and impressions that had been most influential in shaping his ideology:

It is alarming that publications devoted to architecture have banished from their pages the words beauty, inspiration, magic, spellbound, enchantment, as well as the concepts of serenity. Silence, intimacy and amazement...” (Raul, 1995:20)

Finite artificial world created by scientism, has imposed numerous stresses, physical as well as mental, on the new being, such as economy, urbanization, increasing thermal stresses, new destinies of wealth and power, etc. which are seemingly irreversible, through science.

“Progressively divorced by this ignorance from the roots of his being man, so long as he persists in this course, is doomed to advance blindly and at an ever-increasing pace towards the total loss of identity, total loss of control and eventually to total self destruction; Nothing can stop this process except a complete reversal of direction. And nothing can initiate a reversal of direction except a recovery by man of an awareness of who he is.” (Sherrard, 1991:182)

“If the doors of perception were cleansed, everything would appear to man as it is, infinite. The highest function of the traditional sciences has always been to aid the intellect, the instrument of perception, to see the world and indeed all levels of existence, not as facts or objects but as symbols, as mirrors in which are reflected the face of the Beloved from Whom all originates and to Whom everything returns.” (Nasr, 1991:144)

A shift back to traditional mentality, doesn't suggest the total reduction of the progressive mentality or the scientific interpretation of the world. Science has its own merits and demerits of life. The destruction was arrived with scientism, or in other words science became the only device to discover the world, by separating man and his environment.

In the modern world both disciplines has its own merits and own tasks to perform to establish the meaning of life and the world we are living in.

Therefore,

**Successful marriage of the traditional thinking represented as architecture as the metaphor of art, and the merits of the thinking based on knowledge derived from observable phenomena or the architecture as metaphor of science will achieve a higher ability to visualize a greater picture of the 'Place' in the modern world.**

## **Importance of the Study**

Luxury of the vicinity of a greater picture of the Place will provide an ability to respond positively to the aesthetic aspects of the place as well as the constraints created by the man made finite world through scientism. In this sense the constraints will act as modifiers of the place. In success, it provides an ability to make meaningful places in the modern way of life, in modern spaces.

This will establish a theoretical framework among the design and planning professions that recognize and reinforce qualities of place, where by human experiences and human actions are sensitively and meaningfully defined. The common theoretical frame work for design and planning professionals, will provide a successful way of looking at the spaces of modern cities in the future world, which neither traditional and scientific alone as a whole but a integrated approach with a successful marriage of these two disciplines.

Ultimately it will help to prepare the city of Colombo a meaningful place in terms of socio-spatial quality for design and planning to cope with the future as a commercial hub of South East Asia.

## **Scope and Limitations**



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Given this nature, place making in the modern world, cannot only be determined by the traditional way of thinking. New modifiers should be derived, with the modifications made to the environment by man, which he exists. Development of technical methods for evaluate these modifiers will enable the above. Determinants of the place were derived through generations, in traditional architecture on a trial and error basis. Therefore research is oriented on one modifier as to derive thermal comfort as the modifier of the 'place', taking effects of man made microclimate through urbanization, global warming, etc. As computer base technological method has developed through science namely 'DEROB-LTH' to evaluate the thermal comfort of the environment. At the same time its validity, as a modifier of the place making, will be examined through application, to the context of the future city of Colombo, and the role of the Beira Lake of its development.

## Methodology

The approach to studying people and places as they are, known as 'phenomenology' according to Husserl (1962) and defined as the 'Science of being' is central to this understanding. Norberg Schulz (1980) recognizing the value of phenomenology, made a connection through it to architecture signifying the value of the idea of place to design practice. Others such as Ralph (1976) have followed the theoretical orientation of phenomenology in establishing a theory on the concept of place as relevant to planning. Tuan (1977) among many others examines place from a geographical experiential perspective, while Canter (1977) explores place as a psychology endowed entity. According to Canter (1977), place could be conceived as an overlap among Physical, Social and Psychological systems. A place is constituted of physical attribute (physical), activities (social) and conceptions (psychological). (Rajapakse & Dayaratna, 1998:23)

Although Canter in 1977, established the place as, interpolation of physical, psychological and social attributes, he failed to establish a theoretical framework, in order to examine it in reality, all three attributes.

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"One of the specifications of the physical constituents of a place is a much more significant component of that place than the research literature would have one believe. There are really remarkably few examples of physical forms having been studied directly for their relationships to psychological or behavioural processes.

With the three-component model it is possible to look for those aspects of physical attributes which have the greatest likelihood of linking to the other components of the place in question, those which facilitate the identification of places." (Canter, 1977:159)

Therefore we seem to have a meagre understanding of the constituents of place, their ramifications and the ways in which we experience. This has happened mainly due to the incomplete picture which western contemporary scholars, has presented to the world, eventually the 'Place' as a concept in the life of a human being is lost.

But eastern scholars such as Ananda Coomaraswamy, Toshiko Izutsu. Lord Northbourne, Marco Pallis, etc. have presented a complete and greater picture on architecture, a way one could understand and explain comprehensively of the above. According to them, Architecture is an Art, and art is derived through Religion. In this sense, architecture becomes reciprocity between Man and Nature, and the overall polysynthetic unity of experience. Given this nature,

'Place' could be argued through both scientism and art disciplines: Place as metaphor of Machine with experience limited to the artificial world made by man and Place as metaphor of Emotions by experiencing the infinite world respectively. There is no doubt, the living machines, created through scientism, has eliminated the human element of life.

Therefore,

**The approach here represents a sharp break from scientism, towards Architecture as metaphor of Art or as Place as metaphor of Emotions. In the end, as response to the constraints of the modern world, science is used, to make effects of the modifiers of the place, to make spaces fit for the present and future world.**

In chapter one, a link between eastern phynomology and 'place' is established to understand a greater and comprehensive picture of the 'place', and provide a general outline of the approach.

In chapter two, two waterfronts are examined in provided general outline of approach, to analyse the relationship between the human behaviour against the culture, physicality and the built environment, and to make possible influences for the city of Colombo and Beira Lake development.



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In chapter three, a possible architectural texture will be established for the Beira Lake, with the possible influences received from the analysed waterfronts, and which make them modified through the spirit of place, which referred to Colombo.

In chapter four, the established architectural texture will by analysed through computer modelling and stimulation in order to understand the thermal comfort as the modifier of the place and its contribution for place making.

Fruitful starting point in this direction, provide a vicinity of 'Place' as a whole including the effects made by the modifiers, will open up a way to explore profitably, the complex relationship between Man and his World, in the present and future of modern spaces.