

LB/DON/87/03

**LIGHT: AN EXPRESSIVE MATRIX OF ARCHITECTURE.**

**A Study of Photo-Effects in Architecture through Metaphors of Photography**



LIBRARY  
UNIVERSITY OF MORATUWA, SRI LANKA  
MORATUWA

A Dissertation Presented to the  
Department of Architecture,

University of Moratuwa, Sri Lanka.

as subject for

M. Sc. (architecture) Final Examination.

and to the

Royal Institute of British Architects

for R. I. B. A. Part II

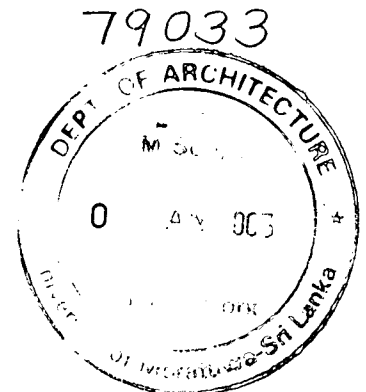
72° 03"  
-----  
72.017:77



M. L. N. H. PREMARATHNA.

2003

79033



## Acknowledgements

The Dissertation was done under many hardships. Unlike most other exercises this consumes a lot of time and energy into it. The dependency on phenomenon such as whether and performance of equipment were far beyond my control and their negative effects were made felt to me during this study. The arrival of final stage given me a great job although the latter stages demanded intense work. Therefore the help and encouragement given by other people should be stated as the driving force behind me.

The Head of the department and our year master Dr Manewadu and Dr Emmanuel must be remembered for their valuable guidance.

It makes me really grateful to our fifth year master Archt. Vidura Sri Nammuni, your comments will always help me in the future and by facing them I really learnt to be tougher against obstacles and challenge and learnt what accept and what to reject.

My warmest gratitude goes to my tutor Archt Madura Premathilaka for his highly inspiring words. The inspiration and freedom which I enjoyed was very helpful and his ability to convey a message using few words kept me thinking on the study for few days after each encounter enabled me to focus on my path.

I'm grateful to Archt. Ravin Gunarathne who has been a great teacher, in the little time we were exposed to him we learn a lot and insights given in discussions of initial stages were helpful throughout.

Archt. Prasanna Kulathilaka has always been with us and giving guidance to us spending almost all his time on our education.

My warm thanks are extended to Mr Lal Hagoda who was a source of inspiration when I used to study in Hegoda photography school.

I am indeed thankful for all the suggestions and advice given by my friends. Specially Tharindu, Ja, Pana, Dinga, Satha and Friends of Bavana, Chandrika, Dinushi and Kumudu for their encouragements given when I was down. Thandula for many discussions and Pulasthi for his concern. Thanks again for making me do the case studies on models when I was trying to cut short and also for assisting for photographing sessions on models.

I'm indeed thankful to Dilu for trying to understand me and for encouraging words always spoken.

My parents are reminded with a feeling of profound gratitude for all the help encouragements and patients they have shown during the preparation of the study.

# CONTENTS

Acknowledgement

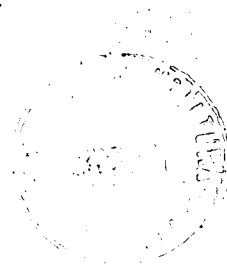
List of Illustrations.


Introduction.

	Page
<b>1.0 Chapter one – Photography And Architecture, Historical Search.</b>	
<b>1.1 Light and culture.</b>	
1.1.1. Light in myths and legends.	5
1.1.2. Photo-sculpture from the history of architecture	6
1.1.3. Light in contemporary culture.	7
<b>1.2 Light as a matter .</b>	
1.2.1 Properties of Light	9
1.2.2 Light as a Building materiel	9
<b>1.3 Photography.</b>	
1.3.1 Basic Principles of conventional still Photography	10
1.3.2 Phenomenology of aperture and exposure in photography.	11
1.3.3 Scale and proportion in two dimensional frame.	12
1.3.4 Composition Focus and flow.	12
<b>1.4 Photogenic Architecture.</b>	13
<b>2.0 Chapter Two – The Exposures in Architecture</b>	
Preamble	14
<b>2.1 Light and Darkness, Effects of Continuum.</b>	16
2.1.1 Darkness – An Under Exposure of Architecture.	17
2.1.2 The Enchantment off Dull Light.	18
2.1.3 Light Space – An Over Exposure.	19
<b>2.2 Single Light an intangible Object.</b>	20
<b>2.3 Multiple Photo- Objects</b>	21
<b>2.4 Photo Rendering and Photo-sculpture</b>	
2.4.1 Rendering of Surface ; Texture and Color	22
2.4.2 Shadows	23
2.4.3 Reflections	24
2.4.4 Filtration	25



University of Moratuwa, Sri Lanka  
Electronic Theses & Dissertations  
www.lib.mrt.ac.lk



<b>3.0</b>	<b>Chapter Three – Apertures of Architecture.</b>	
	Preamble	28
<b>3.1</b>	<b>Positioning of aperture.</b>	27
	3.1.1 Apertures on Sides	28
	3.1.2 Apertures at Bottom	29
	3.1.3 Apertures at Front	29
	3.1.4 Back Apertures.	29
	3.1.5 Top Opening	30
	<b>3.2 Size of the Aperture</b>	31
	<b>3.3 The Shape of the Aperture</b>	32
<b>4</b>	<b>Chapter three-Case studies.</b>	
	4.1 Photography in spatial progression.	33
	4.2 An exploration of architecture for its expressions prior to building	35
	4.3 Light created effects , forms & Spaces, Plane and Curves Surfaces	37
	4.4 Light created effects , forms & Spaces, Spaces and Objects	39
	 University of Moratuwa, Sri Lanka. Electronic Theses & Dissertations <a href="http://www.lib.mrt.ac.lk">www.lib.mrt.ac.lk</a>	
	<b>Conclusion.</b>	42
	<b>Bibliography</b>	44

## List of Illustrations.

1. Ying- Yan symbol of Chinese philosophy.		5
2. Symbolic sun bathing, <i>komak</i> , India.	The Sun in Myth and Art	5
3. Great Pyramids of Egypt.	The Sun in Myth and Art	5
4. Sun the Provider. Stone carving	The Sun in Myth and Art	6
5. Stonehenge	The Sun in Myth and Art	6
6. Sun drawn into megalithic tomb.	The Sun in Myth and Art	6
7. Cyber reality of musical show.	Raymond Bajant, Practical Photography	7
8. A festival of light and fire – The enclosure	author	7
9. A festival of light and fire – The enclosure	author	7
10. A festival of light and fire – An interim climax	author	8
11. Mechanism of a basic camera.	Photography	10
12. The golden section.	Experiencing Architecture	12
13. The middle third rule.		12
14. Da Vinci's Ideal man.	Experiencing Architecture	13
15. Corbusier – Le Modular.	Experiencing Architecture	13
16. Vaporous expressions	Stu Williamson- Practical Photography	16
17. Altar of What ?	Minimum	16
18. An enchanting exposure of moon lit night	Minimum	18
19. Over exposure highlights the object	Minimum	19
20. Sculptural use of light ,		20
21. Stars on the ground	author	21
22. Effects of light on textures.	Practical photography – John Devenport	22
23. Dramatization of shadow	Charles Corea	23
24. Rays of light and shadows in side a space	AD, Architecture and light	23
25. Reflections to expand the volumes.	author	23
26. Sculptural reflection.	Living in Turkey.	24
27. Patterns of Shadow due to filtration.	Steel Profile.	25
28. Polarization & filtered view out of horizontal blinds.	author	25
29. Color filters forming art out of windows	AD, Architecture and light	25
30. Multiple possibilities of aperture.		27
31. Ideal bed room of pattern language.	Steel Profile.	28
32. Ontology of common side aperture	Practical photography	28
33. law mounted window ,almost bottom lit	Steel Profile.	29
34. Silhouettes in bright background.	author	29

35. Heavenly light of Pantheon's dome. Rome	Minimum	30
36. Small aperture causes dark interiors.	author	31
37. Large aperture unifies in and out.	Steel profile	32
38. The darkness – Being entered		33
39. Bright, blue pool as a pul factor		33
40. Use of filtration		33
41. Artificial illumination retarding the quality		34
42. Light to show the way- Vertical Journey		34
43. Node Orientation demarcated.		34
44. Towards the climax.		34
45. The main space a rear treat in Galle fort.		34
46. The break of dawn trough the misty morning		35
47. The sun bath in the morning		36
48. The naked noon		36
49. The naked noon		36
50. Monumentality trough artificial lighting		37
51. The golden sunset and the gleaming sea		37
52. The monumental silhouette		37
53. - 59. Study of Forms (planes)		38
60. – 67. Study of Forms (curves)		39
68. – 83. Study of space, expression created by aperture.		40

University of Moratuwa, Sri Lanka  
Electronic Theses & Dissertations

