

ARCHITECTURE IN HARMONY WITH NATURE:

An Examination of Implications of "Physical context" in creation of Form

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A Dissertation

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DECLARATION

I declared that, this dissertation represents my own work, where due acknowledgements are made, and that it has not been previously included in thesis, dissertation or report submitted to the University, or to any other institution for a degree, diploma or other qualification.

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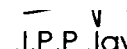

J.P.P Jayasekera

TABLE OF CONTENTS

	Page No
ACKNOWLEDGEMENT	I
DECLARATION	II
LIST OF PLATES	VI
LIST OF FIGURES	IX
ABSTRACT	X
INTRODUCTION	
0.1 The study	01
0.2 Importance of the study	03
0.3 Intention of the study	04
0.4 Methodology	05
0.5 Scope and limitations	06
1.0 CHAPTER ONE: "FORM" AS A "PHYSICAL ENTITY" WHICH EXPRESSES REAL MEANING OF "ARCHITECTURE".	
1.1 Architecture - Definition	08
1.2 Architectural expression	09
1.3 "Form" as a expressive media in Architecture	11
1.4 Constituents of architectural form	14
1.4.1 Orientation	14
1.4.2 3-D Composition	15
1.4.3 Plan configuration	16
1.4.4 Hierarchical order of spaces	16

1.5	Generative factors of Architectural form	17
1.5.1	User	18
1.5.2	Activity pattern	19
1.5.3	Purpose/ Function	20
1.5.4	Context	21
1.6	Concluding remark	26

2.0 CHAPTER TWO: CHARACTERISTICS OF "PHYSICAL CONTEXT" IN CREATION OF ARCHITECTURAL FORM

2.1	Interpretation of physical context	28
2.2	Man-made environment	29
2.2.1	Character or Spirit of man-made environment	30
2.2.1.1	Patterns of locality	30
2.2.1.1.a	Patterns of organization of masses	31
2.2.1.1.b	Patterns of sequence of spatial progression	35
2.2.1.1.c	Patterns of activity	36
2.2.1.1.d	Patterns of Architectural style	38
2.3	Natural environment	39
2.3.1	Character or Spirit of natural environment	40
2.3.1.1	Natural systems	41
2.3.1.1.a	Physical order - Geography	41
2.3.1.1.a.1	Land	42
2.3.1.1.a.2	Water	44
2.3.1.1.a.3	Plants	41
2.3.1.1.b	Cosmic order	46
2.3.1.1.b.1	Ecology	46
2.3.1.1.b.2	Climate of locality	47
2.4	Concluding remark	48

3.0 CHAPTER THREE: HARMONIZING WITH "NATURAL ENVIRONMENT" IN THE CREATION OF "FORM"	
3.1 Harmonization - completing the pattern of the place	50
3.2 Harmonization as a method of responding to the context	51
3.3 Identifying the pattern of the "Natural context"	52
3.3.1 Symbolic patterns of natural context	54
3.3.1.1 Volume	55
3.3.1.2 Scale and proportions	56
3.3.1.3 Balance	57
3.3.1.4 Rhythm	58
3.3.1.5 Repetition	58
3.3.1.6 Hierarchy	59
3.3.2 Visual patterns of natural context	60
3.3.2.1 Topographical conditions	60
3.3.2.1.a Site Geometries	65
3.4 Responding to the pattern of the "Natural context" in creating "Form"	
Case Studies	67
3.4.1 Boulder Gardens - Kalawana	68
3.4.2 Kandalama hotel - Dambulla	75
3.4.3 Subhodhi - Piliyandala	83
3.4.4 Blue waters - Wadduwa	89
CONCLUSION	95
BIBLIOGRAPHY	97

LIST OF PLATES

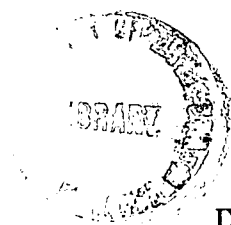
	Page
1. Plate 01 - Pyramid of Giza, Egypt.	11
2. Plate 02 - "Form of built", Sydney Opera House.	13
3. Plate 03 - "Form of none built", Spanish steps.	14
4. Plate 04 - Acropolis, Athens.	15
5. Plate 05 - Composition of form, Villa Savoye, Poissy.	15
6. Plate 06 - St Peters, Rome.	16
7. Plate 07 - A building in a context of water body Sydney Opera House	25
8. Plate 08 - "Sacred rock of Athens", Acropolis hill.	25
9. Plate 09 - Different cohesive patterning systems.	31
10. Plate 10 - Centralize organization.	32
11. Plate 11 - Villa Hernoza, Spain.	33
12. Plate 12 - Clustered organization, Grand axis, Paris	35
13. Plate 13 - Different spatial experiences, Venice.	36
14. Plate 14 - Different spatial experiences, Venice.	36
15. Plate 15 - Water front, Venice.	37
16. Plate 16 - Town Square, Tello.	38
17. Plate 17 - Trees in rural environment.	40
18. Plate 18 - Tree in deserted environment.	40
19. Plate 19 - Rural site.	43
20. Plate 20 - Sloping site.	43
21. Plate 21 - Flat land.	44
22. Plate 22 - water fall in the site of falling waters, before the design	45
23. Plate 23 - Falling waters by frank Lyoid Wright	45
24. Plate 24 - Talisen West by Frank Lyoid Wright	45
25. Plate 25 - Cosmic order changes the character of a place	46
26. Plate 26 - Cosmic order changes the character of a place	46
27. Plate 27 - Housing forms according to the climate.	47
28. Plate 28 - Housing forms according to the climate.	47

29. Plate 29	- Housing forms according to the climate.	47
30. Plate 30	- Variations of volumes in natural contexts.	56
31. Plate 31	- Variations of volumes in natural contexts.	56
32. Plate 32	- Rhythms found in natural contexts.	58
33. Plate 33	- Rhythms found in natural contexts.	58
34. Plate 34	- Repetitions in natural contexts.	59
35. Plate 35	- Hierarchy by size, in a composition	59
36. Plate 36	- Falling Waters by Frank Lyoid Wright	61
37. Plate 37	- Falling Waters by Frank Lyoid Wright	62
38. Plate 38	- The Great wall of China.	63
39. Plate 39	- The Red rocks amphitheatre, Collorado.	63
40. Plate 40	- Mortuary Temple of Queen Hatsheput, Thebes.	63
41. Plate 41	- Building in flat dessert, Teliesien West.	64
42. Plate 42	- Spanish Province of Gastellon.	64
43. Plate 43	- Built form - Boulder gardens	71
44. Plate 44	- Built masses with nature, Sri L - Boulder gardens	71
45. Plate 45	- Restaurant, L - Boulder gardens	71
46. Plate 46	- Open terraces - Boulder gardens	71
47. Plate 47	- The entrance - Boulder gardens	72
48. Plate 48	- water stream soon after the entry - Boulder gardens	72
49. Plate 49	- Reception - Boulder gardens	73
50. Plate 50	- Path through the jungle - Boulder gardens	73
51. Plate 51	- Restaurant, Cave made wide open area Boulder gardens	73
52. Plate 52	- view of the swimming pool from the entrance Boulder gardens	74
53. Plate 53	- Irregular pathways from through the Jungle	74
54. Plate 54	- Built masses - Boulder gardens	74
55. Plate 55	- Built masses - Boulder gardens	74
56. Plate 56	- Distant View - Kandalama Hotel	75
57. Plate 57	- Model - Kandalama Hotel	77
58. Plate 58	- Building form - Kandalama Hotel	77

59. Plate 59	-	Distant view -	Kandalama Hotel	78
60. Plate 60	-	Composition -	Kandalama Hotel	78
61. Plate 61	-	composition with the context -	Kandalama Hotel	78
62. Plate 62	-	horizontality of building form -	Kandalama Hotel	79
63. Plate 63	-	Balance of the built form within the context		79
64. Plate 64	-	Entrance -	Kandalama Hotel	80
65. Plate 65	-	Entrance lobby -	Kandalama Hotel	80
66. Plate 66	-	The tunnel -	Kandalama Hotel	81
67. Plate 67	-	The climax -	Kandalama Hotel	81
68. Plate 68	-	Spatial arrangement within the context -	Kandalama	82
69. Plate 69	-	Spatial arrangement within the context -	Kandalama	82
70. Plate 70	-	Built form within the site -	Subhodhi	85
71. Plate 71	-	linearity of the built form -	Subhodhi	85
72. Plate 72	-	linear organization in the natural terrain -	Subhodhi	85
73. Plate 73	-	Entrance -	Subhodhi	87
74. Plate 74	-	From the entrance -	Subhodhi	87
75. Plate 75	-	The gloomy tunnel -	Subhodhi	87
76. Plate 76	-	Main space -	Subhodhi	88
77. Plate 77	-	Linking corridors -	Subhodhi	88
78. Plate 78	-	Linking corridors -	Subhodhi	88
79. Plate 80	-	Built form within the context -	Blue Waters	90
80. Plate 81	-	Built form -	Blue Waters	91
81. Plate 82	-	Glimpse of the building -	Blue Waters	92
82. Plate 83	-	Entrance porch -	Blue Waters	92
83. Plate 84	-	The main axis -	Blue Waters	92
84. Plate 89	-	Intermediate climax -	Blue Waters	92
85. Plate 90	-	Main space -	Blue Waters	93
86. Plate 91	-	Main space -	Blue Waters	93
87. Plate 92	-	View from the main space -	Blue Waters	93
88. Plate 93	-	View from the main space -	Blue Waters	93
89. Plate 93	-	Relationship with its physical setting -	Blue Waters	94
90. Plate 98	-	climatic responses -	Blue Waters	94

LIST OF FIGURES

		Page
1. Fig 01	- Housing development, Pavia, Italy.	33
2. Fig 02	- Varieties of clustered organizations.	34
3. Fig 03	- Topographical map of falling waters site .	60
4. Fig 04	- Ground floor Plan, Falling Waters.	61
5. Fig 05	- Lay out, Cornell University undergraduate housing, Italy, New York.	62
6. Fig 06	- Dominant linear longitudinal axis, Church at Assisi	65
7. Fig 07	- Organization of form accordance with levels	66
8. Fig 08	- Plan - Boulder Gardens, Kalawana	69
9. Fig 09	- Rough Section - Boulder Gardens, Kalawana	70
10. Fig 10	- Lay out plan Kandalama Hotel	76
11. Fig 11	- Plan - Kandalama Hotel	77
12. Fig 12	- Section - Kandalama Hotel	79
13. Fig 13	- Orientation of the building - Subhodhi	84
14. Fig 14	- Rough section- Subhodhi	84
15. Fig 15	- Section - Subhodhi	86
16. Fig 16	- Conceptual diagram - Blue Waters	89
17. Fig 17	- Plan - Blue Waters	90
18. Fig 18	- Section - Blue Waters	91



ABSTRACT

"Architecture"

- **"Many things in one". (Balance harmony of visible, invisible, tangible, intangible things)**
Antoniades, (1980:18)
- **"It should satisfy mans natural needs, Environment adjusting capabilities and his spiritual needs"**
Antoniades, (1980:31)
- **"it is to serve humanity"**
Antoniades, (1992:15)

Accordingly, Architecture should be a meaning full creation by the people, for the people. It is some thing more than a mere visual object. But today it is misinterpreted and produces mere "buildings" which can not term as "Architecture".

So, "Architecture", embodied a meaning and should be a purpose full creation. This meaning or the inherent idea of an architectural product communicated to the beholder through the "Architectural Form" which is the main expressive media of architecture.

"Architectural form" , by the way of its **orientation, plan configuration, composing** and through the **spatial arrangement** should be related to the what **function** it performs, to the **activities** taken place in it, to the **type of people (user)** who are going to use in it, as well as to the **context** which it is in (**Generators**).

Considering the theme "**Architecture In Harmony with nature**", (nature - Swabhawa or reality), if anything to term as "Architecture" it necessarily should harmonize with nature. According to Nammuni, V, there are two primary natures to harmonize, with **its** own and that of the place. (Own nature means true to the function it performs, to the type of user and to the activity pattern) The aim of this dissertation is to discuss about the "Architecture" which is harmonize with the "**nature of the place**", with its context (**physical setting**).



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*Architecture is unfortunately, at present, a drop
in the ocean of reality, but,*

*"Architecture can wait thousand of years, because
its presence of this world is indestructible."*

Louis Kahn

Introduction

1.0 The study

Architecture is an important achievement of man. It is a discipline; comprehensive discipline and state of mind which makes human existence meaningful. Architecture come in to being as a harmonious integration of "tangible" and "intangible" the known and quantifiable, the unknown and inexplicable things together, at the same time, as a whole, in a useful, appealing and mind elevating way. As Antoniades (1980:18) states, Architecture is **many things in one**. Some things tangible, others intangible. Some things visible, others invisible. Where all things, tangible and intangible, visible and invisible, are in balanced harmony among themselves and with the rest of the world, constituting a **useful and mind elevating whole**, then this whole is "Architecture".

Architecture as "**useful**" integration of "**many things**", is achieved not only by means of visible and tangible physical dimensions as volume, solids and voids also through the intangible dimensions as light and time experience, the proportion of edifice and their relationship to the human being, but only through the harmonious combination of these elements in mind elevating way, giving integrity, wholeness, and harmony to the work.

Such a harmonious product undoubtedly become meaningful and resultant "Architectural creation" should express its inherent meaning. Through the "Architectural Form", the Tangible and visible physical entity which encompasses intangible architectural space and invisible human emotions, communicates its expression to the perceiver. This expression which embedded in "Architectural Form" should convey the real meaning of the product.

"Architectural Form" is a resultant output of certain generating forces, as User, activity pattern, function and the context. "Form" which generated through the above forces become harmonious product and it reflect the real nature about it self. That is by being true to **what function it performs, what circumstances it is built in, and what context it is in**, etc. Nammuni,V (1994)

The purpose of Architecture is **reflecting the real meaning or the truth** about **"itself"** and respecting to the **"every aspect"** which surrounds. "Every aspect" which surrounds means its context or the specific setting where the Architectural form generated. That is considering **"NATURE"**, of the place or the nature of the specific setting where the "form" generated. **"NATURE"** means the **"SWABHAWA"**, or reality (qualities of anything which make it what it is). So it is inevitable that every architectural creation necessarily be a reflection of reality of "its nature" (Function, activity pattern, user) and nature of the place (context).



This study is directed only to consider the "nature" of the place. That is considering the specific setting, the identical environment or the context, which earlier identified as one of the generative factor of Architectural form. Context Comprises of both Physical and non-physical context constitute things those are untouchable but yet named as the elements of context. It contains all the qualities which exist in a place, such as imageability etc. though it is very difficult to distinguish physical and non-physical context in practical point of view this study is only aimed to consider the physical context.

Considering the physical setting importance, given to identify the factors which enhance the overall essence of the place or the spirit of particular place. When introducing new form in to particular setting, it should maintain its overall essence, uniqueness or spirit. So it becomes essential to identify contributing factors of spirit of place or generating factors of certain pattern of a place or its uniqueness.



3.0 Importance of the study

Today it is observable that word "Architecture" termed to the buildings which not truly responds the nature of the place (Physical context). Another trend is the result of misunderstanding of the concept, "harmonization with nature", as producing buildings which are mere imitations of the outward visual aspect of nature of the place.


The consideration should give to the fact that harmonizes with "what of the nature". It should not be the outward visual aspect of nature; it is responding or completing the pattern of the existential reality, true essence, rhythm or spirit of particular place.

The existing specific setting or identical environment where any new building is to be placed is one of the major factors that should be essentially considered, and responded. Responding to the correct order of the existing identical environment is more important in the creation of "architectural form". When the things are misplaced from correct order of physical setting, those can easily recognize as the buildings which are in disharmony with existing context, and such products leads to destroy the mans deep rooted need of sense of belongingness or sense of familiarity to that identical environment(physical context).

In the study the specific setting or the context which identified as the "nature" of the place may be twofold as natural settings which god gives to the world and man-made settings created by man. In responding to any physical setting it is necessary to understand, the essence, principles and laws of the surroundings in a meaningful way and transferring it in to the **Architectural form**. That is harmonizing with the essential pattern, which gives unique character to the particular nature.

In harmonizing with is by no means, to look alike, to be twin, to blend with or to disappear in it. What ever the creation should be with the character, the essence or with the spirit of that place. Then harmonizing is to bring up a complete pattern in to the vicinity, true to its values. The idea behind harmonizing is to see that, what ever would be created, and built, it would not be contradicting with its placing, with its own elements, whether it is with composition, proportion, rhythmic progression etc.

Harmonizing with nature means a being a part of it. Be a part of its values and patterns. That is to complete a pattern with form of the place, with its rhythm, its spirit. In the creation of architecture, should select possible ways of assembling elements while creating forms to communicate the appropriate expression to the human mind, with its inherent nature. Harmony with the nature is, in composition with its own elements and also with the spirit, the rhythm, the essence of that place.



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Finally it is justified that architectural form means to visualize the understanding of nature's expressing about the existential reality while facilitating to experience environment meaningfully.

4.0 Intention of the study

The intention of this study is to identify the essential patterns and qualities of unique physical settings, which give its unique character and examine the way of capturing its essence, rhythm and spirit in to the architectural form which reflects the reality of nature of the place (physical context). In this regard attempt is made to concretize the idea of that all Architecture should be in harmony with its nature, and further it is extended to examine the qualities and relationship of those created forms with their physical settings, which make architecture more meaningful, by uplifting or enhancing the totality.

In achieving that it is necessary to understand, or rather should have sensitivity to the particular physical setting and should be knowledgeable to capture the essence rhythm and spirit of it, in to the created form. That is by responding to the tangibles as well as to the intangibles of that physical setting. The spirit of certain space gathered by means of studying the entire property surrounding it and brings the surrounding closer to the man.

5.0 Methodology

The study is carried out to examine particular face of architecture, in harmony with "nature" of the place (Physical setting), adopting a case study approach as a methodology for study. To establish the particular concept, architecture and its purpose will be defined in a broader context, Architecture introduced as silent art that communicate and expressed a message through its own language, "**architectural form**" identified as main visual and physical attribute which complete, translate, and heightens, the particular essence, rhythm or spirit of unique physical contexts, in to the tangible and experiancable condition.

In facilitating above relationship, physical context described as everything that surrounds us, which influences our lives and characters, and establishes the validity of harmonizing with physical context in Architecture. In this regard identified factors contribute to the spirit or uniqueness of particular physical contexts while dividing it in to basic two categories as man-made environments and natural environments.

In natural environments certain contributory patterns were identified which leads to uniqueness or to the **spirit of that place** as **physical order** which includes geographical patterns with land, water and plants, and as the **cosmic order** with ecology and climate of locality.

In the final stage of study through the selected case studies from unique natural sites, examine the way of architectural form complete the true pattern, spirit or rhythm of the Particular natural environments. Selection of case study is done from different geographical situations with different visual patterns, and further discussed the symbolic patterns of natural settings as **volume scale and proportions balance rhythm hierarchy** which enriches particular setting and way of capturing it in to the architectural form.

6.0 Scope and Limitations

As interpreted, every architectural creation should express real meaning about itself and it should complete the true pattern of its location. So any creation which is to be termed as "Architecture" it should necessarily harmonize with its nature. This Nature is two folds, the **nature of itself**, and **nature of the place (context)**. The term "nature" is identified as "Swabhawa" or reality. That is being true to its definition.

Harmonizing with its own "nature" is reflecting reality about itself that is being true to what function it performs, what are the activities that going to house in it, and type of people who are going to use the building. Also those are some of the generative factors of Architectural form, and this part will not discussed in this study, and it is directed only to examine the way of harmonizing with its context.

"Nature" of the place identified as a context or an identical environment which is one of the generators of architectural form. Here consideration only given to the physical context and non-physical part of the context will not discussed in detail.

The chosen identical environments or physical contexts basically divided in to two parts, as natural environments where the western world described as God has given and man-made environments which constructed by human being. To produce a harmonious built form, it is necessary to identify overall essence, spirit or pattern of particular physical setting.

In this study though identified the factors which contribute to the spirit or essence of the physical setting both in natural and man-made environments detail study of examining the way of identifying and responding to those patterns is discussed only about the natural environments.

Responding to the identified patterns is discussed according to the constituents of Architectural form, as how created form complete the existing pattern in the way of orienting building, in composing in plan configuration and in hierarchical setting of spaces.

To sum-up the study certain local examples were selected as case studies from unique natural sites with selected different visual patterns which considers as successfully identified and responding to the patterns of their unique natural settings

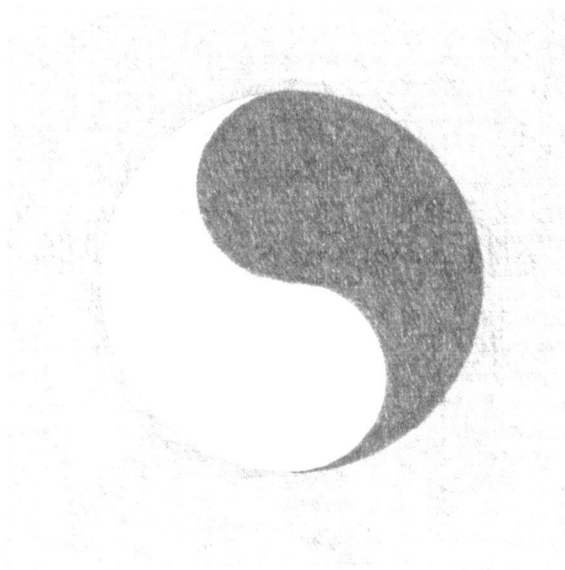


*"We put thirty spokes together and call it a wheel;
But it is on the space where there is nothing
that the utility of the wheel depends.
We turn clay to make a vessel;
But it is on the space where there is nothing
That the utility of the vessel depends.
We pierce doors and windows to make a house;
And it is on these spaces where there is nothing
that the utility of the house depends.
Therefore, just as we take advantage of what is,
We should recognize the utility of what is not."*

*Lao-Tzu
Tao Te Ching
6th Century B.C.*



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Chapter One

CHAPTER ONE: "FORM" AS A "PHYSICAL ENTITY" WHICH EXPRESSES REAL MEANING OF "ARCHITECTURE".

1.1 Architecture - Definition and Purpose

Architecture,

Is a discipline, a profession, and a state of mind. It is a discipline aimed at synthesizing, organizing, and creating order out of nothingness or unrelated parts. Architecture is remedy to chaos or monotony. If the various disciplines that create "physical entities" harmonize in a useful appealing and mind-elevating way they constitute "Architecture" Antoniadès (1980:18)

It is a man-serving art. Antoniadès(1980:24)

It is a process and product of human habitation. Habrakhān(1981:...))

Architectural creation is a shelter for people's physical, intellectual and emotional needs. Louis Kahn



It safeguards life, health, and property, and promote public welfare.

Architecture is unfortunately, at present, a drop in the ocean of reality; but, "Architecture can wait thousands of years, because its presence in this world is indestructible". Antoniaes quoted Louis Kahn (1980:18)

Architecture is the mastery of spaces. Ralph quoted Brett(1976:23)

Above classifications indicates some views behind the term "Architecture". Antoniadès consider it as an unavoidable art which serves man, and further it is a creation of "physical entity". According to the Harbrakhān it is a product of human habitation that is something that greatly depended on man's existential content. Brett thought it as a creation of spaces.

Finally a creation which satisfies man's tangible and visible physical needs as well as the intangible and invisible psychological needs, give the real meaning to the

term "Architecture". It is the space that man live in, it is tied up and filled with mans perceptions. His feelings and emotions are embedded within it.

The real "meaning" of term "Architecture" is achieved as a collective entity of above visible, tangible and invisible, intangible values. It made particular place visible tangible and sensible to the preserver through created "physical entity" which also can termed as "Form". To be named as "architecture" the created environment within this "form" should correctly responds to mans physical and psychological needs.

Also Antoniades (1980:18) establishes above mentioned "meaning" of term "Architecture" as, "Architecture is **many things in one**. Some things tangible, others intangible. Some things visible, others invisible. Where all things, tangible and intangible, visible and invisible, are in balanced harmony among themselves and with the rest of the world, constituting a **useful and mind elevating whole**, then this whole is Architecture".



Any creations which to termed as "Architectural" should not only a mere visual object placed on particular location, it has its own "soul" or "spirit" penetrating beyond visual satisfaction. This "soul" or "spirit" is intangible quality leads to the healthiness of the building. It express real nature of itself and establishes true relationship with its location...

The reality and essence of "Architecture" should communicate and expresses its inherent meaning.

1.2 Architectural Expression

"expression" is indispensable and inescapable attribute in Architectural communication. Usual experience of Architectural expression is always a percept, a concept and then representation. When one sees a building; has an interpretation of it and usually put that in to words for communication. This is the

way how language is entering to Architecture. In verbal communication language used to convey their message or meaning clearly, same as in Architecture, building itself carry meaning and express it through the "Form" (visible "physical entity") in the way that sentence do.

As Schulz(1971:9) states "man adapt physiologically and technologically to the physical things, he interacts with other people, and he grasp the abstract realities ,or 'meanings', which are transmitted through the various languages created for the purpose of communication". Therefore understanding of language is inherent in the expression of Architecture, where elements of building represent or corresponds to carrying meaning as words carrying meanings of a sentence. The collection of meaningful elements formed total meaning of a built form and communicate it in a understandable way.

Since the primitive age, these expressions communicate their feelings and ideas by using simple pure forms; cubes pyramid, domes etc. this communication may be either by direct means such as signs or indirect means as symbolic. Communication through symbolic means leads to self realizations to a deeper level, which is known as "art" (even architecture too).symbolic expression bring forward a hidden idea, further it can mention as the intermediate object which carries the meaning and transferring it in to the brain in a understandable way.

Expression creates a dialogue. Mans behavior within a particular environment depends upon his understanding about the physical elements within that environment. So the Architectural creations also as a man-made physical element, should be meaningful as well as should express its real meaning to the beholder. Therefore the "expression" should have clarity, in a way that easily understandable.

Expression of Architecture need to be offered organizing ideas and forms which brings the whole as meaningful. The task of an Architect is to create forms with

an adequate capacity to interpret its function and transform built form to fulfill the quantitative and qualitative requirements. Also forms define their range of meanings to express the whole idea of building in response to its purpose.

The generated "expressions" may vary from built form to built form, as calm, friendly, powerful according to their innermost meaning.



Plate.(1) -Expression of power.
Pyramid of Giza, Egypt

Triangular planes and stubble form with sharp edges and apex express its greatness and power.



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1.3 "Form" as an expressive media in Architecture

According to Ananda coomaraswamy : Latin "Firms" and also "Forma" it could be translated very literally by the new absolute English word "firmity" or translated more freely by words such as 'noun', constant, order law, and justice. He further states that word "Form" corresponds to the Sanskrit name "Nama". However the "Form" stimulating the human sense by it given shapes which is called physical elements of the form. This interpretation related to the "actual form" which expressed the real underlying meaning.

It is well known fact that; architecture does not talk without "Form". The most important Architectural product; a building task, is the conception of "Form". Inherent meaning or reality about architecture is communicated to the perceiver through the making of form. According to Jurgen (1985:23) "form in Architecture... also a vehicle for meaning and always has effect on people". Further he describes Architectural form as the outward body within which the

space is embedded. And also its direct reciprocal relationship between form and space, space cannot be experienced without form, and conversely, space creates distance need to perceive the form. Form and space together give rise to expression.

The architectural form encapsulates space, and the space enwraps within the form they are mutually bonded and can not be taken apart. Well shaped form by correct using of material, colours in the way to convey its reality combines with space and give rise to expression. As Ching (1943:33) quoted Edmund Bacon "Architectural form is the point of contact between mass and space...Architectural forms, textures ,materials, modulation of light and shade, colour, all combine to inject a quality or spirit that articulates space. So built image must communicate its real meaning through its form which is the collection of related things of physical and non-physical and as a whole entity but not of parts. It is a physical entity understandable to the human eye, through it's appearance should reflect the real purpose which it was designed, physically as well as psychologically. But its not only physical elements its rather intellect, with feeling on human mind which gives as environmental quality of the building type, while appealing to the sixth sense intellect .

As mentioned the components of "Form" is difficult to understand individually, by part by part, it is an organized entity which holds all parts rationally together and working as a whole. This idea is forwarded by Antoniades by quoting Jean Labatut(1992:19) as "elements of "tangible" and "intangible" the known and quantifiable versus all those unknown and inexplicable things that cannot be rationalized that if there, will make a total, unique, and complete form.

Form is general manifests, relative to building task. The "form" express emotionally to the viewer, the whole form has to be functionally alive. Ultimately it has to satisfy both functional and emotional aspects. The emotional feeling in Architecture seeks out by visual qualities; mass, space, outline emphasis, light

and shade texture pattern, etc. these evoke impression which implies the meaning of the building. This can be analyzed as expression of their deeper meaning which is reality those evaluates on base of physical characteristics of form itself .in other words, the human being evaluates forms in relation to himself. Therefore general precedence of all forms is human form or "humanness". Characteristics of human; his uprightness gives 'verticality'. As such every form has a similar stance like, horizontalness etc. thus the framework of all external forms are seen by us produces the qualities of objects.

Primarily, built forms or those objects fall in to two categories;

- The forms created by the factors inherent to the built shape itself called the "Forms of Built"
- The forms created by the factors external to the built shape are called the "Forms of non-built"



Plate. (2) - "Form of built"

Sydney Opera house.

Bonta,J(1973:2830)describes "forms of built" as the "physical form". within that physical form all its features directly or indirectly perceptible, such as its shapes, colour, smell, sound, temperature, weight, texture and so on.



Plate. (3) - "Form of non built"

Spanish steps

The **meaningful "Architectural form"** which facilitates physical and psychological comfort does not conceive entirely without a reason, within a vacuum. It greatly influenced by the every aspect which is in surrounding. Ultimately form has to satisfy both functional and emotional aspect. This functional and emotional satisfaction manifests through the combine effect of several factors which considering in creating form.

1.4 Constituents of architectural form

As mentioned earlier "form" has formed through the combined effect of several factors which integrated each other, named as constituents or components of "architectural Form" as orientation, 3-D composition. Plan configuration, Hierarchical order of spaces.

1.4.1 Orientation

The relationship between built environments to the external site forces is taken in to the consideration in orientating. Site, natural context location of the building within the site having the best use of existing natural forces as views are

considered. Orientation is important issue in creating architectural forms, because it causes various visual effects on observers by conveying the message. This leads to identify the architectural form within the totality of location.

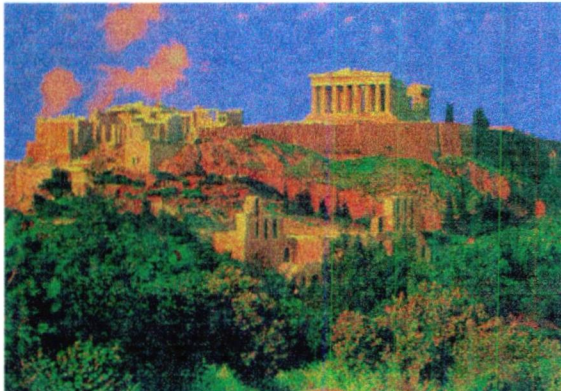


Plate. (4) - Acropolis Athens

Orientation presented relationship with the neighbouring buildings and with the entire surrounding

1.4.2 3-D Composition University of Moratuwa, Sri Lanka. Electronic Theses & Dissertations www.lib.mrt.ac.lk

Three dimensional shape and arrangement of physical object. The most important fact is its expressive quality which included of conveying the architect's intention or purpose of conveying message. This is another way of expressing simplicity and complexity of total product; Solid - void relationships, positioning of openings, horizontality and verticality, makes an impact on 3-D composition and thereby form.



Plate. (5) - Villa Savoye - Poissy

Composition of form.

Source - Introduction to Architecture
by Stephen Gardiner

1.4.1 Plan configuration

Two dimensional plan form make the sense of feeling of 3-D form, where function of the building and its response to the site factors corresponds by this. It describes the arrangement of spaces and shape of the internal spaces. Thus it may not be directly notice in the 3D composition. However overall plan configurations express the function and also Architects intended message by surface articulation of built form in accordance with plan. These express its meaning and what we see in façade of built form. It also effect to the elevation of the building.

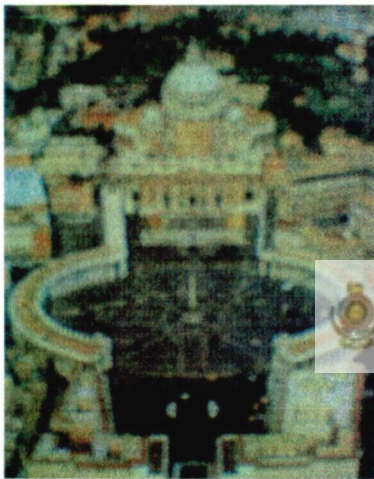


Plate. (6) - St Peters Rome

Schematic plan itself interpret organization of shape and form

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Source - Introduction to Architecture by
Stephen Gardiner

1.4.2 Hierarchical order of space

A built form consists of various spaces. Each of such spaces are planned in such a manner that in accordance with their importance and certain other reasons. The spatiality of spaces or form than another space or form is characterized by organization of volumes, finishes or such other relationship. So space is arranged in a hierarchical order which refers as a major space or core space of the complex and rest as secondary.

First things first and everything in place... (Proverb), if the elements that compose it are properly organized in such a way as to have first things come first, etc...

then it can be said that design is "orderly" as organized. Order, therefore is the quality of work of architecture which tells the occupant or the sensor that there are not inequalities in the organization of the elements. Therefore, an equilibrium, or balance is alive. This balance or equilibrium may be observed or sought by the architect either in terms of function, activity or form.

Elements of design having varying relationships to the environment constraints demand that special importance be placed on the relationship that exists between the site, the orientation and the composing the buildings on the site. Therefore final build form evolves only after the architect goes through careful analytical consideration of the relationship of internal function and environmental constraints.

Architectural form should express the real meaning of itself and should establish true relationships with entire surrounding through the well integration of above mentioned factors, which generated as a result of several factors which could name as generative factors of Architectural form.

1.5 Generative factors of Architectural form

Architecture always communicates with the expression. This expression grasped by the beholder through the Architectural Form. There are various architectural forms which evoke vivid expressions, and it is interesting to find out the forces, which leads to different expressions through its built form.

In Architecture term "generators" refers to such forces that lead to evoke different expression, which are as follows

- User
- Activity pattern
- Purpose/Function
- context

In meaningful Architecture, one of these generators plays a major role or the leading role in order to evoke expressions, these leading generators is termed as the primary generators. The major expressive quality of built Form is determined by those primary generators.

1.5.1 User

According to Antoniades (1980:31) within the work of Architecture, MAN moves, stays by, uses, or look at it and, in union with other people, react. He is at peace wit the work, because work satisfies his natural needs, his environment adjusting capabilities, and his spiritual needs....

Therefore being comfortable in the building is an essential aspect in meaningful Architecture. There are several ways that the human being is allowed to be comfortable, physically, psychologically and spiritually. That is when creating architectural form, should essentially consider the user comfort, the user needs and aspirations. Within the form basically should satisfy mans physical and psychological needs.

Physical needs refer to the aspects which are relevant to physical comfort of people such as physical setting with proper circulation pattern, acceptable lighting and ventilation levels and other technical requirements. These physical needs are quantitative. Psychological needs refer to the psychological comfort which includes the intangible needs such as personal affection, sense of belongingness, self esteem, status among others and feelings accomplishment of personal fulfillment. These psychological or qualitative needs are much more complex than physical needs and more difficult to achieve.



Fulfilling those qualitative and quantitative needs within the architectural form is must. When user needs and aspirations are not correctly identified and responded manipulated forms become inappropriate to the user, where user tend to suffer physically and psychologically.

Therefore building should posses certain visible physical dimensions which may affect the intellect of the user. Therefore within the Architectural form psychological and physical satisfaction of user is main considerable factor. This idea is forwarded by Antonides(1980:126) in another way considering user as respectable factor, in his word the Architects main responsibility should be respect for the human beings for whom they were deign... "respect" in all the possible interpretation of the term.

1.5.2 Activity pattern



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Christoper Alexander states^(1979:70) "to define the quality in buildings and towns, we must begin by understanding that every place is given its character by certain patterns of events that keep on happening there. As mentioned every physical form is correlated with the activity patterns that keep on happening there. So the physical form has a direct relationship with the activities or events which is happenings within the building.

Considering a building, there is a particular activity intended to perform within it. It is design deliberately to happen that activity, and therefore most of the times no other function are allowed to be taken place within that building. For example a religious building different to a hotel so it is clear that, each and every activity needs to have certain kind of an environment and these particular activities generated the basic plan shape and area required. Also the activity determines the details, facades, and expressions in the "form" of that building.

Finally the physical structure or a form should support and ease the activities happening within it. If not the inverse effect will be expectable, that is changing of physical form will lead to the changing of activity pattern taken place within it. That is created physical form essentially it should be compatible with activity pattern housed within.

1.5.3 Purpose/Function

Every object which is in our surrounding and every incidence which is happening around us has a purpose and therefore the function. For example flowers with petals and sweet fragrance attract butterflies and insects for the purpose of reproduction. Creatures build their shelters for protection for themselves and for their loved ones.

Same as human life, created built forms must be suitable for relevant purpose or function they were made for. In another sense the term function may refer to the totality of the needs the building is to meet. The "function" and "form" are inseparable, and interdependent. According to Rudolf (1975:2) Resistance to the study of form certainly derived in part from the accusation that architects and theorists had taken to treating buildings as pure shapes, without regard to their practical and social functions. Anybody with a five sense of the interplay between buildings and the human community must rebel against such formalism, if only because it must lead to misinterpretation of the very shape it wishes to deal with. One cannot understand the shape of a door or a bridge without relating to its function.

When considering the massive cathedrals, temples and mosques built by different religions their built form denotes a specific purpose. Specially Egyptian built the massive dominating pyramids to house the dead bodies of their kings or pharaohs, because they thoroughly believe in the spiritual forces which continued to exist in the tomb. On the other hand these pyramids symbolize the 'eternal life' of Egyptian pharaohs.

Every building needs to satisfy its purpose and function, considering the situation of school, film hall, a theater, office and a commercial complex every type of building has its own purpose and the building Form should respond to that or arrange to satisfy its own purpose. So it is evident that function plays a major role in creating Architectural form.

1.5.4 Context

For a work of art its own background is always inseparable, and it's plays a major role in determining a final form of the product. This background is context, environment or situation in which an event occurs.

As Smith (1987:93) "in Architecture as well as painting a common binary transaction in between figure and ground. Gestalt psychologists illustrates in a variety of ways how one pattern of information achieves prominence when it is perceived as figure against the subordinate pattern which becomes background".

Ching (1996:94) described context as a contrasting background or a negative element which help direct perceiver's attraction to the "figures" or a positive element within it.

Antoniades (1980:1) sum up the idea of context, as everything that surrounds us. Environment is also considered as "the conditions under which any person or thing lives or is developed; the sum total of influences which modify and determine the development of life or character".

Smith describes it as a background for particular figure, Ching also states it as a contrasting background which essential for the existence of figures within it. Antoniades summaries the idea as the "everything" which influences our lives and characters. So the surrounding is potentially the most powerful art form we

experience in our lives. Whether they will bring illness or healing depends upon all of us whose decision and action shape human environment.

Architecture as same as other arts greatly depends upon its surrounding. This surrounding environment is major contributing factor and more complex entity which determining Architectural form. This complex entity and its constituents various people describes in various ways. Christoper Alexander describes it as a series of patterns, Kevin Lynch describes it as site planning and according to the David Canter it is set of systems.

It is justifiable that Context is complex entity that cannot consider isolatly as a physical feature; it co-existed and interconnected with every physical and non-physical feature. Any tiny change in any aspect will influence the other. Therefore when responding to the context, context consideration must given to the whole "every thing" as well as to the individual aspect which placed within "every thing"



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This surrounding environment or the context can basically divided in to two categories specially because of the ease of the study, as **wider context** an **local context**.

The **wider context** is the broad consideration of a situation as a whole environment for example. When locating a building consideration must given not only to the particular site, but also to entire city, perhaps to the entire region and that broader area (including geographical settings, main activities and building types) was considered and it is termed as the wider context.





Plate. (4) Considering the broad area as the wider context including geographical settings, main activities and building types.

Source - Introduction to Architecture by Stephen Gardiner

The characteristics of environment of a particular place can be termed as a **local context**. If we take a site as the situation, it includes site and its immediate surrounding. It constitutes the whole area that can visually perceive including street patterns, urban spaces, sky lines, built scales, site geometries and natural features etc. This is most important matter when creating Architectural Form on a particular place, and that can be divided into two components on the basis of its existence as Non Physical context and Physical context.

Plate. (5) Local context

Immediate surrounding of a site, including site geometries, built scales, sky lines. Street patterns, urban spaces and natural features.



Nonphysical context constitutes of things those are untouchable but yet named as the elements of context. The qualities which exist in particular place and one can experience through the built form can be categorized as cultural Historical and religious contexts and intangible qualities such as imageability, identity meaning and structure, which arise due to the above factors. Christopher Alexander (1979:100) describes affect of nonphysical context by identifying above mentioned things as patterns, "The patterns vary from place to place, from culture to culture, from age to age; they are all man-made, they all depend on culture. But still, in every age and every place the structure of our world is given to it, essentially, by some collection of patterns which keep on repeating over and over and over again. These patterns are not concrete elements, like bricks and doors - they are much deeper and more fluid - and yet they are the solid substances, underneath the surface, out of which a building or a town is always made.



Physical context is immediate surrounding which constitutes objects or groups of objects affected to the Architectural form. They may respond to the created form through their functions or physical forms. Also they should have relationship with historical values and inherent memories with that particular immediate context. The objects within that particular setting may relate in some way to the surrounding architecture, or to the natural physical setting, also to the specific function of a that place in reinforcing particular "character" or "spirit" in to that place.

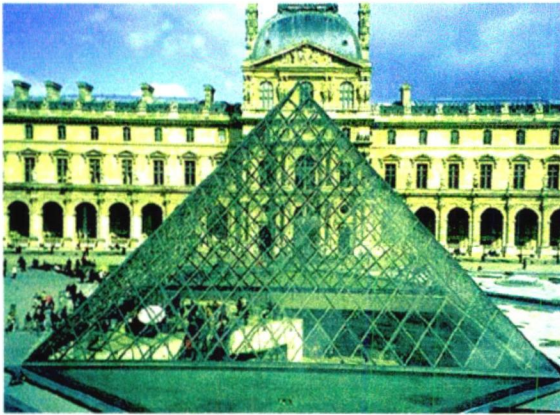


Plate. (6) The Louver pyramid

A building done in the middle of the **architecturally important build elements**

Plate. (7) Sydney opera house.

A building design in context of water body



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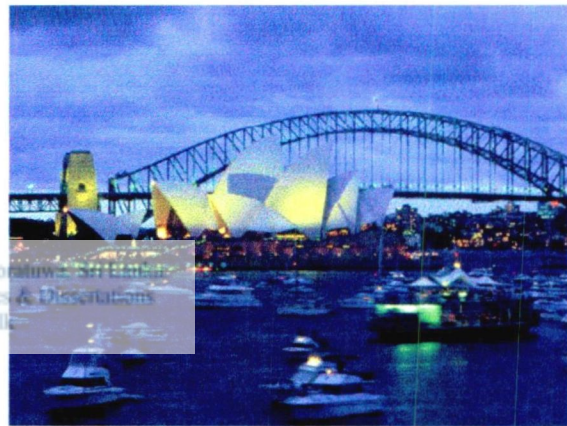


Plate (8). Acropolis hill

"sacred rock" of Athens

Relationship of Architectural masterpieces within its context



1.6 Concluding Remark

"Architecture" - collective integration of many things, (visible, invisible, tangible, intangible things) becomes experiancable to the perceiver through the "Architectural form" which is the main **expressive media** in architecture. Therefore the architectural form should communicate **true meaning** of the product to the beholder.

Form **constitutes** several things, which facilitate to the correct expression. By the correct way of **orientating within a particular context, plan configuration, composing, and arranging of spaces** are considerable factors which leads to the meaningful form.

Such a meaningful form generated considering **user** of particular product, **activity pattern, function, and the context** which are the **generators** of architectural form. Then the final form become true to performing function, user category, as well as to its context. Then the theme "Architecture in harmony with nature" Become applicable. As interpreted the term "Nature" as "Swabhawa of something, resultant architecture become harmonize with "nature" of **building it self** (user, activity pattern, function) and with the "nature" of the **place**, which the **context** of it.

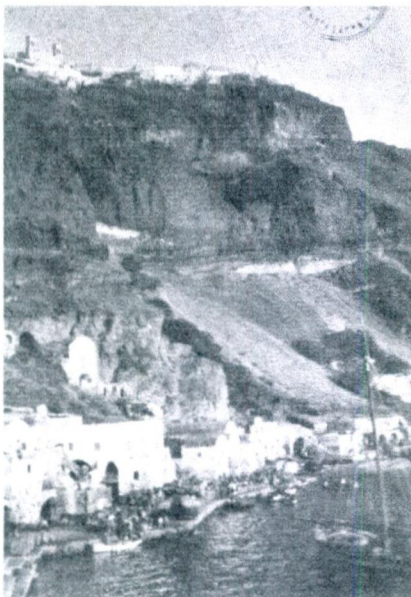
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It is important to understand the principles and applications of context in order to effectively capture the emotions and relevance of any pattern form that one is using. Context is the glue that binds an entire landscape and its surrounding together. It lends a subtle but important credence to the choice of elements for a designed space. context can best be defined as the situation where specific objects or groups of objects have a relationship to each other and/ or their surroundings.

Richard L. Dube

Chapter Two

CHAPTER TWO: CHARACTERISTICS OF "PHYSICAL CONTEXT" IN CREATION OF ARCHITECTURAL "FORM"

2.1 Interpretation of "Physical Context"

The context can be considered as spaces which consist of its own character and identity. "Architecture" which describe as earlier, express real meaning of it through the form. That is it should reflect the reality of every circumstances it has created, that is being true to what function it performs, what materials it employs, what circumstances it is built in, **What context it is in etc.**

Physical context is complex entity which greatly influenced the Architectural Form. In another way it can described as a "Nature" or "Swabhawa" of the place, According to Kevin Lynch the **site** and the purpose of which it will be used. The two sources of design which interrelated very strongly, but in a broader sense "context" is not a Solitary entity or which could not be isolated extracting from rest of the entities, such as cultural, sociological, historical context etc. Every aspect of these context has a co- existence and each one is inter connected to others. Also it should be remembered that effect of a building change, in any aspect, will influence the other aspects. Therefore in reality when responding to the Physical context should consider "whole" and as well as the individual aspects.

Schulz (1980:8) introduces a concrete term to this "Physical context" as "place", he describes this place as something more than abstract location. He means it as a totality made up of concrete things having material substances, shape, texture, and colour, together giving rise to a certain "character". It is justified that the complexity of physical context as combined entity of many aspects as locational patterns, activity patterns, site geometries and certain natural and visual systems which leads to generate particular "character" or "spirit" to that place.

The "Physical context" is also can be divided in to two according to their creation. (Considering the percentage effect of man-made things in to natural settings)

- In born or happening in the usual course (according to western thinking God has given) - Natural environment
- Work of man - Man made environment

2.2 Man-made environment

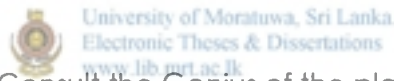
This is defined as the elements which are constructed by human beings. When determine an architectural form within a street, in a town or in a city, it should not destroy the existing pattern, continuity or balance of the place, which create unique quality or spirit in that place. Smith justified that idea as (1987:9) "the architecture of towns and cities represent an elaborate lattice of symbolic meaning charged with emotional energy. Demolishing a single building may break the circuit and earth the emotional current". So when designing in urban environment the existing pattern and system should be taken in to consideration and respond to them without destroying.

When creating an architectural form in to urban environment, patterning system of physical setting, should be understood and responded. Also this patterning systems leads to certain type of character or a spirit. And this immediate environment is comprised of a collection of different small spaces and there is a relationship between each of them. This relationship brings a movement or a rhythm in to the locality. Also any site is a result of a formation of certain geometric composition. A study of such geometry is extremely helpful for a designer in order to determine correct location of building within the site, in relation to surrounding environment.

2.2.1 Character or Spirit of man-made environment

Character or "Spirit" is a concept that is very difficult to clearly express or define. Simply it can be mentioned as a quality of a place which able to bring strong "mental image" about that place.

The "spirit of place" is the translate version of the Latin word Genius Loci. In ancient times place itself was considered as the guardian divinity of a certain place. According to the Jackson (1992:151) it is a "sense of place comes from our response to features which are already there - either a beautiful natural setting or well designed Architecture." It was believed that a locality, a space or structure or a whole community devise much of its unique quality and referred to it in many occasions. Just in the way that people differ from person to person each place has a unique quality. Such quality of space is not tangible and does not exist only as physical form.



Alexander Pope said, "Consult the Genius of the place in all". He further said that local topography climate and resources determined the kind of landscape and Architecture, which is best, suited to particular region. Therefore when considering the urban environment or man-made environment followings are identified as factors which directly affect to generate a certain character, uniqueness or spirit of that physical environment.

2.2.1.1 Patterns of locality

The man-made environment where man lives is not a mere practical tool or the result of arbitrary happening, it has structure and embodied meaning. The basic physical features which lead to certain structure of urban context are most of the times general to all the urban situations. When considering the context of many cities, Bath, Amsterdam, Rome, Florence, whatever their growth has been planned or developed originally reflect and order as a whole. Blocks and

streets, spaces and built forms, come together to form dense and interrelated patterns which lead to certain character of that place.

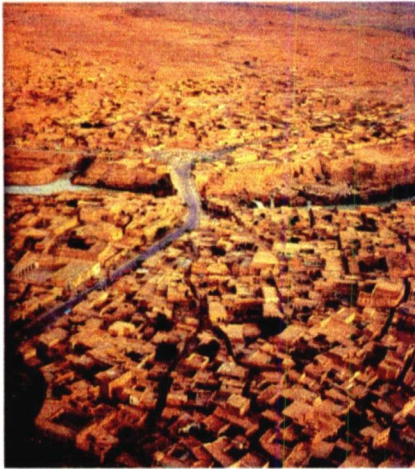


Plate: (9)

Different cohesive patterning systems which enhance the intensity of physical context.

Source - City shaped

2.2.1.1.a Patterns of organization of masses

Massing help to organize the sequence of urban form; laid out to geometric arrangement within their interaction to formulate cohesiveness. This cohesiveness as a whole could be observed in terms of buildings the void, the spaces link together and etc. this massing creates an image of locality and cohesiveness created by fabrics, objects, and spaces.

In architecture the typical patterns of organizations are

- Centralized organization
- Linear organization
- Clustered organization
- Grid organization

Depending on the fundamental characteristics, spatial relations and contextual responses within the built scale of masses, the above patterns could be varied.

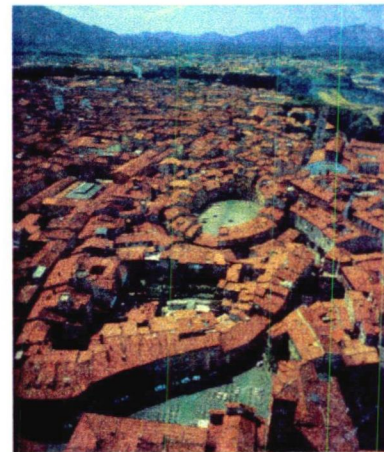
- **Centralized organization**

This will consist of central unifying space or object regular in form dominate within a number of secondary forces, and building grouped around. The secondary forces differ from one another in their identity, size, Function, style, etc, of the context. Since the form of the centralized organization has non directional quality, the entry must be specified by its site. The circulation patterns consist of radial, loop or spatial in form will terminate in the central space

Plate. (10)

Source - City shaped

In urban context these centralize organizations relatively compact and regular. Established point or "places" terminate axial composition, or serve as an object form defined within the defined field of volume of space.



- **Linear organization**

In urban contexts the linear organizations essentially consist of the series of spaces or elements. Either by directly related to each other or link through separate and distinct linear spaces. It is usually consist of respective spaces; those are alike or different in size, Form and Function. Significant spaces in functionally or symbolically may be located anywhere along the linear sequence, and they may emphasize by size form and location. Because of their characteristics length, linear organizations express a direction, beginning and end with a signify movement and growth. To terminate this growth a dominant



space, a square, a landmark, or natural topographical conditions could be introduced.

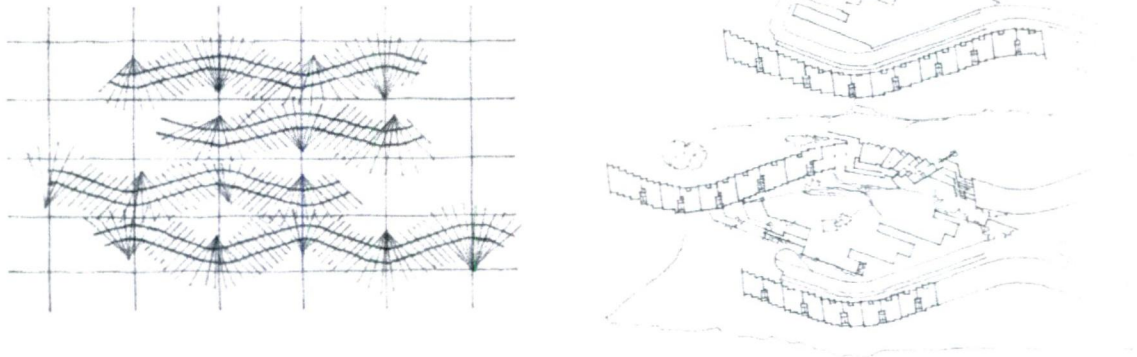


Fig. (1) Housing development, Pavia, Italy, 1996, Alvar Aalto

Source - Form space and order



Plate. (11) View of Villa Hermosa, Spain

Linearly organized Terraced housing

Source - introduction to Architecture

- **Clustered organization**

A clustered organization uses proximity visual ordering devices of axis symmetry to relate its spaces to one another, consist of repetitive, cellular spaces, with dissimilar in volume, orientation and functions. Because of clustered patterns it does not originate rigid geometrical concept, it has quality of flexibility, growth change readily and easily without affecting its character.

Varieties of clustered organizations.

CHAPTER TWO: Characteristics of "Physical Context" in creation of Architectural "Form".
Architecture in Harmony with nature: An examination of implications of "Physical Context" in creation of Form.

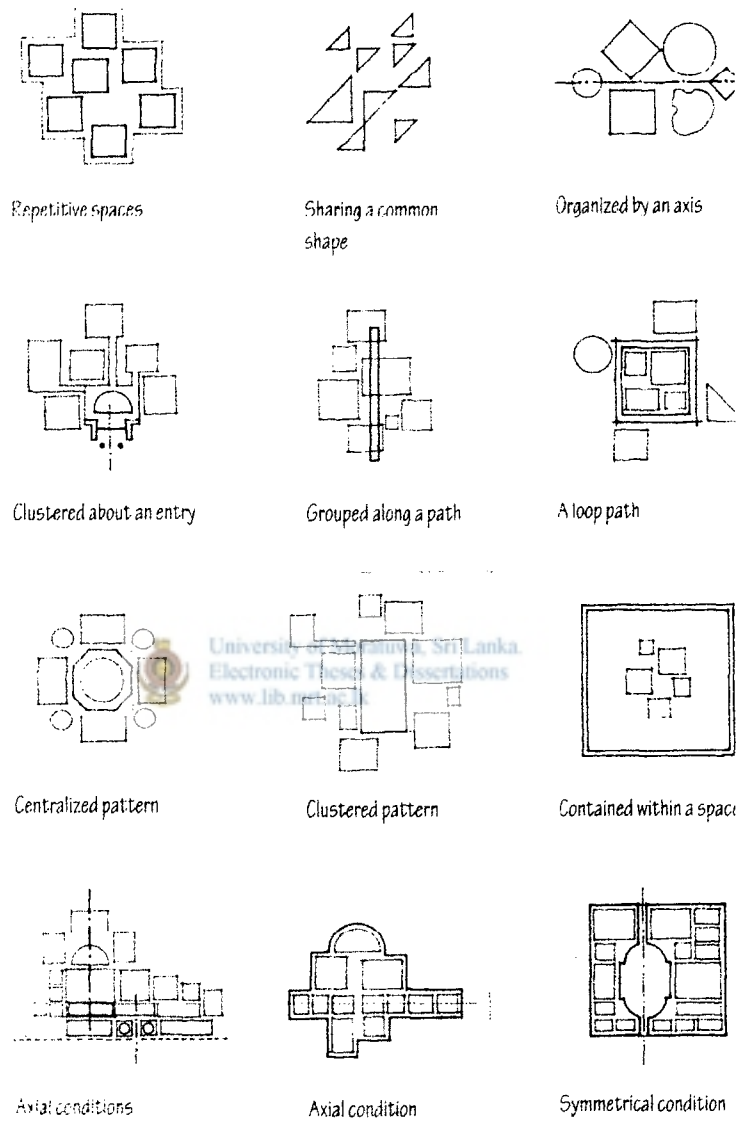


Fig. (02) Varieties of clustered organizations

Source - form space and order

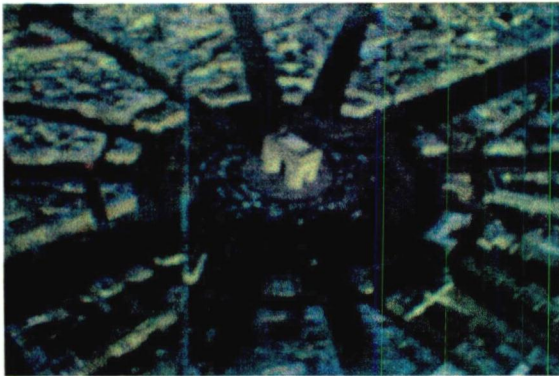


Plate. (12) The Grand axis, Paris
Cluster organization

Source - introduction to Architecture

- **Grid organization**

A grid organization consists urban spaces in relation to one another in repetitive modular units of spaces, regulated by 3-dimensional grip patterns may, consist paces, dissimilar in volume function can share common relationships

Grid organizations can be made irregular in its direction, to modulate size location and transformation or close to accommodate dominant spaces or natural features. It also depicts the qualities of continuity growth expansion and proximity.

2.2.1.1.b Patterns of sequence of spatial progression

Since we move in time through a sequence of spaces, we experience space in relation to where we've been and where we anticipated going. Ching(1977:246) Hence the movement path can be conceived as the perceptual thread that links the spaces of context together. As Bakon (1975:246) states the role of the designer in the city should be to create a harmonious environment for each individual who is in it.

Movement through spaces creates continuity of experiences derived from the natural and form of the spaces through which the movement occurs. This gives the key to the concept of movement as a dominant organic force in Architectural design.

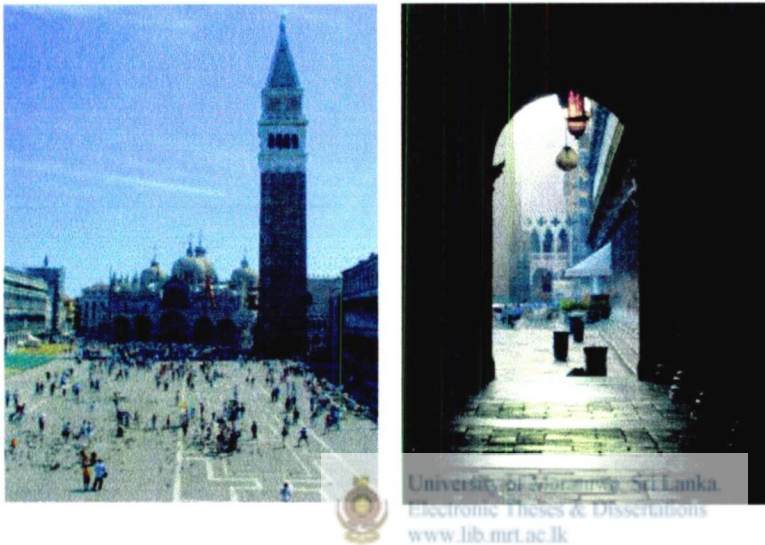


Plate (13), (14)
Different spatial
experiences in Venice

Spaces comprised of 3 levels configuration of movement paths (sequence of spaces), path space relationship (Node, edges and terminators), form of the movement of space (volume and element)

2.2.1.1.c Patterns of activity

Various activities which have taken place in urban contexts influence the particular character or meaning of that urban environment. The meaning of the urban context is derived mostly from a particular activity. But context is accommodated from different activities and form a proper functioning of city life. Therefore the different activities relating to each other lead to generate complex patterns in urban environments.

Health, T (1984:56) contributes to this idea as "...Some streets and districts have distinctive air through being devoted to one particular usage. The concentration of an activity in one locality has always being an Urban feature and as well as its being "good for trade" that like business should cluster together.

Plate.(15) Water front, Venice

Usage and activities Influence the architecture of houses along the water body



2.2.1.1.d Patterns of Architectural style

The Architectural style in a particular context depicts its history, craftsmanship, aesthetic values, and people's attitudes etc. These patterns can be identified as façade styles, solid void ratio of the built fabric, horizontal and vertical rhythms, roof shapes, quality of detailing, use of materials etc. Worskett,R (1969:172) describes this styles as "... the overall Architectural character of streets has in nearly every case, come about simply because architects and builders in the past have not copied previous styles, but built according to the idea of their own age. Looking at any street in a town which has grown slowly over the centuries, immediately impressed by the way in which styles of Architecture used developed and materials have been used. To copy past styles is therefore not the answer..."



Plate. (16) Town square, Tello

Architectural style determine by the rhythm of house facades.

2.3 Natural Environment

"Nature" or Natural environment interpreted easterners as something that constructed by God, and man only as a part of it. According to the western thinking it not that devine. "Interaction between man and environment in the west is abstract. Western man fights nature, eastern man adapts himself to nature and nature to himself". Simonds(1983:10). It is evident according to all the phenomena's man and nature is inseparable. For the peaceful existence man should respect to the natural process. Also Simonds (1982:7) justified this argument as "Man lives and grow and develop in harmony with nature, god and with his fellow men"

When adding something new in to the natural environment, should consciously consider what has to respond, before touching it. Antoniades quoting(1992:250) Le Coubusier said that nature will not; reveals its secrets unless you are willing to take the time to see and study it..." that is when working with nature one should stay for a while and listen to the environment what it is asking, what is the best we can give for it. If one needs something actually one must look for it. Otherwise it will be difficult to recognize.

Designers should conversant with all facts of nature, and should instinctively recognize before any modification of land, local building sites, or landscape area, the natural characteristics, and limitations to the fullest possibilities. Only by studying it carefully can develop a harmonious relationship with the environment and the buildings. Entities which exist within the natural environment such as plants people animals all are depending on each other together with the surface and structure, give the place an existential character. Such existential places create spatial uniqueness and identical places that leads to a communication. This "attention" and "unique" quality termed as the spirit of the place or the character of "Natural environment"

2.3.1 Character or Spirit of natural context

General identification about the concept of "Spirit" given under the man-made environment, here it discusses only relating to the natural environment.

According to Schulz (1980:23) nature consists of interrelated elements which express fundamental aspects of being. The landscape where he lives is not a mere flux of phenomena; it has structure and embodies meaning. This "meaning" or "character" is a resultant quality of the combined effect of existing features and happenings, leading to the "uniqueness" of that natural environment.

When one adds up a new element, that addition will mould itself according to the genius of that natural environment. When considering a tree of a particular species, it's evident that the whole rhythm of its growth; its height, the depth of the trunk, spread of a canopy, twisting and dividing of its branches, size of leaves, taste of fruits and the fragrance of its flowers are determined by nature, according to the "genius" of the place where its growth. Thus the tree grows akin, with what the place dictates, becoming part of the web of existence. Hence within the same species, one tree varies enormously from another.



Plate. (17) Trees in rural environments



Plate. (18) tree in desert environment



If one could visualize and capture the spirit of a place, he spontaneously penetrates the web of existence and will become part of the whole universe, which is the true sense of the dwelling. And if he could focus this spirit of place into a thing, it becomes a part of this whole universe as well. In other words it will be with the existing systems, sparing and preserving the world.

When considering the natural environment "Spirit" or "Character" varies on the attributes based on the aspects of existing natural setting and sensory experience. The major components which determine the character can be identified as Natural systems.

2.3.1.1 Natural Systems

Natural systems is comprised of all the physical entities created by nature such as topography, water bodies etc. and it could be basically divided in to two sections, cosmic order and physical order. Natural forces act in a very wider context could be described under the cosmic order, where as physical order consists of the natural forces, act in a smaller or immediate context such as land water and plants.

2.3.1.1.a Physical order

The substantial features rendered by nature are termed as physical order. There are several components which deal with this category and mostly these are the things found from immediate context.

2.3.1.1.a.1 Land

Land can consider as the outer crust of the earth. In reality it's not flat; simply named as topography in Architecture which includes hills valleys etc. according to the Simonds(1983) "The natural ground forms are best accepted as given. They are the resolution of myriad forces at work over a long span of time. To adapt to them is to harmonize with the forces and conditions by which they have evolved".

Particular location which selected to build from the earth is considers as the site. When designing, should carefully observe and capture the real character or inherent quality of the site in to the building. Simonds(1983:99) explain it as "If designing a residence, I go each day to the piece of land on which it is to be constructed sometimes for long hours with mat and tea - some times in the quiet evening when the shadows are all along, some times in the busy part of the day". So designer should study the movements of nature with the site conditions grasping the spirit of the place and the potential of it vary with the experiences and the scholar of the eye which it sees.

Creating a harmonious form with its total site is a valid objective. Expression of an ultimate form would vary from site to site in accordance with the variations in topographical character. This was establish by the Simonds quoting Le Cobusier(1983:11) as "Architecture subtly and eloquently insert itself in to the site, absorbing its power to move us and in return offering to it the symphonic element of human geometry".

Considering the land, people have responded different ways or get themselves adjusted according to the various topographical changes. For the ease of study basically consider various situations such as rural sites, sloping sites and as flat lands.

In rural sites the land area is much bigger comparing to the sites in urban situations. Because of that the building forms could be spreaded much openly and freely. Though the site has its own four boundaries in those sites the visual limits may include extensive sweeps of landscapes. In such situations paddy fields, water bodies, even mountain tops miles away, become design factors and elements



Plate. (19) Rural site

Paddy fields, trees, water bodies, mountain tops miles away become considerable factors.

Source - Haut Atlas



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The contours are the major designing factor in sloping sites. In this situation one has to consider most appropriate design solution to take maximum use of it, without damaging the existing land form.

Plate. (20) - sloping land



A level site offer minimum of plan restrictions; a flat site is essentially a broad base plane. All elements set upon this plan are of strong visual importance, as there is relation to one another. No identifiable focal points in the flat site. The most visually insistent element placed on this site will dominate the scene.



Plate. (21) Flat lands

2.3.1.1.a.2 Water



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Free water is the shining splendor of the nature. Most attributes of nature, the hills, the starlight sky, and the free water should be taken for granted. When water features such as spring, pond tidal marsh or lake occurs in nature it is usually distillate the surrounding landscape and a rich contributor to its ecological working and the scene.

People are attracted to water, and its presence gives certain identity to the context. The designer should have ability to grasp this identity and creating architectural form utilizing it to the utmost.



Plate. (22) Water fall in the site of falling waters before the design.

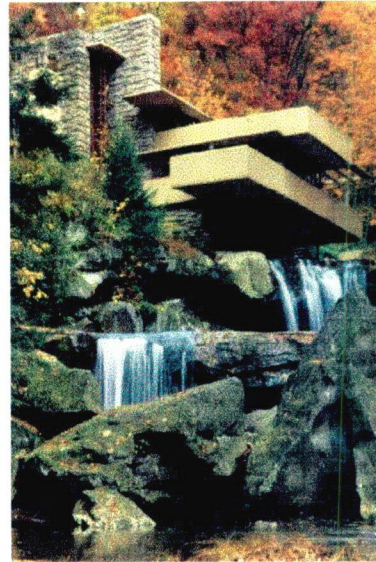


Plate . (23) Way of integrating it in to the design.



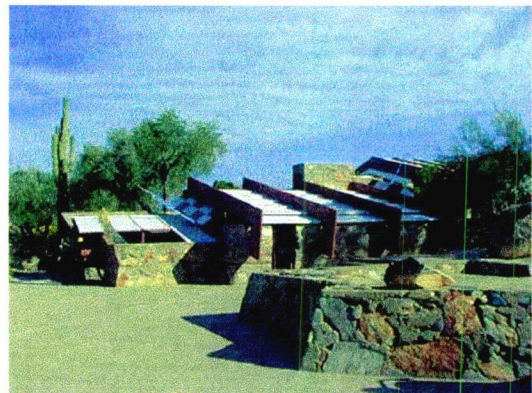
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2.3.1.1.a.3 Plants

Plants add various qualities to the site. The forms of a plant express several qualities. They enhance the form of a place, which is an essential determining factor. Therefore existing trees on a site also should be taken in to consideration. Sometimes they can be influenced to the concept of final form.

Plate. (24) Talisen West designed by Architect Frank Lyoid wright

Spirit of the trees which are in its surrounding taken into the concept of design



2.3.1.1.b Cosmic order

According to Schulz,(1980:28) Cosmic order is usually base on the course of the sun, as the most invariant and grandiose natural phenomena, and the cardinal points. In some places it may also be related to the local geographical structure. Mostly town and building structures, their directions are arrange considering the cosmic order.

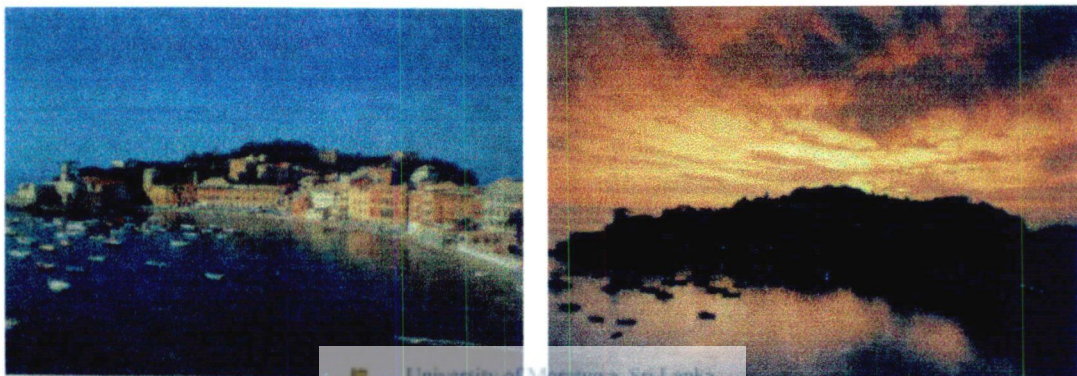


Plate. (25) Cosmic order changes
the character of a place
morning sun and built fabric

Plate. (26) Same place during the
sunset

There are two ways of effecting the cosmic order, as climate of the locality, and the ecology, prevail in a particular location over many years, and unlike other entities climate and ecology seek a long period to be changed, and it is a great influencing factor of architectural form.

2.3.1.1.b.1 Ecology

Ecology is affecting factor to the wider context. Its greatly influences the regional architectural forms, while focusing designers should consider, relationship between natural environment and habits of different communities

2.3.1.1.b.2 Climate of locality

The physical wellbeing and attitudes of people are directly affected by micro climate. It is the immediate effect of climate to the built form. Mostly site and architectural volumes shaped to afford exposure to the sun's warmth and light summer air or protection from glare, oppressive heat or fierce indoor rains. All site and architectural spaces of excellence are weather responsive therefore construction material and even colors are climate related.



Plate. (27) House in flat dale,
Clear sky and flat highland.
Spread built form, steep roofs and
walls to protects coldness,

Plate. (28) The houses of lover
valley, Jura
Roofs angles - let rain flow over
the

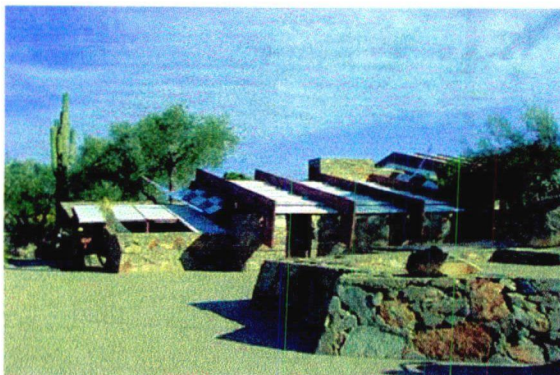
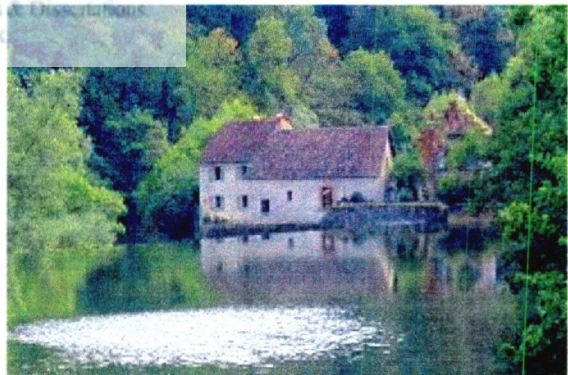


Plate. (29) Taliesin west, Arizona
House in dessert environment,
protects from heavy winds shuts
out the sun

2.4 Concluding Remark

The existing **context** or the **physical setting** where any new building is going to place is one of the major influencing factors of Architectural form, which also termed as a generator. According to their way of creation it can be divided in to two categories,

As **man-made environments** - physical settings, constitutes more man-made things

And **Natural environments** - physical settings which naturally originated (according to westerners, god has constructed)

In natural environments as well as in man-made environments there are certain identifiable patterns, which lead to a particular "**character**" or a "**spirit**" to that place. In man-made environments those were identified as patterns of locality, which includes way of organizing masses, patterns of spatial arrangements, different activity pattern and character generated through different Architectural styles.

In natural environments, **Physical order** which the various "patterning systems", and "characters" generated through the arrangement of physical features. And cosmic order, including **climate** of that particular region and **Ecology** was identified. These factors individually, as well as whole, contribute to a certain character or to a spirit of that particular area.



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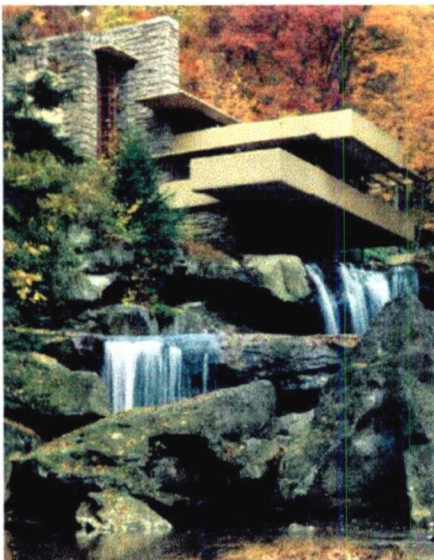
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*We enjoy the fruits and plants and of the mountains,
The rivers and the lakes are ours,
We saw corn, we plant trees,
We fertilize the soil by irrigation,
We confine the rivers and straighten or divert
their courses
in fine by means of our hands we essay to
create as it were
A second world within the world of nature.*

*Cicero, De nature deorum
(1st century BC)*

Chapter Three

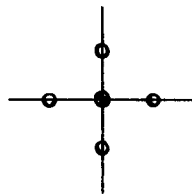
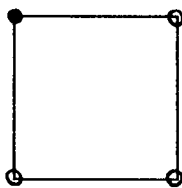
CHAPTER THREE: HARMONIZING WITH "PHYSICAL CONTEXT" IN CREATION OF "FORM"

3.1 Harmonization - Completing the Pattern of the place

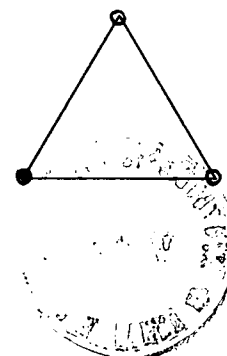
"Beauty to be a harmony of all parts, in whatever subject it appears, fitted together with such proportions and connection, that nothing could be added, diminished altered but for the worse". Alberti (.....). Therefore the word harmony means the appropriate orderly combination or appropriate pleasing interaction of the elements in a whole. This orderly combined context becomes not only visually pleasing but beautiful as well.

But the word harmonization mostly misunderstood as reproducing the same thing by imitating the outward appearance of objects. As Nammuni, V,(1994), states To be in harmony doesn't necessarily mean to look alike. Just like a building built in a forest to look like a tree or a building built on a desert context to look like an anthill to harmonize with their existing contexts. As in same building on a street need not always to copy or reproduce the type of existing, to blend with its context. Nammun, V(1994), further states being harmonization as "to be complete, to complete a pattern, a jigsaw puzzle, to be the missing link that completes the gestalt."

Gestalt psychologists refer to this as the closure principle. To achieve harmony is to forge a pattern and order amidst chaos and disorder. It is brought by achieving order without eliminating, those that do not fit in, by forging strong patterns to strengthen the gestalt. In other words harmony means to build fit in to the existing underlying true pattern



● - The missing link



3.2 Harmonization as a method of responding to the context

When adding new form in to existing contexts it should not arbitrary to that location. This trend of "arbitrariness" result of wrong identification of real existing pattern. These so-called arbitrary intrusions, dictated by functional logic destroy the overall net-effect of the existing contexts and leading to the architectural disharmony.

In harmonizing with is by no means to look alike, to be twin, to blend with or no mean to disappear in it, what ever the creation should be with the character, the essence or with the spirit of that place. Then the harmonizing is to bring up a complete pattern in to the vicinity, true to its values. The idea behind harmonizing is to see that, what ever would be created, and built, it would not be contradicting with its placing, with its own elements. Whether it is with composition, proportion, rhythmic progression etc.



"In a modern city you build a building (modern office building) with a facade, that is a faithful copy of a Venetian place, it becomes quite meaningless, even though its prototype is charming - charming that is in Venice on the right site and the right surrounding" Rasmussen (.....:12).

In the process of harmonization essential consideration must given to the fact that harmonize with "**what of the**" context or "**what of the particular nature**, it is not to be look alike, not imitating mere outward visual appearance of the building. But completing the existential pattern, and capturing true essence, or spirit of that place.

Then the final resultant form will express the real meaning of it to the beholder. In another way its ability of expressing meaning of something using language correctly. In a language the expression are done through a set of words finely arranged to give a meaning (sentence).if we remove words from here and there it'll lost its meaning or make a hodge-podge.

That is in a sentence all the words are interrelated or in one word give a background to the other. The background words are important (context), likewise for architecture to be in harmony with its own background is not a new thing but it is an accepted norm.

Though the term "Harmony" often loosely defined, and mistakenly identified as "look alike", but real meaning of it achieved by carefully analyzing and responding to the underlying patterns of the existing contexts. it is made the new addition fit-in with the existing pattern by providing the missing link in terms of Gestalt's psychology or by the way of correct usage of language to express real meaning of words.

3.3 Identification of patterns of Natural Context

The study "architecture in harmony with nature", and "Nature" described as the nature of the place, that is what context it is going to fit in. the characteristics of the physical context are discussed in earlier chapter, by dividing the physical context in to two parts as natural context and the man - made context and from here only the natural contexts are selected for the detail study (context rich with more natural features than the man-made things)

From here study is directed to the detail analysis of natural contexts and will identify underlying patterns of Natural contexts and way of creating harmonious architectural form within it.

Mostly "harmony with nature" is interpreted as mere imitations of natural forms. This imitation of visual forms of nature is pure fantasy or pure friction and such products can not termed as "Architecture" which is in harmony with nature.

In words of Simonds, (1983:13)

"... If we take a spruce forest, shadowy ravines are choked with great boulders and fallen trees, snow drips or trickles from the crevices or gurgles underneath tangled forest duff. White water rushes and foams from high ledge to chasm...here all is in harmony, all is complete even the bear lumbering close to shore is clearly native to this place..."

The natural contexts has own balance in its elements. When adding new element in to it should not destroy that existing balance and pattern. the nature or natural contexts can find every where, and its effect can found in every creation. The concept of harmony may have its strongest roots in nature; the survival advantage of a harmonious marriage. Man rhymes with woman. ↵

To create harmonious built form within a natural context, should carefully identified natures visible patterns and resultant invisible "spirit". Antoniades (1992:250) justified this idea by quoting Le Corbusier as "nature will not reveal its secrets unless you are willing to take the time to see and study it"

Also Antoniades (1992:237) describe design affective secrets of nature as "blending with the nature of the site, the placement of a building on it, its orientation, thermal and climatic repercussion, sometimes even the formal aspects of architectonic genesis." Finally a harmonious product with nature is careful consideration of all above aspects as an advance organism.

An advance organism also demonstrates the principles of harmony. Its individual organisms have a clear identity and purpose can be analyzed in isolation but they have no value outside the gestalt of the whole organisms. Independence is subordinate to interdependence the fine balance between pertness and wholeness is at the heart of harmony in nature.

3.3.1 Symbolic patterns of natural context

There are some intangible dimensions which enhance the spirit of natural contexts. That catches the sensitivity of our body and mind. Various naturally created places give same moods emotions and the spirit of their particular places or spaces. All those intangible qualities or attributes in nature can not forget about similar to the space it resembles the architectural situations in several places. These relationships of architecture and nature give a deep understanding of the interrelationship of nature and architecture.

"The art of architecture continues to have inexhaustible resources and means which flow directly from nature and the inexplicable reactions of human emotions" Aalto(1992:244)

All those emotions of the human being are generating from the nature, which is directly related to the emotions which were generated from the places where architecture operate capturing particular spirit of that place. All those aesthetic aspects of nature can be experienced, examined observed in an intellectual way. All moods and the spirit change due to natural factors. But that can be experienced, examined in various places in various time. The emotions and the feelings are changed due to the time and the space.

The changes of the hour, the passage of time as seen through the colours of the elements, the mountain and the sky, the filtering of the light through the clouds the moon and the sunset; all of these intangible aspects in nature are really the attributes which are exploited for use in architecture, for a ease of study those attributes identified a volume, scale., Colour, proportion, hierarchy, balance etc.



3.3.1.1 Volume

People live on the earth, on the land but in the 3-dimensional air space, the atmospheric volume is immediately above this land surface. Volume is the main attribute influencing architecture, it has a different character in different situations, it changes from situations to situation. It can be tangible or intangible to understand in relation to nature. It is defined in various ways in various places, with height and depth were the measurable items of volume generally. But it can be measured only in small spaces or in objection to the other immeasurable.

In nature the volume is determined according to the eye connection. We have an idea or mood when we are related directly to architecture, there are many influences by nature. The natural quality of a place can provide inspiration for architectural design through its volume, scale and proportion of nature's creations.



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Volume varies in size from the intimate to infinity. In nature volume can be apprehended in varying spaces with the different locations. If one is a bare land the volume can be measured in infinity. "The experience of being with fine 3-dimensional spatial volume is one of the experiences of life." Eckbo,G(quoted by simonds,1983:136)

Nature is the main 3-dimensional space to understand the volume. It varies according to the different situations of nature. Volumes of the forest vary place to place.



Plate. (30), (31) - variations of volumes in natural context

3.3.1.2

Scale and proportions



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All the architectural forms were determined by scale and proportions. Scale is a dialogue between the human and the object, proportion is the physical relationship between the parts of building. Proportion is of particular significance in the field of architectural composition. Scale of the various suitable parts and their interrelationships were helpful to determine the aesthetically manipulated proportions.

In nature all the attributes were made according to the suitable scale and proportion. The parts of the nature can not be separated, and it is a whole. Elements of the nature rated according to the suitable environment and suitable scale and proportion related with the particular setting. All these elements have there unity and the composition with the help of there scale and proportion. So nature's part cannot be separated. Components of nature are well operated within its context. Nature guides the suitable scale and proportions and give intangible inspiration for architectural creation.

3.3.1.3 Balance

Balance is another attribute which effects the architectural creation. This plays the major role in the architectural field. But the main sources if understanding of balance is nature. Most of the balancing components were born with the nature. Balance of the flower, balance of the animals, mountains, trees etc, are guided by the natural law of gravity. All these aspects were given the feeling of balance in the mind. Balance can be categorize in two ways

- **Symmetrical balance**

It is equal and stable; it is like masses balance either side of axis.

- **Asymmetrical balance**

It is unequal and unlike masses balanced on either side of an optical axis. This equilibrium that is achieved by eye, evolution of form, mass, value, colure, and association. Balance can be hidden; it can happen in two opposing elements of structure. There are apparent structure and tension developed between them. The symmetrically and balance has quality of stability.

All the above hidden and the apparent symmetrical and asymmetrical balance of the nature directly related to the balance of the building. There are buildings which are symmetrical and asymmetrical balanced. It was composed by the different elements of the architecture within the elements of nature

3.3.1.4 Rhythm

According to Von Miess(1992:32) Repetition in the form rhythm as much in music as in Architecture, is an extremely simple principle of composition which tends to give a sense of rhythm. Rhythm can be repetition of the element or object in nature. But it gives the monotony and the regularity to the object of nature in creating architectural form. It can be in the horizontal and vertical way.

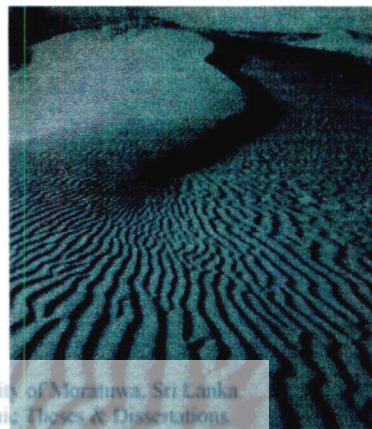


Plate. (32), (33)

Rhythms found in natural contexts

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All natural phenomena's resemble in architecture very much in intelligible way. The spatial variations their destinies, depth in repetition and regular patterns also enhance total rhythm of particular place.

"The most of architecture is to understand nature; the rhythm repetition which can be found in study of a tree is a beginning." Rhythm can be recurrence of a certain pattern of sounds, members, figures, colours or movement is so closely associated with life, that is seems to be the very expression of life it self

3.3.1.5 Repetition

When grouping elements in a random composition consideration given to their closeness or proximity to one another and to their visual common characteristics. The principle of repetition utilizes both of these concepts of perception to produce recurring elements in a composition.

The simplest pattern of repetition is a linear pattern of redundant elements. Elements need not to be perfectly identical, however to be grouped in a repetitive fashion. It may merely share a common triad a common denominator allowing each element to be individual unique, though belong to the same family.



Plate. (34) Repetition found in natural contexts

3.3.1.6 Hierarchy

Hierarchy of a building or of an object in nature can be expressed in several ways as by size, shape and placement.

In architecture,

A form or space may dominate an architectural composition by being significantly different in size than all other elements in the composition. Normally this dominance is made visible by the sheer size of an element or Forms and spaces can be made visually dominant and thus important by clearly differentiating their shape from that of the other elements in the composition or

Forms and spaces may be strategically placed to call attention to them selves as being the important elements on a composition.

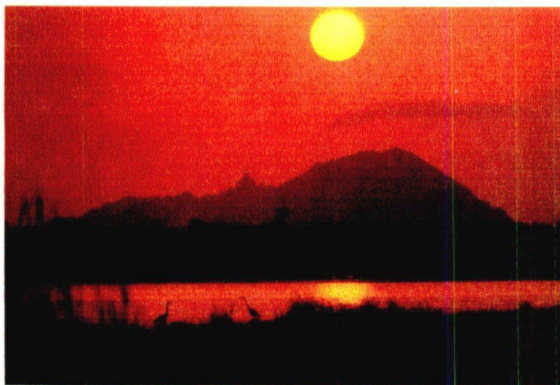


Plate. (35) Hierarchy by size, in a composition

Source - Personal Odyssey - Sri Lanka

3.3.2 Visual patterns of natural context

Natural contexts which can be found in every where, comprises with different visible patterns as well above mentioned symbolic aspects and both together generate a certain "character" to the place. When considering the physical setting of natural contexts, patterns created by topographical changes become the considerable factor effecting to the design.

3.3.2.1 Topographical variations

Topographical variations of the natural contexts generate certain significant patterning systems. Integration of water bodies, greenery, Land variations together give rise to particular "character" or patterning systems. Those "characters" may also varied according to the types and kinds of physical features included on that particular natural setting. Created built form within those settings should correctly respond to those patterns.

Natural sites which are much bigger and compromises with varied physical features as greeneries, water bodies, and rock boulders may describe as **rural sites**. As mentioned in 2nd chapter visual limits of those sites may include extensive sweeps of landscape.

When including a new built form in to those sites, it should maximally compatible, and complete the existing patterns without destroying it.



Fig . (3) Topographical map of falling waters' site (Designed by Frank lyoid wright)

Existing pattern of land -placing of natural features (Bear run,rock boulders, trees) And contours



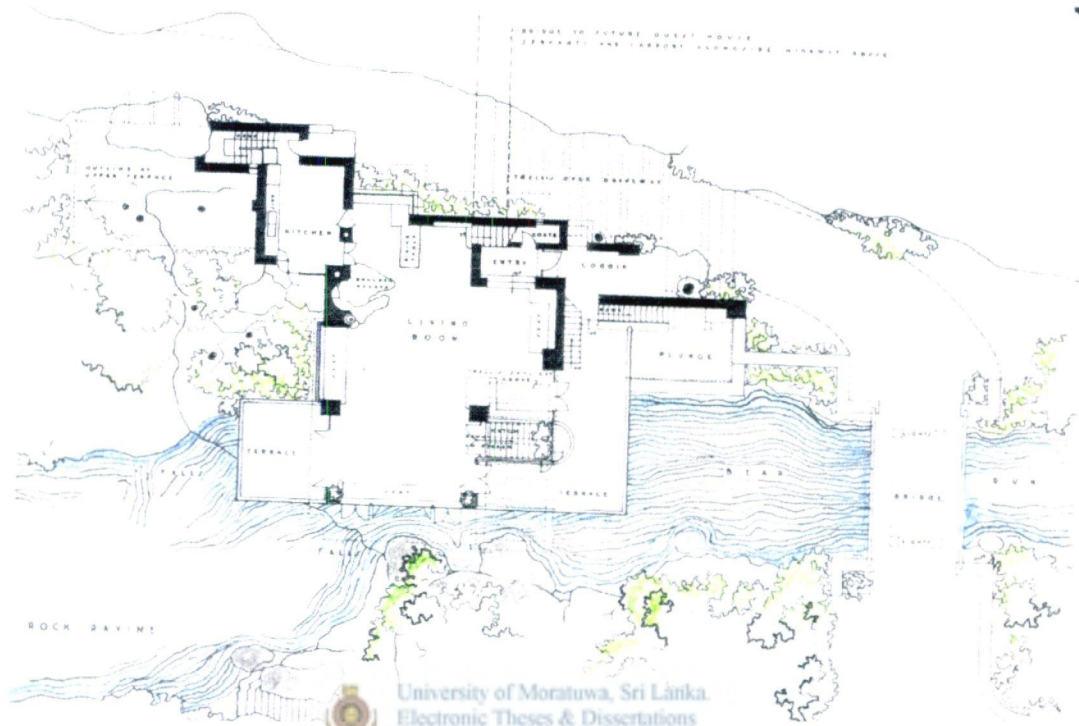


Fig. (4) Ground floor plan - falling waters by frank Lyoid Wright

By the way of orientation built form complete the pattern of each element of physical setting (built form follows the natural terrain of the site, other physical features, bear run, rock boulders, trees, well integrated)

Source - The Architecture of Frank Lyoid Wright



Plate, (36) Falling waters by frank Lyoid Wright

"character" generated by the vertical rhythm of the tree trunks balanced by the horizontally running slabs and terraces

Source - The Architecture of Frank Lyoid Wright

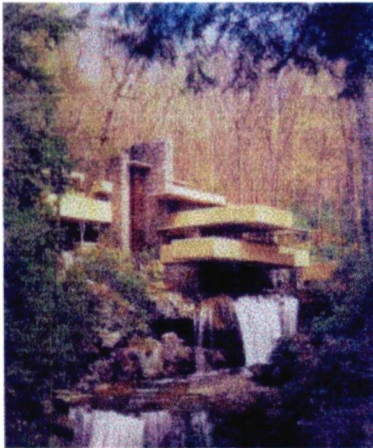


Plate. (37) Falling Waters by Frank Lloyd Wright

Total composition of the built form within the patterns of context.

The sites in which contours become major designing factor can consider as the **sloping sites**. The pattern of the natural slope or the terrain become the main determinant factor of built form, while considering the views and vistas of the surrounding landscape.

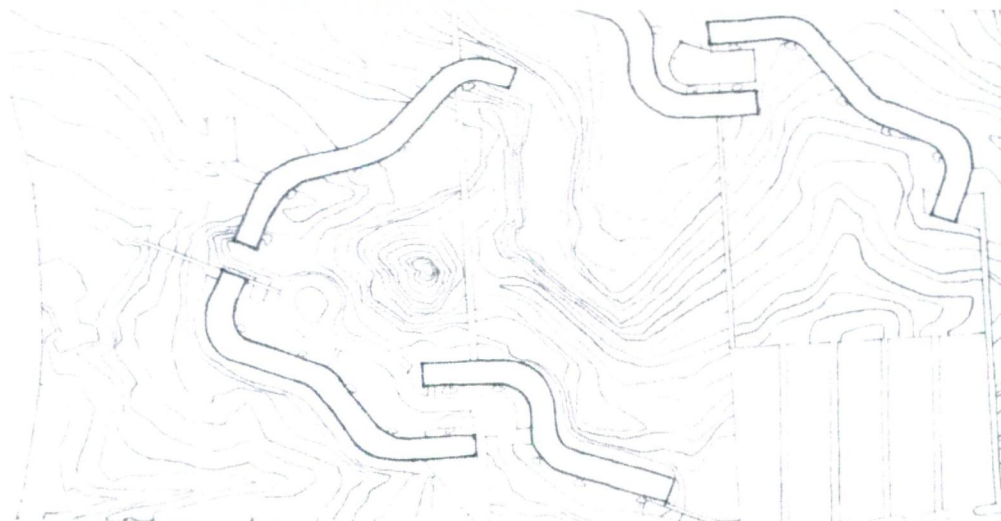


fig. (5) Cornell University undergraduate housing by Richard Meier, Italy, New York

Built form follows the patterns of contours

Source - Form Space and order

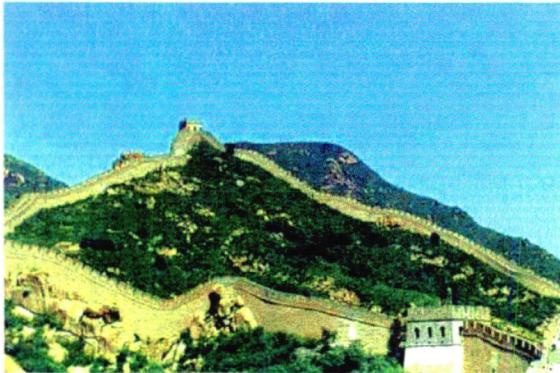


Plate. (38) The Great Wall of China

Different built forms led by dramatic shape of land

Plate. (39) The Red Rocks amphitheatre, Colorado

Relationship of existing terrain and built form

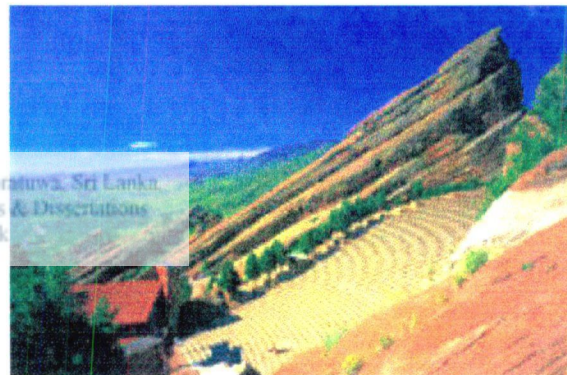
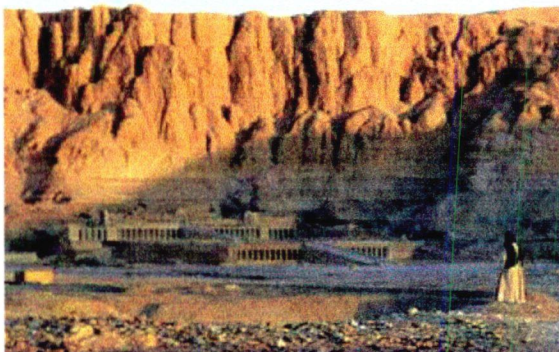


Plate. (40) Mortuary Temple of Queen Hatsheput, Thebes

Building done as three terraces accordingly with natural terrain



Sites which consist of broad base planes with minimum plan restrictions can consider as the **flat sites**. There may not any significant focal points in such sites, and the physical elements which are set upon this base plane leads to the inherent patterning system of such sites.

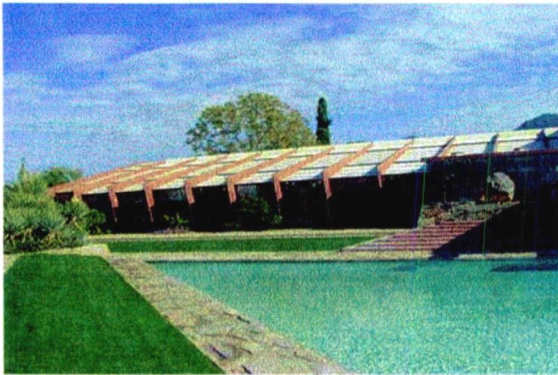


Plate.(41) Taliesin West, Phoenix, Arizona by Frank Lyoid Wright

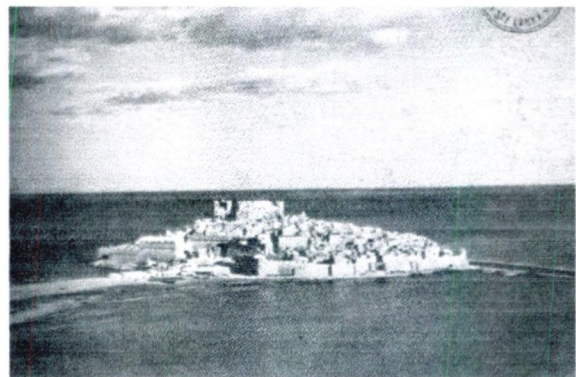
The low scale building well completes and captured the existing rhythm and spirit of the flat desert.



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Plate. (42) Spanish Province of gastellon, facing the Meditranean Building complex in the context of flat water body.

Source - Architecture without Architects



3.3.2.1.a Site Geometries

Geometry or the organizing pattern of above sites also becomes the major determinant factor of the architectural form. It greatly influences the arrangement of built form, and resultant products eventually become the part of the existing physical setting.

Site geometries plays significant role in determining the organizing lines or regulating lines of the built form termed as axes. It refers not simply to geometric regularity, but rather to a condition in which each part of a whole is properly disposed, with respecting to the natural patterning system of the site leading harmonious built form.

These site geometries and organizing lines also determines hierarchical order of the spaces relating to the existing physical setting. Therefore Main spaces, other spaces main spatial paths and axes of the built form arranged responding to the existing site geometries demarcated by surrounding features such as water bodies' natural features and access routes.

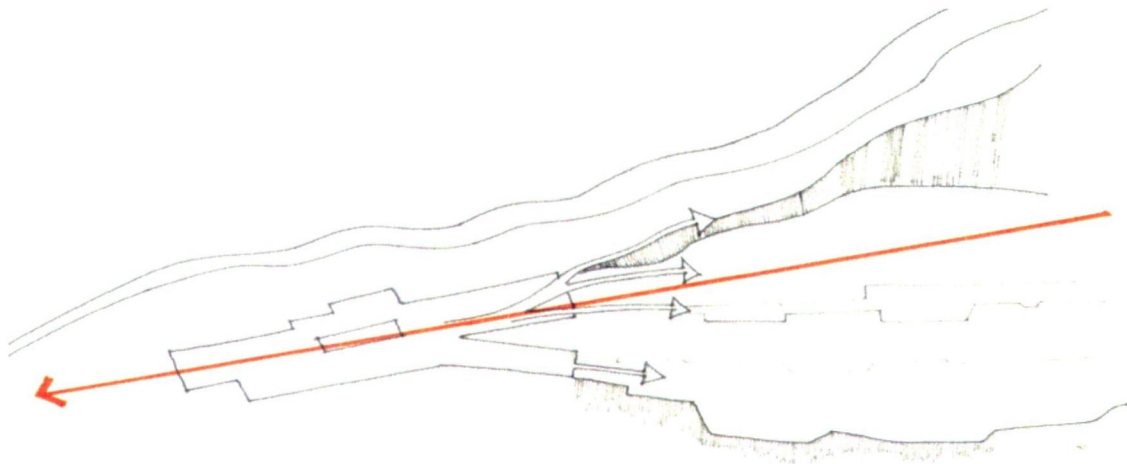


fig. (6) The church at Assisi

Placed within a line at the end of the hill, the resultant form is linear with a dominant longitudinal axis.

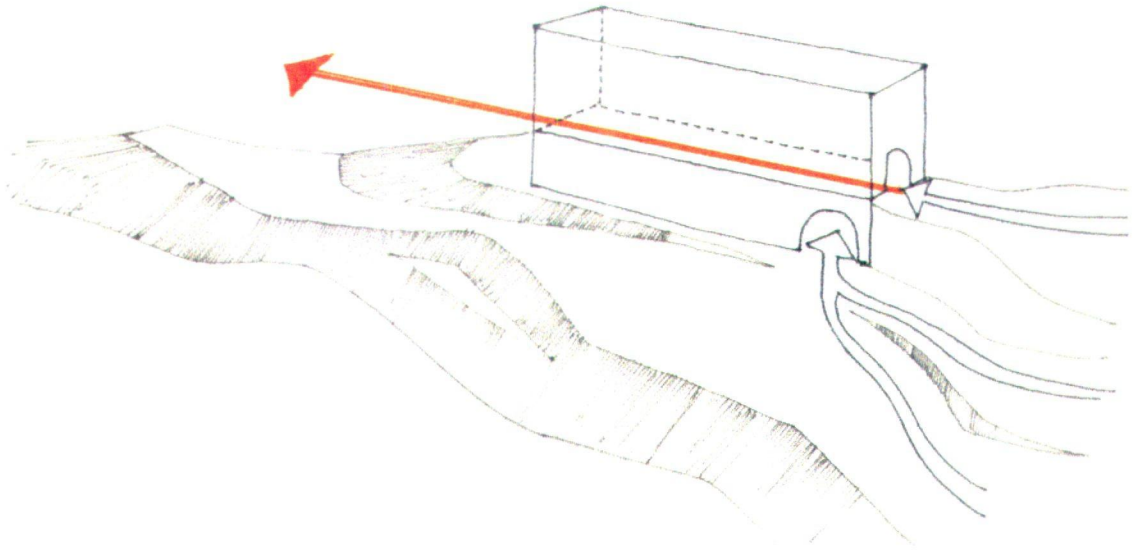


fig. (7) Linear organization of form, accordance with levels of site.

Two entrances provided in two levels

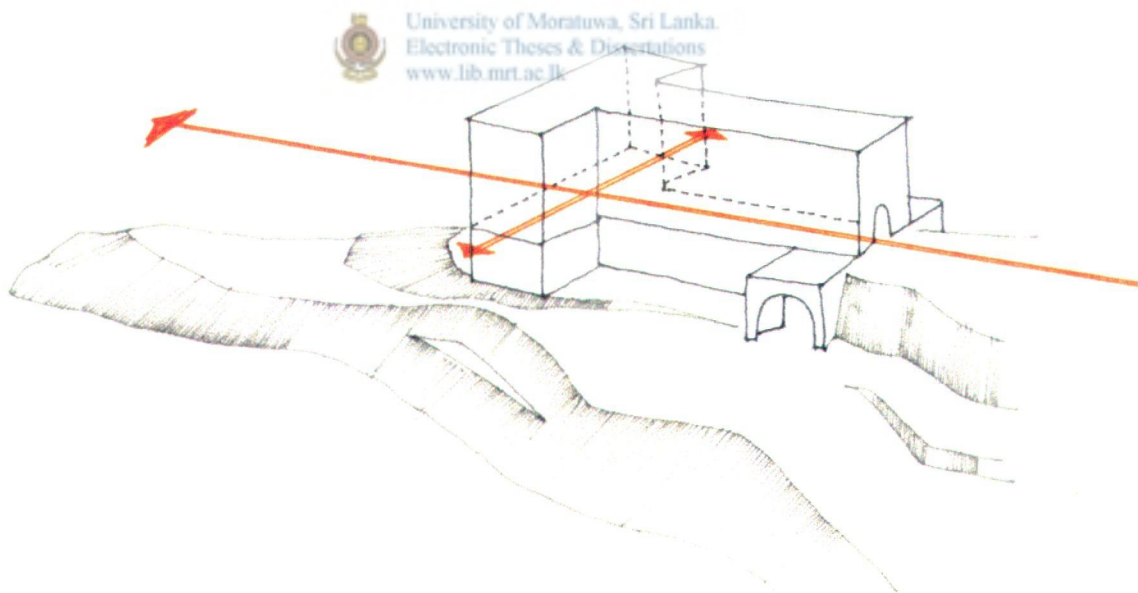


fig. (8) The main space of the building is also determined by the axes, which formulate according to the site geometry.



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The voices of the land

The voices of the hill

The voices of the rock

The voices of the earth, sky, sun and winds

The voices of totality

The totality of the site

The totality of the environment

The Architecture must now listen...listen...listen

Case Studies

3.4 Responding to the pattern of the "Natural context" in creating "Form"

In this section several examples were taken, as case studies from various natural contexts(in Sri Lanka), and discussed the **patterns** which leads to certain "**characters**" or "**uniqueness**" of these identical settings and, how the **built form completes, these pattern.** (The way built form harmonize with the context)

Case studies were discussed under four categories as,

- **Identification of pattern of context**
- **Orientation of building within the context**
- **Composition of the building within the context**
- **Hierarchy of spaces related with the context**





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Boulder Gardens - Kalawana.

3.4.1 Boulder gardens hotel, Kalawana.

The Boulder gardens hotel, located about few kilometers away from Kallawana town along the vedagala road is harmonious integration with natural environment. After passing 2 km along the main road a gravel path within a rural setting leads to this hotel. The creative ability of Archt Lallin Kollure in a position to wonder, the observer by the way it harmonizes with its natural setting.

- **Identification of pattern of context**

Very fresh natural setting blessed with natural features, rocks and boulders, water stream, huge tree cover carefully identified with its every tiny detail. Roughness and the solidity of rocky boulders in different scales, rhythm of the tree trunks, natural terrain of the site, different volumes and rhythms created by natural formations further observe and keenly integrated in to the design.

- **Orientation of the building within the context**

Strong character of that natural setting bring closer to the observer, through the created built form, enhancing it, and having optimum utilization of it, without any damage.

The whole building which set as different scale masses and open spaces spread within the whole site specially respecting and relating with natural formation of volumes and rhythms of the physical setting. The building oriented accordance with existing condition of the site and it is just like the jungle experience, rather than experiencing a building

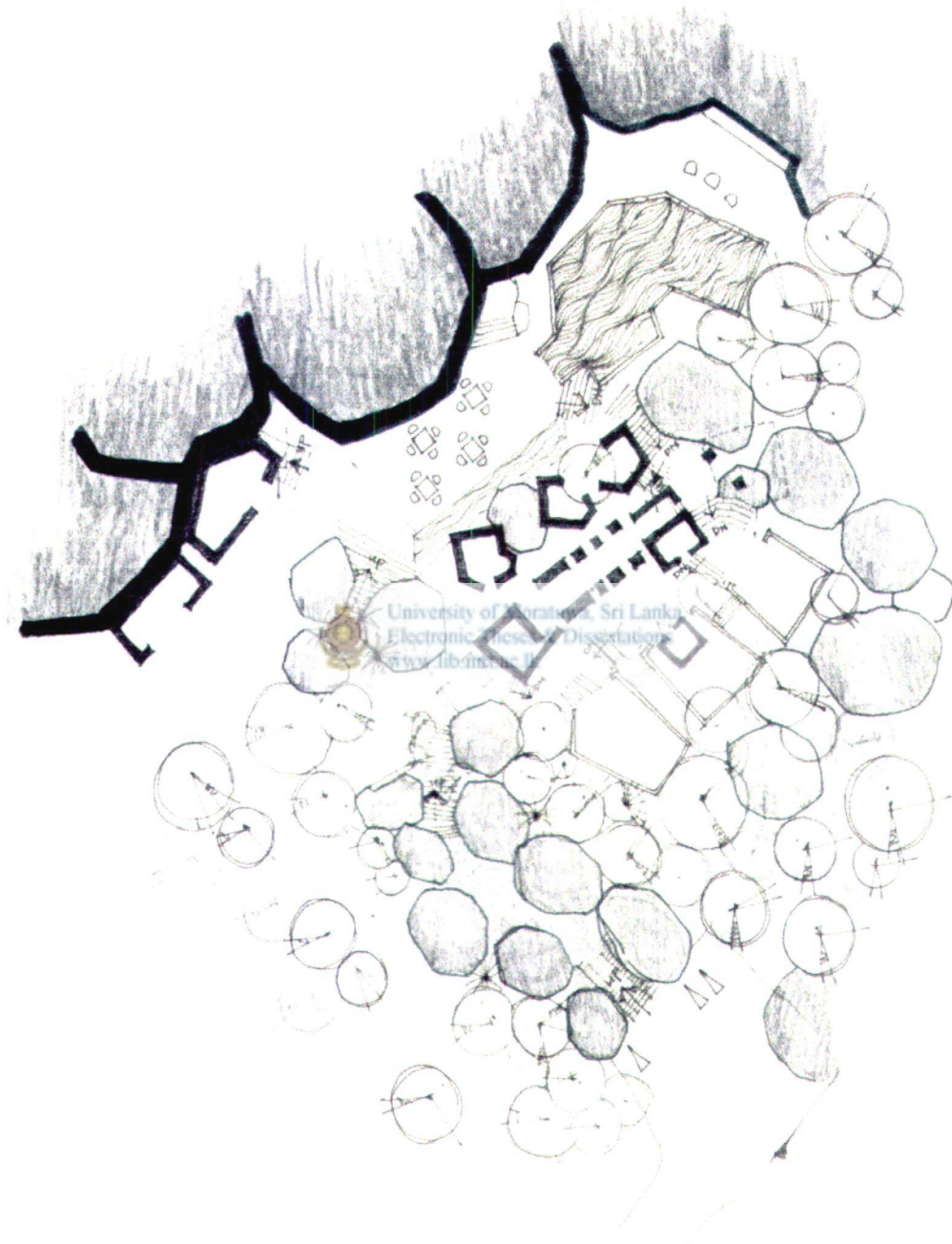


Fig. (8) - Plan. Boulder Gardens

The way built form complete the pattern of its natural setting.

- **Composition of the building within the context**

The built form is well composed within the natural setting as a part and parcel of existing context, as well as it completes the existing pattern of that physical setting



Fig. (9) Rough section - Boulder gardens

The way of arranging built form accordingly with the natural setting



Plate. (42) Distant view of the built form within the context.

Plate. (43) - Built form as a part and parcel of its natural context which comprises with thick vegetation and rock boulders.

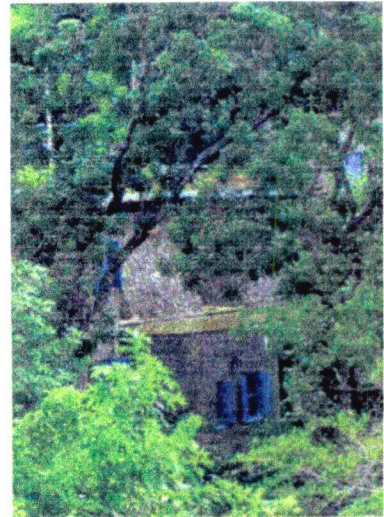
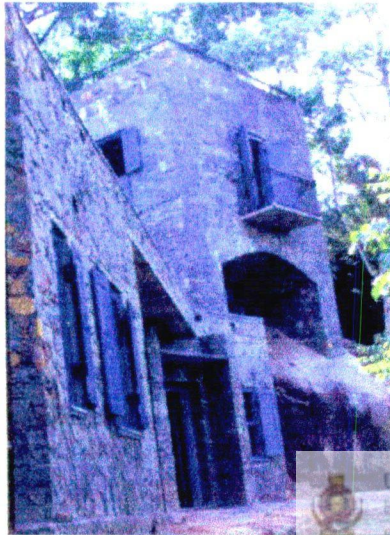


Plate. (44) Few built masses which used for private activities just like the extension of natural boulders (by the way it integrates with natural setting and way of using materials).



Fig (45) open space used as the restaurant

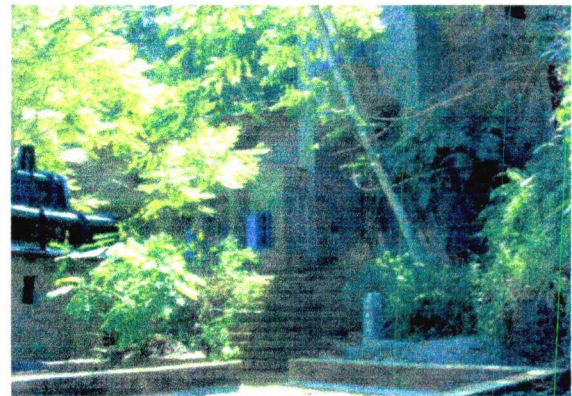


Fig (46) open terraces, which the slab roofs of lower level part of the building

Respecting to the natural formation of volumes, created by different scales rocks and trees, accordingly created spaces, introducing suitable functions, while having best advantage and enhancing the validity of existing natural pattern. The Mostly slab roofs used and also utilize it as the terraces in different levels which shows as the extension of existing level and it facilitate to experience the nature closely and directing to open views.

- **Hierarchy of spaces related with the context**

The narrow pathway, bordered by the tree cover from one side and paddy fields from other side leads to the hotel in slightly hilly root.

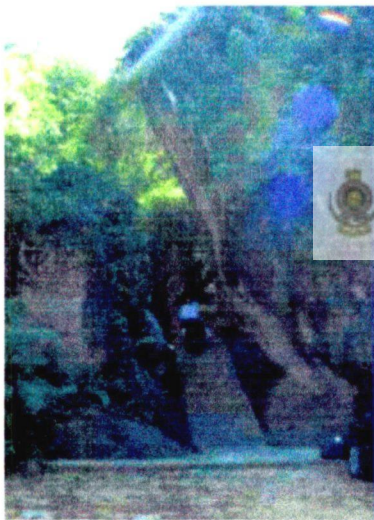


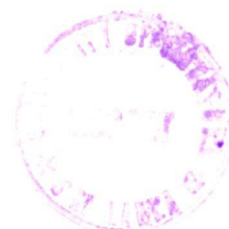
Fig (47) The entrance to the hotel

Open area within the jungle where there is a no sign of a building other than flight of steps in between the huge rock boulders, located in way which invite visitor to creep in to the jungle.



Fig. (48) The existing water stream which flows sweeping the boulders, with its dripping sounds carefully integrated in to the

design. Having entered experience soon after climbing through the huge boulders colored with this experience, still a gloomy open area within the various scale rocks and boulders.



From there another flight of steps through the boulders leads to a reception, still an open area connected with views of other side partly sheltering by the concrete barrel vault which preserved the quality of stone, giving the impression that it is also a part of the jungle.

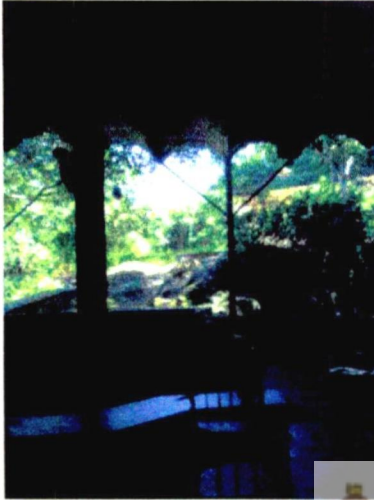


Fig. (49) Reception, which is the intermediate climax of the building

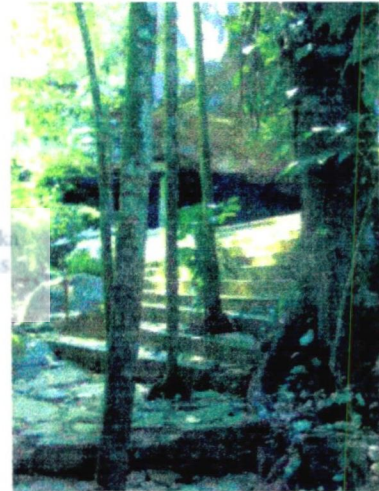


Fig (50) The stone paved jungle root organized according to the rhythmic turns of the natural terrain boarded by the various scale rock boulders and trees sequentially directed to the climax of the building.



Fig. (51) Cave made wide open area, which seems to be the most signified space or the "climax" of this "wonderful creation" in the jungle.

Fig. (52) view of the swimming pool demarcating its boundary obeying with natural formation of site adding more surprise to this climaxing experience.



Fig. (53) Irregular narrow pathway relating with the natural formation of land, leads to the private area of the hotel comprising with rooms and other service areas

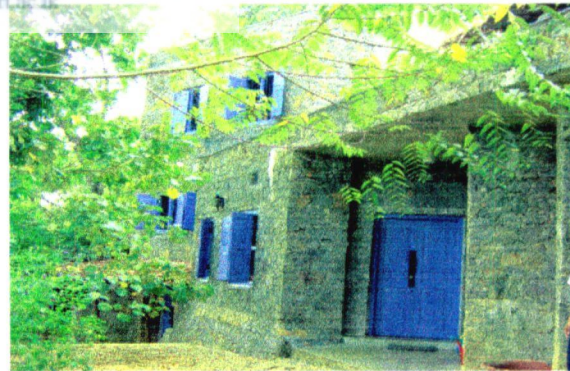


Fig. (54) (55) only built masses within the whole complex visible as the extension of the natural boulders of the physical setting.

These were arranged according to the natural terrain, and slab roofs of lower level, naturally being the terraces to the upper level. Finally a boulder garden is a harmonious creation within its physical setting, and is a resultation of careful observation and identification of patterns and systems existed within the context.



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Kandalama Hotel - Dambulla

3.4.2 Kandalama Hotel, Dambulla.

Kandalama, the five star hotel is located in the remote village Kandalama, which is few miles away from the Dambulla town. The periphery of the hotel is demarcated by range of Rocky Mountains covered with green vegetation in one side snaking lake the other side. The distant view of the sigriya rock further enhances the glamour of this physical setting. Geoffry Bawa, the great renown Architect was the person who perfectly understood this unique natural setting and done the creation which seems to be the fairest possible solution to that particular context. (The original site which was possible chosen rejected by the Geoffry bawa. According to Robson,D(2002:200) for Bawa the original site lacked any sense of surprise or Drama - the Sigiriya rock was simply there, 'in your face'. What he wanted was a site that would offer mystery and suspense.)



Identification of pattern of context

Factors which contribute to generate a certain character of that place identified as rhythm of Rocky Mountains, the outer appearance of the rock with the ridge, its solidity and also the sheet of water in the other side against the rock boulders which enable to enhances the solidity of rock boulder. Combined effect of surrounding forest, the rock, still water body, distant ring of mountain and massive vistas were the forces which influenced Bawa to create such a harmonious built form to that particular location.



Fig (56) distant view of the Kandalama site

Pattern of the context (Kandalama lake, Rocky Mountains with greenery)

Orientation of the building within the context

When orienting building within the site basic thought was to give the maximum view towards to the lake. It was achieved through the combined usage of other physical patterns, as the sequential slope of land relating with the rock towards to the lake.

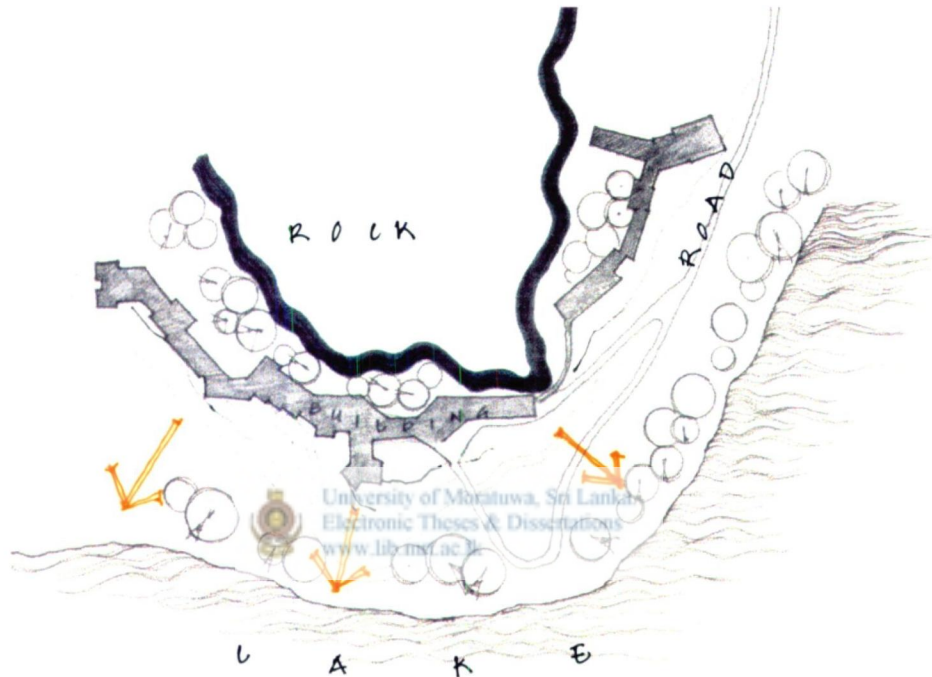


Fig. (10) Layout plan showing the arrangement of the building form, relating with the rock, lake and natural terrain

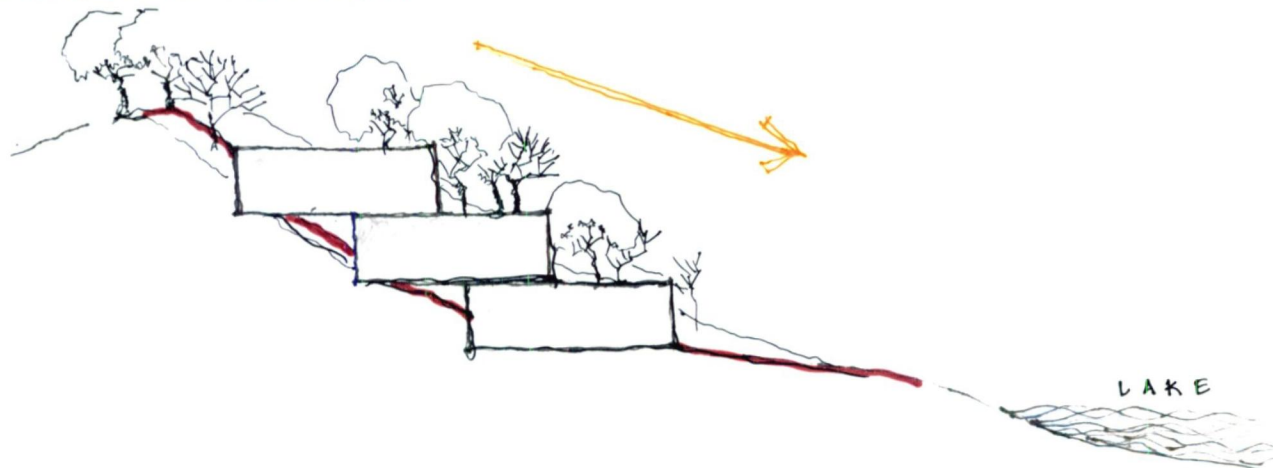


Fig. (10) Arrangement of building form, following the natural terrain

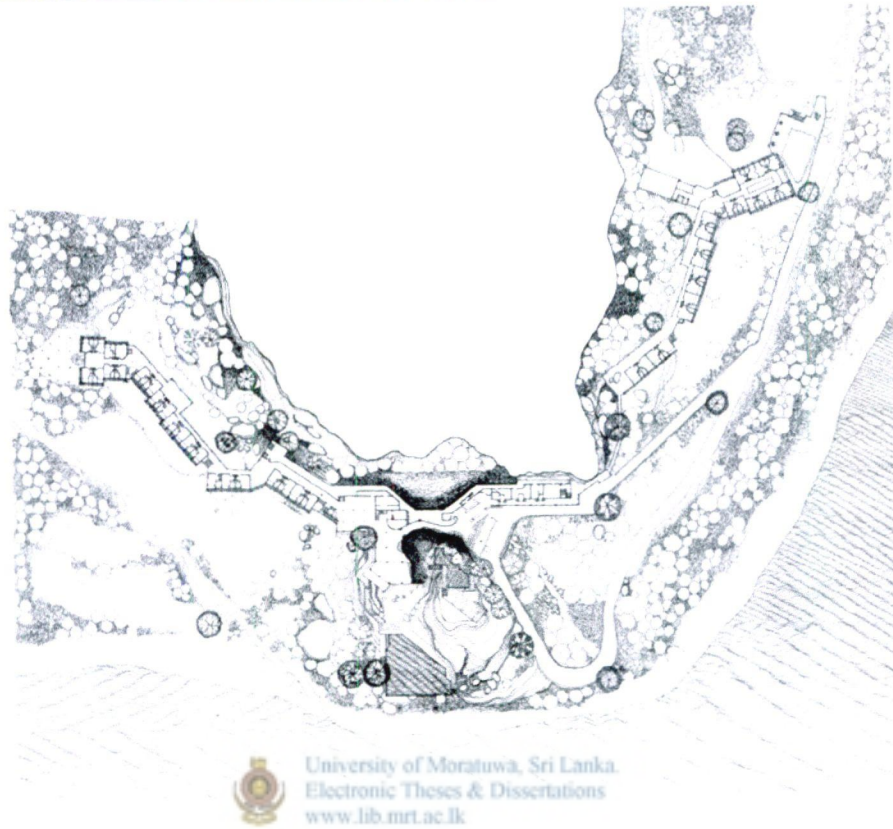


Fig. (11) Plan - Building form responded and follows the pattern of the natural context

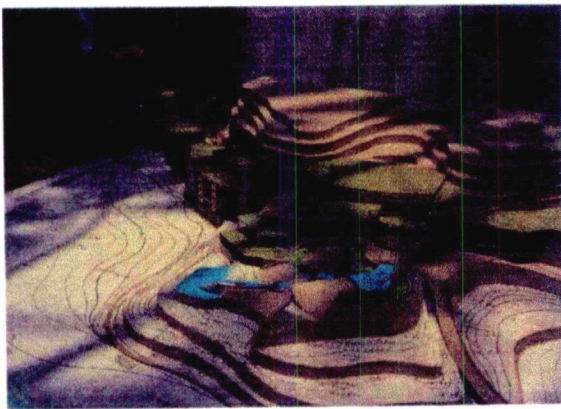


Plate. (57) Model of Kandalama
Orientation of the building within the site.

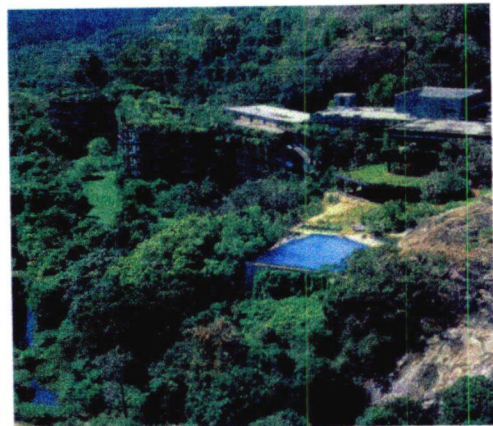


Plate. (58) Building form follows
the rhythm of the site.

Composition of the building within the context

Composition of building is well compatible with the site condition. The architect has identified the rhythmic pattern of the mountains and he wants to continue it without destroying it and final creation totally follows the rhythm of the Rocky Mountains. The still sheet of water in the other side enhances the solidity of the rock. The designer had totally identified the pattern of that place and successfully completed it by the way of composing the built form.

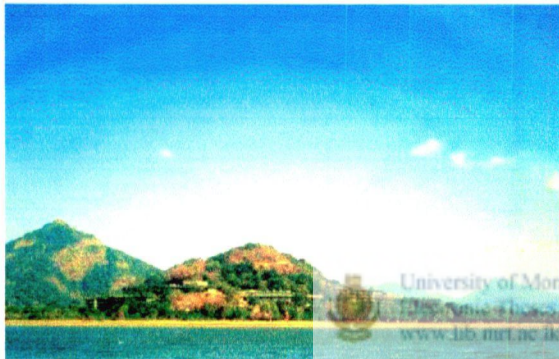


Plate. (59) Distant view of the built form within the context.

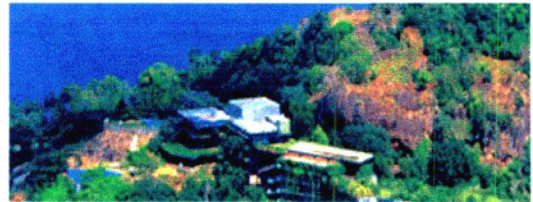


Plate. (60) Composition of building in immediate context



Plate. (61) Composition of the building form with the whole context
The resultant form as a whole well balanced with the context, as a horizontal strip which running around as a continuing band.

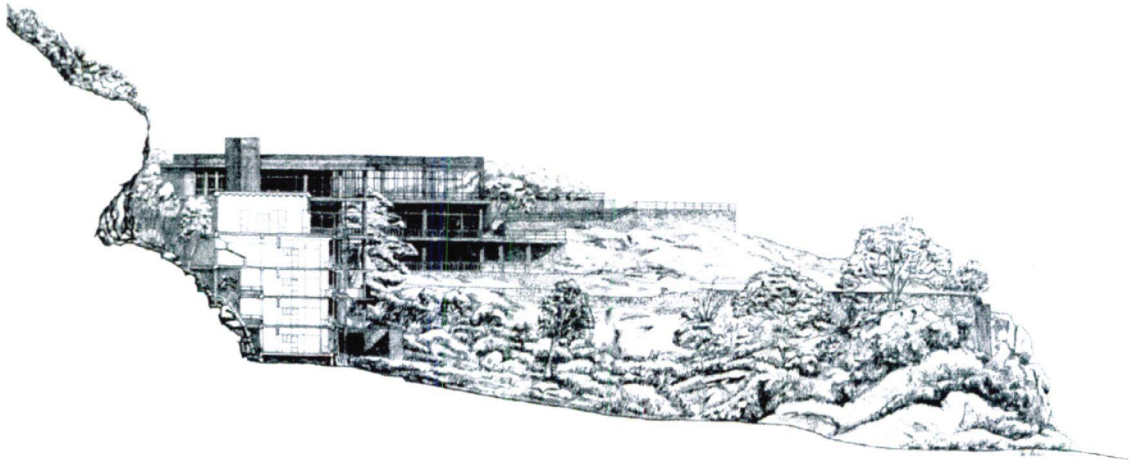


Fig. (12) - section, Built form follows the natural terrain of the site



Plate. (62) This horizontality relating with the physical setting is balanced by the exposing vertical columns of the building.

Plate.(63) balance and unity with that horizontal built form is achieved by exposing verticality of columns. It expresses the vertical rhythm of the tree and it follows the rhythm of the mountain. The vertical rectangular columns



without any detail meet the earth. They are just like the part of the forest.

Hierarchy of spaces related with the context

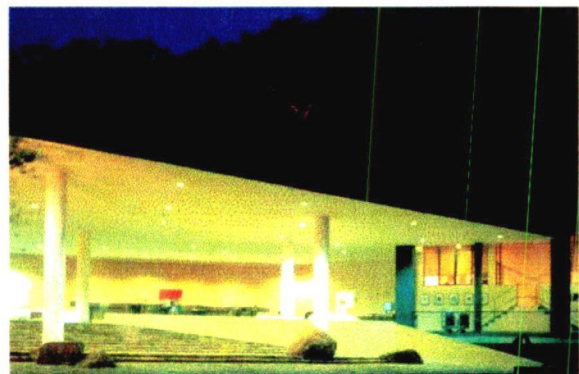
According to Robson, D (2002:21) the architect's interpretation of design idea that Kandalama is not a building to look at but a building to look from. Justifying that idea the whole spatial experience of Kandalama is maximally connected and exposed to the natural setting.

The eye-catching surrounding environment of the area influences a visitor to proceed along the path. The ramp of the path way provides emotional views from either side, one side blessing with sheet of water and other with the rocky mountain cover. While experiencing those panoramic views sequentially directed to the entrance.



Plate. (64) Entrance to the hotel, without any significant detail, only as the part of context.

Plate. (65) Distant view of simply design white columns and slabs as protruding from the rock and the reflecting glossy lobby give the feeling of familiarity with entire setting and resultant pausing effect symbolize that you have entered in to the building.



After entering to the building and passing the gloomy tunnel suddenly catches the sight of swimming pool which is connected through the infinity of Kandalama Lake.



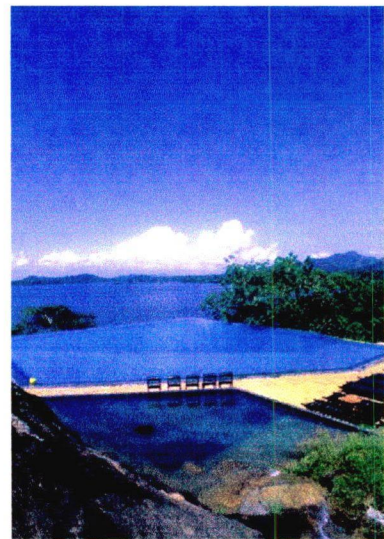
Plate. (66) The Gloomy tunnel starting from the entrance.

Existing rock also as a part of the building



Plate. (67) The climax of the building

swimming pool and the lake as a single mass of water, at a glance. This pausing effect giving by the panoramic full view of the entire surrounding clearly states the climax of building.



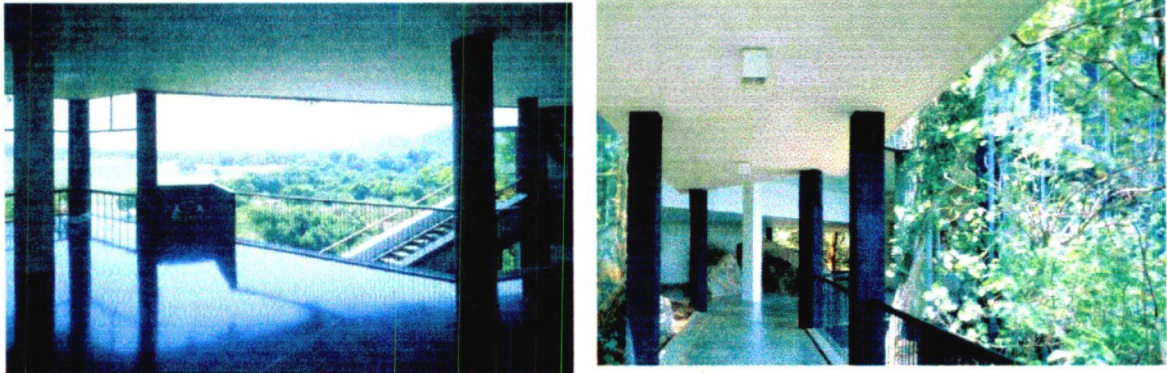


Plate. (68) (69) The whole spatial arrangement of the building, rooms, circulation areas (staircases and corridors) are maximally connected with the existing physical setting and well oriented to capture the eye catching view of the surrounding.



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Finally Kandalama is a real "Architectural" creation, which is well identified and responded to the existing pattern of the natural setting as well as the intangible "spirit" or "uniqueness" of the context.



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Subhodhi-Pillyandala

3.4.3 Subhodhi, Piliyandala

Integral education centre named "Subhodhi" is a superb creation of Archt Geoffrey Bawa. The harmonious built form within the unique natural setting few miles away from the Moratuwa Piliyandala road just passing the Kospalana bridge is also blessed with the closer view of the bolgoda lake. (subhodhi is a centre for integral education, facilitating intensive residential courses aimed mainly at school leavers and young people.

Identification of pattern of context

This noble natural environment, which is the part of an old rubber state called Brookside and occupied a steep valley running down through a grove of rubber trees to the edge of the Bolgoda Lake. Robson,D (2002:156)

The pattern of the natural setting conceived mainly due to the specific topographical features and the water body. The terrain covered with the rubber trees continue up to the Bolgoda Lake. This whole natural setting edging by the Bolgoda Lake and covered by the rubber plantation provide some kind of calm quite and serine atmosphere.

Orientation of building within the context

Building oriented within the site mainly responding with the rhythmic pattern of the sloping valley and considering the possibility of capturing the views from the Bolgoda Lake. The existing pattern created by the calm and serine natural enclosure and the contours determine the main way of orienting the building.



Fig.(13) Orientation of the building in the site, relating with patterns of contours, and responding to the water body

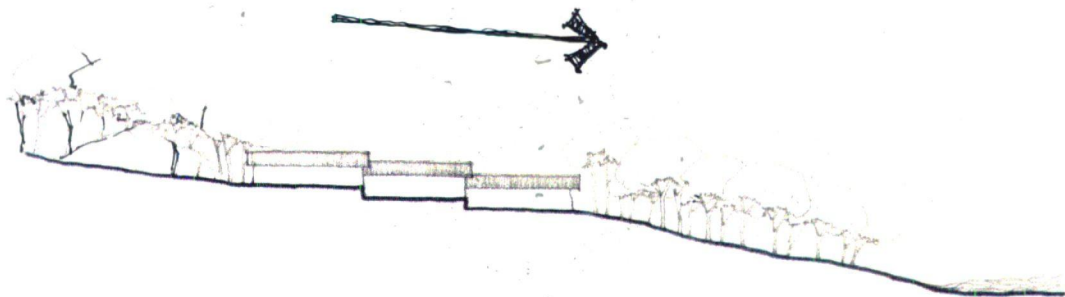


Fig. (14) Rough section showing relationship with natural terrain

Composition of the building within the context

Entire built form comes out twisting with its natural setting; it is as response to the exact pattern of natural terrain and conceived as a promenade through an ever-changing sequence of loggias, links and open spaces.

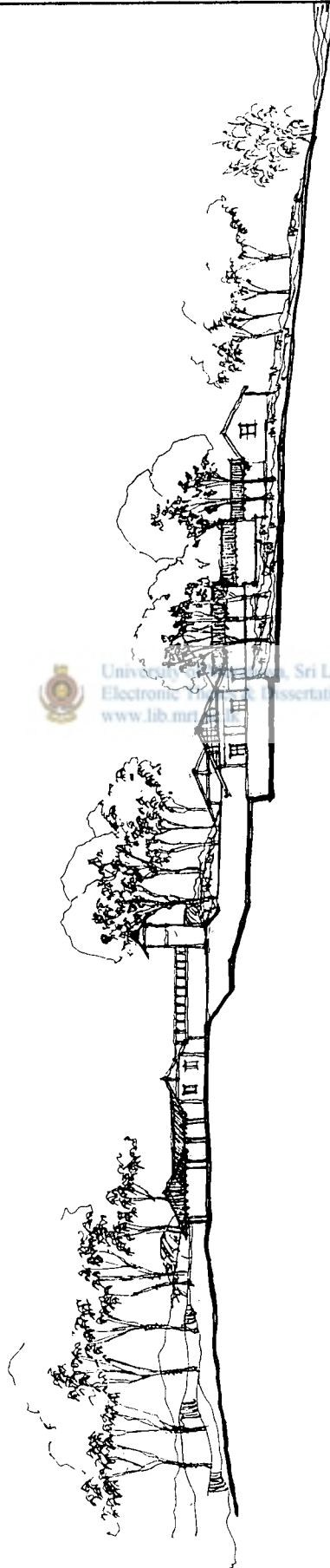


Plate. (70) Free forming verticality of the site by the pattern of the tree trunks, well balanced by the horizontal linear organization of the built form runs along the contours . Scale of the building is more human, the built form does not exceed the surrounding height.

Plate. (71) More prominence goes to the linearity of the form, because built form spread within the large portion of the site.



Plate. (72) This linear organization become more compatible with the pattern of the site because its ability of fitting with irregular pattern of the contours, and as well as the capability of capturing the views.



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Section - Subhodini



Hierarchy of spaces related with the context

Subhodhi integral education centre which sits on a peaceful rustic environment leading by the hilly path running parallel with the bolgoda lake covered with the thick foliage, from the moratuwa piliyandala road.



Plate. (74) Entrance to the building
Within a serene and calm atmosphere

Plate. (75). The view of the complex from the entry point



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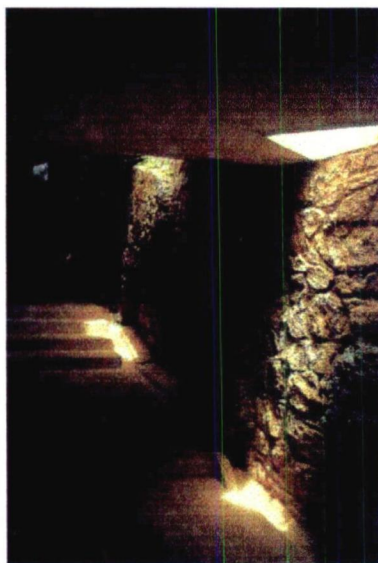


Plate. (76) The gloomy tunnel which leads to the multi purpose hall, from the entrance



Plate.(77) main space of complex rich with the distant full view of the bolgoda lake and adjacent land, through the vertically stand rubber trees.

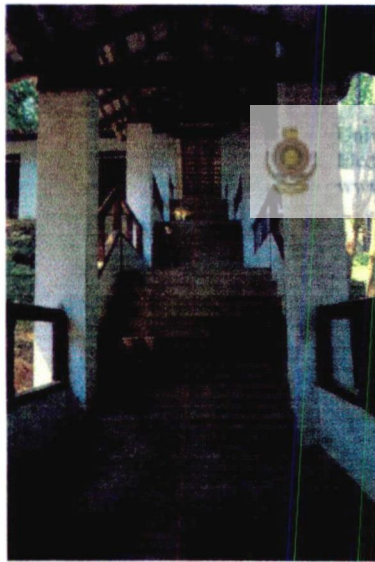


Plate. (78)

The linking corridors of the building, in different levels, maximally connected with the surrounding environment.

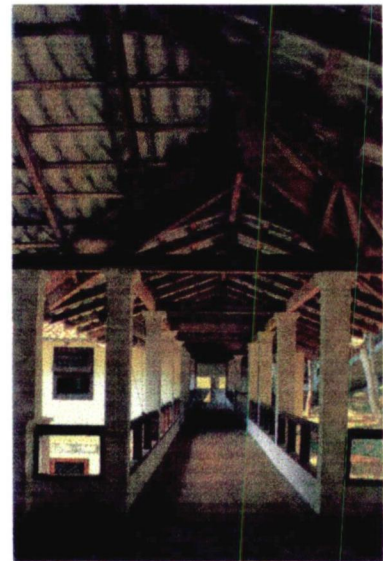
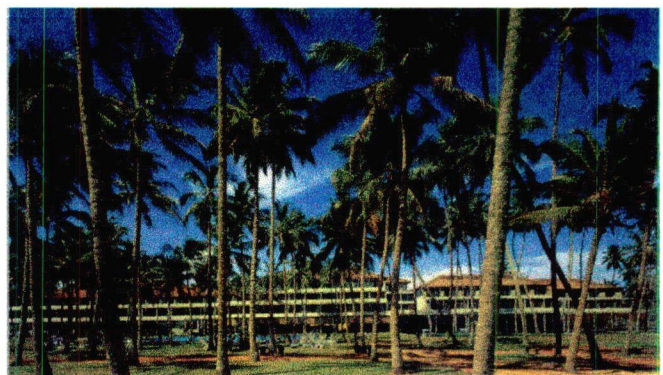


Plate. (79)



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Blue Waters - Wadduwa.



3.4.4 Blue water hotel, Wadduva

Blue water hotel located on south western coast in the township of wadduva, is a creation of Archt Geoffery Bawa. The hotel is specially deigned for foreigners who come to experience the Sri-Lankas sea cost and tropical climate.

In Robson,D (2002:218) words, site is a few hectares of coconut plantation struck between a featureless stretch of beach and the coastal railway line in the dreary ribbon of suburban sprawl stretching down the coast from Moratuwa to kalutara.

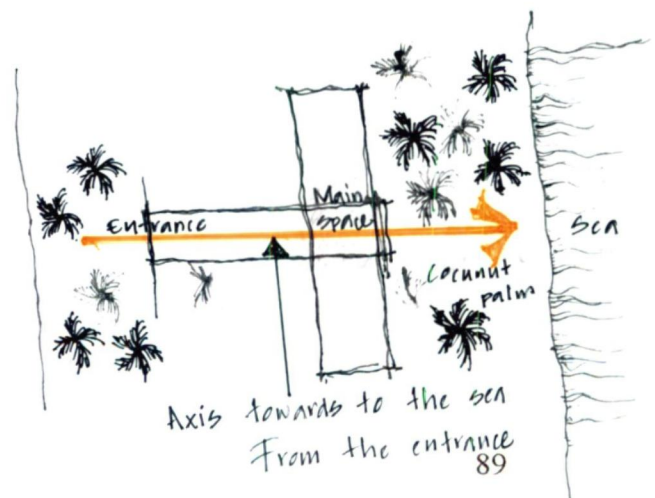
Identification of pattern of context

The site comparatively a flat land in beach front, and vertical rhythm of the coconut trees and closer view of the sea, emerge a certain character to the place. (Lesser significant site condition comparing with earlier examples, but has the strong "character"(pattern) generated by that few identifiable physical features)

Orientation of building within the context

The building oriented within the coconut plantation mainly respecting the direction of the sea. The whole building complex organize along a main axis directed to the sea while exposing to the surrounding environment and completing the existing pattern of the environment.

Fig. (16) conceptual diagram



Architecture in Harmony with nature: An examination of implications of "physical context" in creation of form.

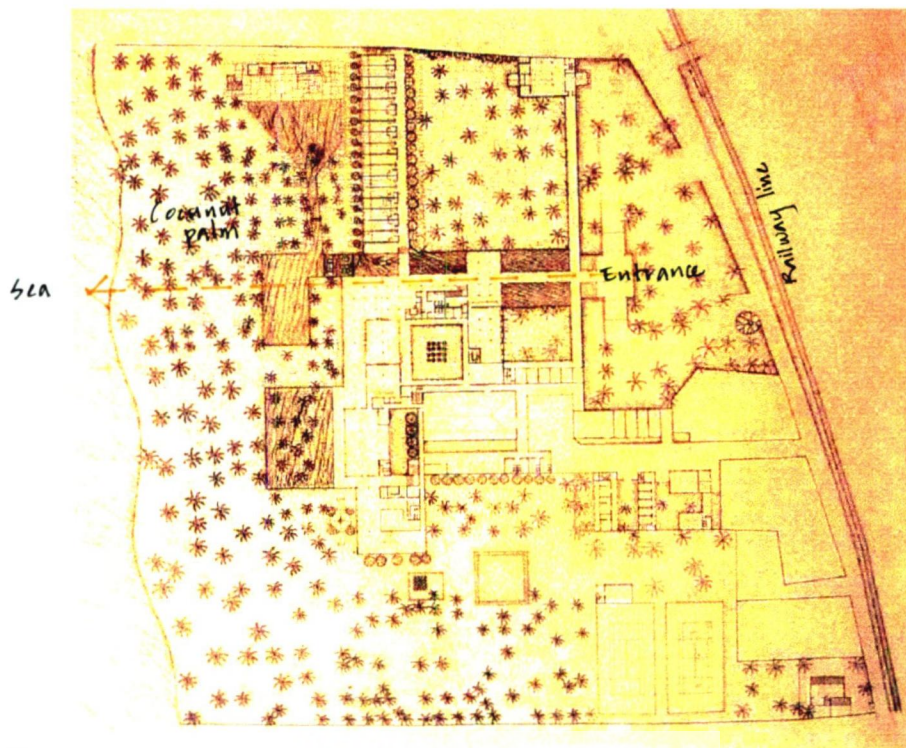


Fig. (17) Plan - Blue waters, shows the relationship with existing context

Composition of the building within the context

Building form also composed in such a compatible manner within the physical setting, capturing the real essence of the place. The vertical rhythm of coconut trees are well balanced by the horizontal built form runs parallel with the sea. The simple built form well scaled with the surrounding physical pattern.



Plate. (80) Built form within the context

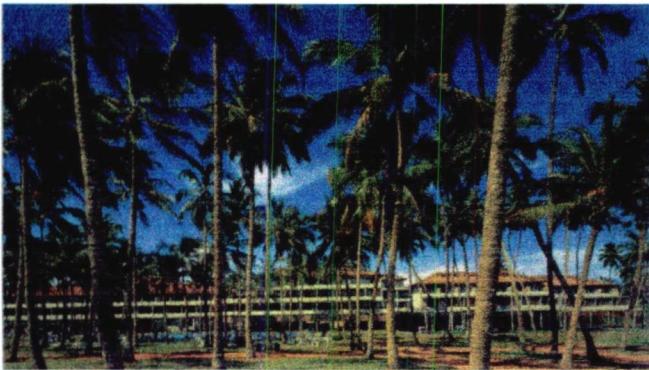


Plate. (81) Horizontal built form balanced with the vertical rhythm of the coconut trees

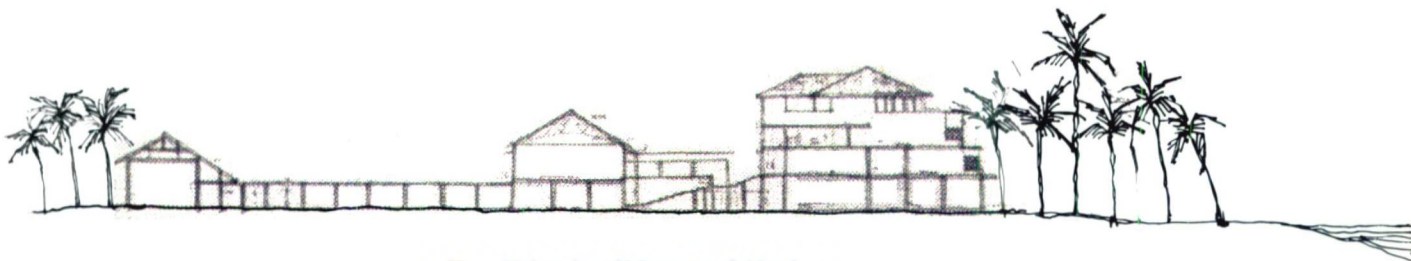


Fig. (18) Section - relationship with the existing physical setting

The whole design idea conceived respecting the position of sea, and organizes in such a manner to capture true "spirit" of the site in to the building. The linear spatial organization, still from the beginning is an attempt to focus towards to the sea. The horizontally spreaded built form along the sea captures the visual pleasure of sea and surrounding environment.

Hierarchy of spaces related with the context

The whole spatial experience begins by the sandy road from Galle Colombo main road towards to the sea-side. After passing the rail track which is the one boundary of the site directed to the huge inviting entrance porch stands in the midst of coconut plantation growing in neat rows.



Plate. (82) The glimpse of the building from the distant



Plate. (83) Entrance porch within the coconut palm

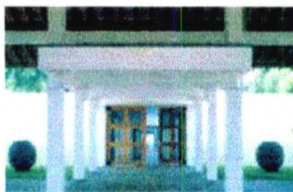


Plate. (85)



Plate. (86)



Plate. (87)



Plate. (88)

The main axis of the building(from the entrance capturing the glimpse of the sea at far end.)

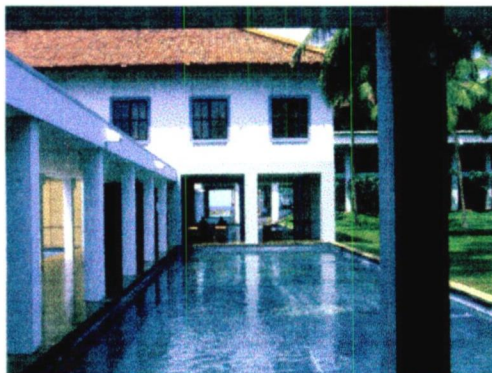


Plate.(89) (90) resting area (intermediate climax) mid-way along the axis, towards to the sea, exposing to the surrounding environment,



Plate. (91) Towards to the main space

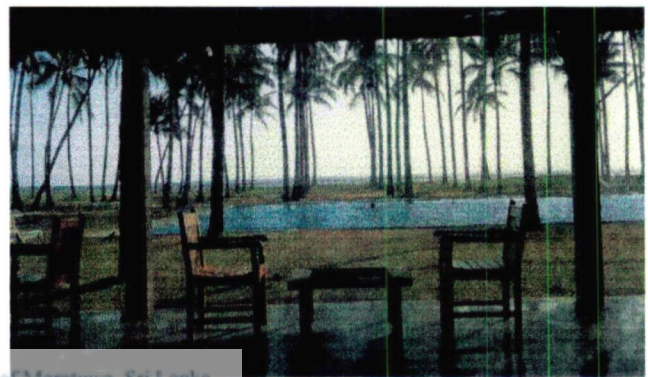


Plate. (92) At the end of the main axis, cross axis directed towards to the dining area, where the main Space of the building finds, giving closer experience of existing natural surrounding.

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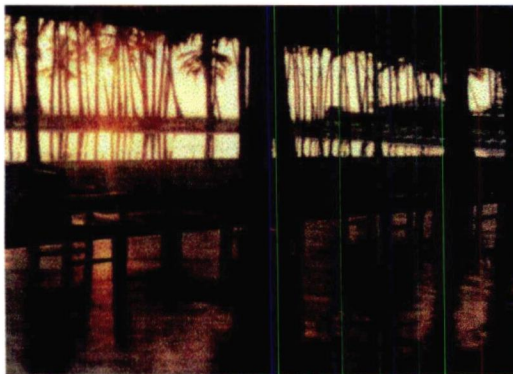


Plate. (91)



Plate. (92)

View of the sea through the vertical tree trunks, from the main space("Climax of the building")



Plate. (93)



Plate.(94)



Plate. (95)

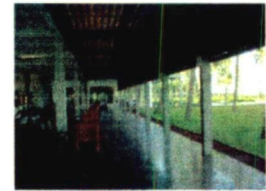


Plate. (96)

Various ways of integrating the building with its physical setting

As described earlier in this design special consideration given to the climatic condition of the western Sri Lanka. Various design components add to the building to capture the quality of it.



Plate. (97)



Plate. (98)

Pergolas which was designed, responding to the climatic condition, further enhances the spatial experience.

Though the blue water hotel is located in a featureless sight comparing with earlier examples, it truly identified and completes the every underlying pattern (patterns generated by the physical features, effects of cosmic order, overall "character" or the "spirit" of the setting) to produce a harmonious product within that context.



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Conclusion

CONCLUSION

Under the theme of "**Architecture in harmony with nature**", the idea which is going to concretize is, if any thing which is to termed as "**Architecture**" it **should necessarily a harmonize product of nature**. If it is not it can not be termed as "Architecture".

"Architecture" according to the Antoniades,(By quoting Jean Labtut 1992:19) is total, unique and complete whole, constituting elements of "tangible" and "intangible", the known and quantifiable versus all those unknown and inexplicable things that cannot be rationalized. Accordingly architecture is collective entity which give rise to a certain meaning, and it communicate or expresses its true meaning to the perceiver, through the "Architectural Form", and form gives concrete presence to the inner meaning.



Architectural form by the way of its orientation, composition, plan configuration, and through the spatial arrangement expresses, and communicate its innermost meaning to the beholder. And architectural form constituting above things, generated according to the function it performs, type of activity happening within it, and the user category. Those are the facts which determine the "nature" or "reality" of building itself. And also "nature" (swabhawa) of the place, within which building is going to be placed, is another determinant factor. And meaningful architectural form should be a harmonized integration within its context.

"Physical context", or the "location" comprises every aspects which surrounds, according to the words of Antoniades (1982:5) this includes the natural as well as the man-made, some of the things that around us are close to us, other things are further away. Before creating a harmonious form responding with the context, should identify the real character, spirit, uniqueness of that place.



It should not be a mere imitation or repetition of outward visual aspects of existing location, as mostly observable today.

By carefully observing, should identify the existing visual and symbolic patterns, which leads to certain character, and should respond to it. From certain natural setting, variations governed by different topographical changes were identified a **visual patterns** and differentiation of volumes, scales and proportions, balancing of things, variations governed by certain rhythms and repetition of things were identified as symbolic patterns. Those aspects in individuality as well as whole give rise to particular "**character**" or to a "**Spirit**" of that place.

Harmonious product should complete those patterns, through the careful identification and by responding of it. This completion means adding of a new element which was lacking there. As a result final product become the **unified whole** or with this new addition further **enhances the totality**.



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