



**A STUDY ON THE RELATIONSHIP BETWEEN
HUMAN BEHAVIOUR AND ELEMENTS OF COMMON
SPACES IN TERTIARY EDUCATIONAL INSTITUTES.**

A STUDY ON THE RELATIONSHIP BETWEEN
HUMAN BEHAVIOUR AND ELEMENTS OF COMMON SPACES
IN TERTIARY EDUCATIONAL INSTITUTES.

Perera W. U. U.

2007

89495

Declaration

Declaration

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

declare that this dissertation represents my own work, except where due acknowledgement is made, and that it has not been previously included in a thesis, dissertation or report submitted to this university or to another institution for a degree, diploma or other qualification.



University of Moratuwa, Sri Lanka.
Electronic Theses & Dissertations

UOM Verified Signature

Internal tutor

Perera, W U U.

Acht. Jayanath Silva

UOM Verified Signature

University of Moratuwa

Internal tutor

Acht. Jayanath Silva

Lecturer, Faculty of Architecture.

University of Moratuwa

Acknowledgement

This study owes much to the assistance and guidance given by all the following;
whom I wish to extend my heart felt gratitude to

Dr. Upendra Rajapaksha, Archt. Harsha Munasinghe, Archt. Arosha ,
Archt. D. P. Chandrasekara, of our academic staff for their inspiration and guidance.
Archt. Jayanath Silva, sixth year master, is remembered with a sense of gratitude
for guidance towards a disciplined thinking.

I acknowledge my debt to Archt. Sudarshana , for generous help and concern
shown through out the academic years.

I also thank my parents, my brother and my colleagues,
Tilanka, Chaminda, Nuwan C, Chethila, Shammi and
senior students Ruwini, Pulasthi and Thandula
who helped me in various ways.

Forward

*'One remarkable feat of the human mind is to
conceive of some large spaces as integrated wholes
rather than piecemeal as they are experienced.'*



University of Kelaniya
Electronic Theses & Dissertations
www.lib.mrt.ac.lk

– Tversky 2003

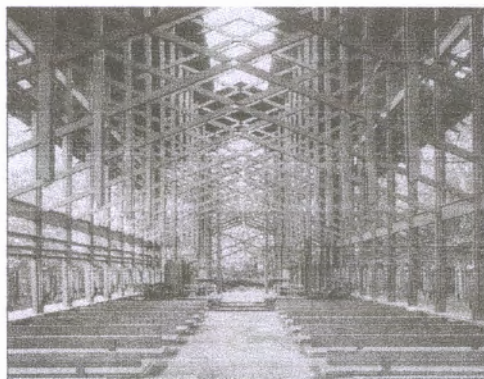


Fig.01	<i>Gestalt psychology</i> (http://www.thesis.theory.PDF)	11
Fig.02	<i>Your Personal space</i> (Yourpersonal.space">http://www>Yourpersonal.space)	12
Fig.03	<i>Personal Space</i> (http://www.thesis.theory.PDF)	13
Fig.04	<i>The texture of wall add interest to personal space</i> (http://www.archytypes.net)	20
Fig.05	<i>Unity through thin lines by sculpture of "the Chariot"</i> (http://www.designbasics-unity.html)	21
Fig.06	<i>Ceiling panels in a rhythmic pattern to define the lobby space.</i>	22
Fig.07	<i>Vitruvius spatial proportion</i>	24
Fig.08	<i>Human figure describing circle and square,</i> <i>After Leonardo da Vinci, 1485-90</i> (<i>Proportion, Padovan R.2003</i>)	24
Fig.09	<i>Le Corbusier, characteristics relations of modular measures</i> <i>To the human body, from Le Modular.</i> (<i>Proportion, Padovan R.2003</i>)	25
Fig.10	<i>Madrid-street, Four storied buildings defines the scale of the street</i>	25
Fig.11	<i>street in Paris, human scale and building scale compare</i>	25
Fig.12	<i>Apartment houses in Islington, (The dynamics of Architectural form)</i>	26
Fig.13	<i>Contour cannot serve both at once,</i> (<i>The dynamics of Architectural form</i>)	26
Fig.14	<i>Rue de Furstenberg, Paris, (The dynamics of Architectural form)</i>	27
Fig.15	<i>Two independent thoroughfares are unified in a cross pattern,</i> <i>which defines the area of overlap as a symmetrical centerpiece,</i> (<i>The dynamics of Architectural form</i>)	27
Fig.16	<i>A miniature octagonal square, (The dynamics of Architectural form)</i>	28
Fig.17	<i>Chapel of Notre-Dame-du-Haut, Ronchamp,</i>	28
Fig.18	<i>Plan of Chapel of Notre-Dame-du-Haut, Ronchamp,</i>	29
Fig.19	<i>Pathway at Nilwala training center</i>	29
Fig.20	<i>diagram for visual inertia</i>	30
Fig.21	<i>Public space, (http://www.archytypes.net)</i>	30
Fig.22	<i>vancouver-seawall-walkway</i>	31
Fig.23	<i>escala-seawalk-by-townhomes</i>	31
Fig.24	<i>Physical setting of a public square</i>	32
Fig.25	<i>Outer ring path and inner ring path</i>	32
Fig.26	<i>Pedestrian path</i>	32

Fig.27	<i>Public seating</i>	32
Fig.28	<i>The sense of prospect and refuge can be created in many ways, in both outdoor and interior spaces that offer protection at the back and overhead, coupled with views into adjoining spaces.</i>	34
Fig.29	<i>Interaction at Quadrangle of the Carey Baptist Grammar School</i>	36
Fig.30	<i>Individual participating in singing lessons</i>	37
Fig.31	<i>Entrance lobby of West Granton Road Campus</i>	40
Fig.32	<i>Interaction among same age groups in learning activities.</i>	40
Fig.33	<i>outdoor learning environment, (http://www.spaces_for_learning_report.pdf)</i>	40
Fig.34	<i>Corridor of the convent of Guran La turate @ Germany (German Architectural Review)</i>	43
Fig.35	<i>Architecture Faculty of University of Poto @ West Germany Architect. Alvaro Zisa (German Architectural Review)</i>	43
Fig 36	<i>Bauhous Archit. Walter Groupies (German Architectural Review)</i>	44
Fig 37	<i>Architecture Faculty of University of Poto @ West Germany Architect. Alvaro Zisa (German Architectural Review)</i>	45
Fig 38	<i>Open play area of Architecture Faculty of University of Poto @ West Germany Architect. Alvaro Zisa (German Architectural Review)</i>	46
Fig 39	<i>Canteen of Architecture Faculty of University of Poto @ West Germany Architect. Alvaro Zisa (German Architectural Review)</i>	47
Fig 40	<i>Layout plan of University of Ruhuna</i>	51
Fig 41	<i>Slender columns and wide corridor enhance gathering</i>	52
Fig 42	<i>Wide corridor at gymnasium creating peer group gathering</i>	53
Fig 43	<i>Wide colonnaded corridor facilitate in formal learning atmosphere</i>	53
Fig 44	<i>Personal spaces created for small group gathering</i>	54
Fig 45	<i>Staircase landing with niches for seating use as lingering spaces</i>	54
Fig 46	<i>Bridge at the main path uses as a gathering space for boys.</i>	55
Fig 47	<i>Environment helps to facilitate the spatial quality of paths running through the site</i>	55

Fig 48	<i>Entrance building creating a colonnaded structure to facilitate the spatial quality of peer group gathering</i>	56
Fig 49	<i>Personal spaces created for small group gathering</i>	56
Fig 50	<i>Personal spaces created in the lobby at the two corridors meet</i>	56
Fig 51	<i>Amphitheater which at the enclosure of two buildings, provide a large group gathering</i>	57
Fig 52	<i>Terrace at the end of the main pathway</i>	57
Fig 53	<i>Zoning layout plan of University of Moratuwa</i>	59
Fig 54	<i>Corridor at Sumanadasa building provide seating for students</i>	60
Fig 55	<i>Corridor at Sumanadasa building provide a feeling of outside environment</i>	61
Fig 56	<i>Contrast between spatial quality in open corridor and a closed corridor</i>	61
Fig 57	<i>Wide entrance staircase at the library for peer group gathering</i>	62
Fig 58	<i>Spatial quality of the enclosure of the bridge has effected by the canteen building</i>	63
Fig 59	<i>Main path to the campus</i>	64
Fig 60	<i>Path which creates a private space for couples</i>	64
Fig 61	<i>Entrance waiting area</i>	65
Fig 62	<i>Entrance lobby area of Civil engineering building</i>	65
Fig 63	<i>Seating area on third floor level of Sumanadasa building</i>	66
Fig 64	<i>Public square in between the two paths create group gathering</i>	66
Fig 65	<i>Open common space in between canteen and workshop buildings</i>	67
Fig 66	<i>Goda canteen</i>	67

List of contents

Acknowledgement	II
Forward	III
List of illustrations	IV
Introduction	X
Topic explanation	
Need for the study	
Aims and objectives	
Scope and limitations	
Methodology	
Chapter one : Relationship between human behaviour and space	
1.1 Preamble	02
1.2 Behaviour pattern of human being	02
1.2.1 Socio cultural preferences	05
1.2.2 Physical environment	06
1.2.3 Age group preferences	07
1.2.4 Personal preferences	08
1.3 Human behaviour in space	09
1.3.1 Behaviour in personal space	11
1.3.2 Behaviour in common space	14
Chapter two : Elements of space in relation to human behaviour	
2.1 Preamble	16
2.2 Elements of space	16
2.2.1 Shape	17
2.2.2 Size	18
2.2.3 Colour	19
2.2.4 Texture	19
2.2.5 Position	20
2.2.6 Orientation	20

2.3	Meaning of space in relation to its elements	20
2.3.1	Composition of space	20
2.3.1.1	Unity	21
2.3.1.2	Rhythm and repetition	21
2.3.1.3	Proportion	22
2.3.1.4	Scale	25
2.3.1.5	Clarity	26
2.3.1.6	Solid & void	26
2.3.1.7	Simplicity	29
2.4	Spatial progression	29
2.5	Hierarchy	29
2.6	Visual inertia	29
2.7	Role of elements in common spaces	30
2.7.1	spatial quality in public paths	31
2.7.2	spatial quality in public squares	31
2.8	Human behaviour and architectural elements in space	33

Chapter three : Behaviour pattern in common spaces in relation to tertiary educational institutes

3.1	Preamble	36
3.2	Education and its spatial requirements	36
3.3	Tertiary educational institutes	37
3.3.1	Type of education	38
3.3.2	User group	38
3.4	Role of common spaces in tertiary educational institutes	39
3.4.1	Interaction	39
3.4.2	Personalization	40

Chapter four : Spatial interpretation of common spaces in tertiary educational institutes.

4.1	Preamble	43
4.2	Spatial interpretation of common spaces in tertiary educational institutes.	43

Chapter five : Case studies

5.1	Preamble	49
5.2	Case study 01 – University of Ruhuna	49
5.2.1	Identifying the zonings of layout	50
5.2.2	Identifying the common spaces	52
5.2.3	Analytical study of common spaces	52
5.3	Case study 02 – University of Moratuwa	58
5.3.1	Identifying the zonings of layout	58
5.3.2	Identifying the common spaces	60
5.3.3	Analytical study of common spaces	60
	Conclusion	XIV
	Bibliography	XVI



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