



**WATER IN CREATION OF EMOTIONS IN
ARCHITECTURE.
WITH SPECIAL REFERENCE TO ITS EXPRESSIVE
QUALITIES IN ENHANCING THE POETICS OF SPACE**

Final Dissertation
Submitted to the Department of Architecture of the
University of Moratuwa in partial fulfillment of the requirement for the degree of
Master of science
In Architecture-

S.N. Wanniarachchi
Department of Architecture
University of Moratuwa
Sri Lanka

2007

89502



Abstract

Water is a dialogue between the beholder and the space. The orchestration of shining splendor of water can be used for emotional intensity and symbolic, poetic expression.

Pleasure is a form of happiness which originated as a result of gratification of the senses or self-preservation. Enjoyment occurs as a result of this pleasure. A person who hears music or sees dancing does not perform but experience as though it were in his body. In much the same way one can experience architecture Rhythmically that is by re-creation.

As Architecture primarily is a spatial experience, a person who lives in a space captures the essence of that and re-interpret in a way he likes. Even though space is an intangible element. The active component is important in this concept of space, that is the soul embedded in space. It implied that the Soul was no longer innate in the object observed, but it was a projection from the individual observer. Therefore the correct articulation of space can do wonders in architecture and talk to the most deep routed senses of human beings.

Declaration

I declare that this dissertation represent my own work. Except where due acknowledgment is made and that it has not been previously included in a thesis, dissertation or report submitted to this university or any other institution for degree, diploma or other qualification.

UOM Verified Signature

S . N . Wanniarachchi

UOM Verified Signature

Archit . Jayanath Silva

Dissertation Supervisor

Department of Architecture

University of Moratuwa

Sri Lanka

of Moratuwa, Sri Lanka.
Theses & Dissertations

www.lib.mrt.ac.lk

Acknowledgement

There were many pitfalls, narrow paths and thorny roads on the way to completion of this dissertation. However due to the advice and encouragement given to me by the unfailing hands of many helpful people. I was able to face the challenge.

Firstly I would like to place my gratitude and thanks to Prof. Samitha Manawadu. the head of the department of Architecture, for devoting time for us to discuss and plan the dissertation.

I would also like to thank Arch. Jayanath Silva, my dissertation tutor, for his timely advice and encouragement given to me at the correct time, and also Archt D.P. Chandrasekara, Lecturer Susira Udalamatta and Archt. Anishka Hettiarachchi. for the advice and encouragement given to me when I needed it the most. I am very much grateful to our year masters Arch Jayanath Silva, Dr. Harsha munasinghe and Archt. Arosha Perera for the invaluable advice and for their patient understanding. which helped us immensely to make this dissertation a success.



University of Moratuwa, Sri Lanka.

Electronic Theses & Dissertations

www.ho.mru.ac.lk

My special thanks and gratitude goes to Arch Jayantha Perera who went out of his way to help me during my case studies and Archt Chamal Jalath for their kind corporation.

I also extend my thanks to the staff and management of the blue water hotel, Light house hotel Kandalama hotel, Triton hotel and the Boulder garden especially Mr. Udeni Perera, the general manager of Leisure world and Mr. Darshana, general manager of the Boulder garden for all the help and assistance given to me.

Even with all this help, my dissertation would not have been a reality if not for my dear friends, Lasika, Rasangi, Anuruddika, sajeevi, for helping me in many ways all the way long. And my special thank goes to Shabika akka, Sulochana ayya and Tharanga akka for the for their valuable guidance to make this dissertation a success.

I would like to thank my family for being there for me, and helping me in many ways. Finally I am very much thankful to Asanke, my friend for her advice, help and encouragement given to me throughout the whole process of this dissertation.

WATER IN CREATION OF EMOTIONS IN ARCHITECTURE.

with special reference to its expressive qualities in enhancing the
poetics of space

Declaration	ii
Acknowledgement	iii
Abstract	iv
Contents	v
List of illustrations	vii
Introduction	xii
<u>CHAPTER 1 Impact of space and emotions in architecture</u>	
1.1 Poetics sense of space	1
1.2 Perception of space	1
1.2.1 Defining the space	2
1.2.2 Significance of space	3
1.2.3 Evolution of space	4
1.2.4 Architectural space	5
1.3 Architecture as a mode of communication	8
1.3.1 Language of architecture	9
1.3.2 Expression in architecture	12
1.3.3 Mode of expressions	13
1.3.3.1 Space	14
1.3.3.2 Form	15
1.3.3.3 Shape	18
1.4 Emotions in architecture	19
<u>CHAPTER 2 Water as a creator of expressions.</u>	33
2.1 Definition of water	33
2.1.1 Concepts of water	33
2.1.1.1 Sacredness of water	34
2.1.1.1 Psychology of water	37
2.1.1.3 Architecture of water	38

2.2	Concepts of using water in architecture	41
2.2.1	Static - Pools	42
	Ponds	45
2.2.2	Dynamic - Flowing water	46
	Falling water	49
	Fountain jet	52
2.3	Implications of water in historical background	
2.2.1	Local	54
2.2.2	International	57

CHAPTER 3 Examination of expressive qualities of water in creating poetics of space [Case studies]

3.1	Case study 01	<u>Soothing & Placid</u>	62
3.1.1	Contemplation		62
3.1.2	Devotion		68
3.1.3	Serene & Tranquility		73
3.1.4	Movement		77
3.2	Case study 02	<u>Playful & Dancing</u>	79
3.2.1	Rhythm		79
3.2.2	Freedom		81
3.3	Case study 03	<u>Raging & Exploding</u>	85
3.3.1	Beauty & Excitement		86
3.3.2	Pleasure & Enjoyment		88
3.4	Case study 04	<u>Shimmering & Glittering</u>	92
3.4.1	Relaxing		93
3.4.2	Sensory pleasure		96
CONCLUSION			97
BIBLIOGRAPHY			100

List of Illustrations

Figure 1	Space has captured the volume into one entity.	3
Figure 2	Space evaporates into infinity	4
Figure 3	Mass surrounded by space , satellite city towers	4
Figure 4	Naoshima Contemporary Art Museum, Japan	5
Figure 5	The Grand Arch, Paris	5
Figure 6	Summary Typology: Space defining elements	6
Figure 7	Chapel space, Notre DameDuHaut, Ronchamp, France	7
Figure 8	The sense of enclosure	8
Figure 9	Sense of enclosure	8
Figure 10	Universal sign for danger	10
Figure 11	Crucifix as a cultural symbol of Christians	10
Figure 12	Physical stimulus occurs in relation to the surrounding space	11
Figure 13	Space convey meanings symbolically	12
Figure 14	“Maathri Mandir ” at auroville	
Figure 13		
Figure 15	Dome of St. Peter’s Vatican	14
Figure 16	‘ Gopuram’ of a Hindu temple	14
Figure 17	Space can be anywhere	16
Figure 18	“ Space “under a leaf	16
Figure 19	“Space “ origin from nature	16
Figure 20		18
Figure 21	Order in nature	18
Figure 22	Order in man made	18
Figure 23	Mood of Contemplation	20
Figure 24	The outward purification serving as symbolic support of inward.	22
Figure 25	Physical purification that leads to spiritual rejuvenation at a girls attain.	22

Figure 26		23
Figure 27	Thick vegetation and rugged finished built space creating tranquility	23
Figure 28	All steel office complex , Dallas, USA.	24
Figure 29	No space can exist without being integrated with neighboring spaces	24
Figure 30	Rhythm means the life and life means the continuity.	25
Figure 31	Rhythm through non repetition	26
Figure 32	Eye follows the great rhythm through out the building.	26
Figure 33	Range of mountains	27
Figure 34	Freedom in a bird	27
Figure 35	Freedom in a bird	27
Figure 36	The sense of infinity by creating a visual link towards the endless horizon.lk	28
Figure 37	Light patches at Subodhi	28
Figure 38	Pleasure is a form of happiness	29
Figure 39	Pleasure provides a mechanism for the modification of behaviour.	29
Figure 40	Recognition and identity of a person.	30
Figure 41	Visually and audibly pleasing emotions in human mind.	30
Figure 42	Relaxation is a way to touch the deeper layers of the heart	31
Figure 13	Utmost relaxation	31
Figure 44	Spiritual or moral happiness through sensory pleasure.	32
Figure 45	Baptizing child with water	35
Figure 46	Bathing in ' The Ganges ' frees the bather from sin	36
Figure 47	Pouring water over the hands at Sri Lankan marriage ceremony.	36
Figure 48		38
Figure 49		39
Figure 50	Joy present in water	40

Figure 51	Life within the water	40
Figure 52	Pool of hotel blue waters	43
Figure 53	static water in geometric forms.	44
Figure 54	Natural pond in landscape	45
Figure 55	“ Visual links and sudden appearance of glimpse and vistas arouses a sense of mystery and fascination.”	46
Figure 56	sense of mystery and fascination	46
Figure 57		47
Figure 58	Behaviour of flowing water with respect to channel condition.	48
Figure 59	Free falling	49
Figure 60	Sound and splashing absorbed	50
Figure 61	Sound and splashing intensified.	50
Figure 62	More commotion in sight and sound	51
Figure 63	Obstructed falling	51
Figure 64	Sloped falling	52
Figure 65	Musical fountain at Dallas	52
Figure 66	Types of water jets	53
Figure 67	Fountain of Four rivers , Rome	54
Figure 68	Villa d’Este Tivoli, Iyaly	53
Figure 69	Tivoli fountain, Iyaly	56
Figure 70	Falling Water	57
Figure 71	Kuttam Pokuna. , Anuradhapura	57
Figure 72	“Kumara pokuna” Polonnaruwa	58
Figure 73	Arial view of Sigiriya water garden	58
Figure 74	Fountain pools	59
Figure 75	Perforated limestone plates to fashion the spout of the fountains	59
Figure 76	The double moat surrounds the garden	60
Figure 77	Unruffled calmness in Hotel Blue Waters	63
Figure 78	Plan of the Hotel Blue Waters	63
Figure 79	Section through the pond - Hotel Blue Water	64
Figure 80	Expands the personal space into infinity	64
Figure 81	Arial view of water temple Plan form of Water Temple	65

Figure 82	Section through the Water Temple	65
Figure 83	Curved path along the oval shaped pond at the entrance	66
Figure 84	Descending stairway through the pond	66
Figure 85	Section through the pond illustrates the sense of infinity.	67
Figure 86	Water vessel at a door step	68
Figure 87	Vast water body surrounding Kalutara Dagaba	68
Figure 88	Layout Plan and section - Seemamalakaya	69
Figure 89	Water as a sacred barriers at seemamalakaya	69
Figure 90	Night view with floating effect	70
Figure 91	Taj Mahal reflects dignity and sacredness	70
Figure 92	Mirrored image of Taj Mahal	70
Figure 93	Layout Plan of the church	71
Figure 94	Arial view of church	72
Figure 95	The reflection of the Holy Cross in water	72
Figure 96	The large crucifix is seen rising from the surface of the water.	72
Figure 97	Areal view of kaludiya pokna	73
Figure 98	Harsh edges of rock boulders blended with sleek undisturbed water sheet creating tranquility.	74
Figure 90		75
Figure 100	Plan form of Kandalama hotel	76
Figure 101	Section of Kangdalama hotel	77
Figure 102	Lit up swimming pool – Kandalama	77
Figure 103		77
Figure 104	Movement in relation to the neighboring spaces	78
Figure 105		78
Figure 106	Linear form of the pond enhances the movement towards Taj Mahal	79
Figure 107	L'Esposizione Universale di Rome	80
Figure 108	Musical fountain at Las vegas	81

Figure 109	Movement of water has synchronized with rhythm of the music.	81
Figure 110	Layout Plan of Triton	82
Figure 111	Section of Triton	83
Figure 112	The interior space flows and integrates with the exterior towards infinite horizon	83
Figure 113	Section through the pool	84
Figure 114	Lit up swimming pool of Hotel Kandalama	84
Figure 115	Free falling of water at the lobby with framed infinity.	85
Figure 116	Quality of the free falling has enhanced by using lighting effects	85
Figure 117	Layout plan - Light house hotel	86
Figure 118	Section- Light house hotel	86
Figure 119	Sudden appearance of the sea	87
Figure 120	Spatial progression of entrance path	87
Figure 121	Entrance fountain at Leisure World	88
Figure 122	Gigantic scale of the fountain gives a dramatic experience.	88
Figure 123	Senses are completely surrounded by the roar of the rushing water.	89
Figure 124	Actual participation gives life experience	89
Figure 125	Layout plan of water park	90
Figure 126	Slides	91
Figure 127	Wave pool recaptured the simple enjoyment of the sea side.	91
Figure 128	Undulating surface of water provides opportunity to marvelous reflections of light.	93
Figure 129	Layout plan - Boulder garden	94
Figure 130	Dining at Boulder Garden	95
Figure 131	Dining at Boulder Garden	95
Figure 131	spring-water swimming pool	95
Figure 132	Silence and movement	96
Figure 133	Shimmering effect amplifying the sensory pleasure	96