

LIB. NO. 8/1009/07

432

# ANNEX - Concept and Expressions

An Analytical study of the co-relationship of the annex with the socio-economic aspect and its effects to the expression of the house special reference to architect designed urban annexes

LIBRARY  
UNIVERSITY OF MORATUWA, SRI LANKA  
MORATUWA



A dissertation presented to the  
University of Moratuwa, Sri Lanka.  
Department of Architecture  
University of Moratuwa, Sri Lanka  
www.lib.mru.ac.lk

As a partial fulfillment of the requirements for the Degree of  
Master of Science in Architecture

72 07  
-----  
72 (043)

University of Moratuwa



89466

89466

Jayasooriya V.C.S.  
Faculty of Architecture  
University of Moratuwa  
Sri Lanka  
2007

89466

## DECLARATION

I declare that this dissertation represents my own work, except where due acknowledgement is made, and that it has been previously included in a thesis, dissertation or report submitted to this university or to another institution for a Degree, Diploma or other qualification.



---

Signature of student, Sri Lanka.  
Jayasooriya V.C.S.  
Department of Architecture  
Faculty of Architecture  
University of Moratuwa  
Sri Lanka

---

Signature of Principal Supervisor  
Arch. Varuna De Silva  
Senior Lecturer  
Department of Architecture  
Faculty of Architecture  
University of Moratuwa  
Sri Lanka



# CONTENTS

|   |          |           |
|---|----------|-----------|
| LIST OF ILLUSTRATIONS                                   | -        | I         |
| ACKNOWLEDGEMENTS  | -        | VI        |
| INTRODUCTION  | -        | VII       |
| <b>1.0 CHAPTER ONE – EXPRESSION</b>                     | <b>-</b> | <b>02</b> |
| 1.1 Expression in visual arts                           | -        | 02        |
| 1.2 Architectural Expression                            | -        | 03        |
| 1.3 Modes of symbolic expression                        | -        | 04        |
| 1.3.1 Diagrammatic and emblematic                       | -        | 05        |
| 1.4 Modes of symbolic expression in Architecture        | -        | 06        |
| 1.4.1 Symbols of function                               | -        | 06        |
| 1.4.2 form  | -        | 09        |
| 1.4.2.1. space and mass                                 | -        | 10        |
| 1.4.2.2. composition                                    | -        | 12        |
| 1.4.2.3. scale  | -        | 15        |
| 1.4.2.4. light  | -        | 16        |
| 1.4.2.5. texture  | -        | 17        |
| 1.4.2.6. color  | -        | 18        |
| 1.4.2.7. environment                                    | -        | 19        |
| 1.5 Home as a symbolic expression of self               | -        | 19        |
| 1.5.1. personalization                                  | -        | 21        |
| 1.5.2. Territoriality                                   | -        | 23        |
| <b>2.0 CHAPTER TWO – CONCEPT DEFINITIONS</b>            | <b>-</b> | <b>25</b> |
| 2.1 Annex concept                                       | -        | 25        |
| 2.1.1. Annexation in art and music                      | -        | 25        |
| 2.2. Annexation in built environment – generalized idea | -        | 27        |
| 2.2.1. Annex concept in relation to dwellings           | -        | 27        |
| 2.3. Basic typology of annexation                       | -        | 29        |
| 2.3.1. space time categorize method                     | -        | 29        |
| 2.3.1.1 Annex type one                                  | -        | 30        |
| 2.3.1.2 Annex type two                                  | -        | 32        |
| 2.3.1.3 Annex type three                                | -        | 35        |
| <b>3.0 CHAPTER THREE – SOCIO ECONOMIC ASPECT</b>        | <b>-</b> | <b>37</b> |
| 3.1 Collective expression of home                       | -        | 37        |
| 3.1.1. hunter gatherer societies                        | -        | 37        |
| 3.2 Notion of individualism                             | -        | 38        |
| 3.2.1. Agricultural societies                           | -        | 38        |
| 3.3 Example 1 - House at Galgamuwa                      | -        | 41        |
| 3.3.1 Description of the spatial arrangement            | -        | 42        |



|  |   |   |           |
|--|---|---|-----------|
| 3.3.2.                                 | Analysis of the architectural language                  | - | 42        |
| 3.3.3.                                 | dominance to primary dwelling                           | - | 43        |
| 3.3.4.                                 | Territoriality and privacy                              | - | 44        |
| 3.4                                    | <b>Impacts on social transformation on village life</b> | - | 44        |
| 3.4.0                                  | Example 2 - House at Walpolamulla                       | - | 45        |
| 3.4.1                                  | Description of the spatial arrangement                  | - | 47        |
| 3.4.2.                                 | Territoriality and privacy                              | - | 48        |
| 3.4.3.                                 | influence of the social transformation                  | - | 49        |
| 3.5                                    | <b>Urban Annex</b>                                      |   |           |
| 3.5.1                                  | Security as a defining factor                           | - | 53        |
| 3.5.2                                  | Economy and land scarcity as defining factors           | - | 54        |
| <b>4.0 CHAPTER FOUR – CASE STUDIES</b> |   |   | <b>56</b> |
| 4.1                                    | <b>Case study one – Naren perera annex</b>              | - | 56        |
| 4.1.1                                  | Preface   | - | 56        |
| 4.1.2                                  | General description                                     | - | 57        |
| 4.1.3                                  | definition of the primary and secondary units           | - | 57        |
| 4.1.4                                  | juxtaposition of masses                                 | - | 58        |
| 4.1.5                                  | Form and composition                                    | - | 58        |
| 4.1.6                                  | spatial arrangement                                     | - | 58        |
| 4.1.7                                  | territoriality and privacy                              | - | 62        |
| 4.1.8                                  | Language and detailing                                  | - | 64        |
| 4.2                                    | <b>Case study two – Anjilendran annex</b>               | - | 65        |
| 4.2.1                                  | preface   | - | 65        |
| 4.2.2                                  | General description                                     | - | 66        |
| 4.2.3                                  | juxtaposition of masses                                 | - | 66        |
| 4.2.4                                  | Form and composition                                    | - | 66        |
| 4.2.5                                  | spatial arrangement                                     | - | 67        |
| 4.2.6                                  | territoriality and privacy                              | - | 70        |
| 4.2.7                                  | Language and detailing                                  | - | 71        |
| 4.2                                    | <b>Case study three – Ratwatte annex</b>                | - | 72        |
| 4.3.1                                  | preface   | - | 72        |
| 4.3.2                                  | General description                                     | - | 73        |
| 4.3.3                                  | juxtaposition of masses                                 | - | 73        |
| 4.3.4                                  | spatial arrangement                                     | - | 74        |
| 4.3.5                                  | territoriality and privacy                              | - | 76        |
|  | 4.3.5.1 Aspect of personalization                       | - | 76        |
| 4.3.6                                  | Language and detailing                                  | - | 77        |
| <b>CONCLUSION</b>                      |   |   | <b>79</b> |
| <b>APPENDIX I</b>                      |   |   | <b>85</b> |
| <b>APPENDIX II</b>                     |   |   | <b>91</b> |
| <b>BIBLIOGRAPHY</b>                    |   |   | <b>92</b> |



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

# LIST OF ILLUSTRATIONS

| Figure and description  | Page |
|---|------|
| <b>CHAPTER ONE</b>  |      |
| Fig 1.1 The individual expression of an elephant charging forward                                   | 02   |
| Fig 1.2 The collective expression of a herd of zebra  | 02   |
| Fig 1.3 Observer can feel uncomfortable because<br>the environment is too hot or cold               | 03   |
| Fig 1.4 Kek Lok Si Pagoda Malaysia  | 07   |
| Fig 1.5 Eiffel Tower - France   | 07   |
| Fig 1.6 Petronas Towers - Malaysia  | 07   |
| Fig 1.7 The shapes reflect the forces   | 09   |
| Fig 1.8 Floor plan of San Carlo alle Quattro Fontane in Rome  | 10   |
| Fig 1.9 Vuoksenniska church by Alvar Aalto at Imatra in Finland                                     | 10   |
| Fig 1.10 Frank Gehry's Museum in Bilbao, Spain  | 10   |
| Fig 1.11 Dagoba of Sri Lanka  | 12   |
| Fig 1.12 Pyramids of Egypt  | 12   |
| Fig 1.13 Villa Savoye combines  | 13   |
| Fig 1.14 The oculus of the Pantheon from ancient Rome   | 16   |
| Fig 1.15 Ronchamps  | 16   |
| Fig 1.16 Expressing materiality   | 17   |
| Fig 1.17 The Forbidden city   | 19   |
| Fig 1.18 Seegiriya the rock fortress  | 19   |
| Fig 1.19 Personalization reflected in the entrance façade   | 21   |
| Fig 1.20 Personalization reflected in the entrance façade   | 21   |
| Fig 1.21 Relation ship of common and private realm  | 22   |
| Fig 1.22 Territoriality   | 23   |
| <b>CHAPTER TWO</b>  |      |
| Fig 2.1 Effect to the original expression from annexations of various colors<br>to the color yellow | 25   |
| Fig 2.2 Contrast of pure hue  | 26   |
| Fig 2.3 Complementary contrast  | 26   |
| Fig 2.4 A common attached building with own territorial demarcations<br>for each building           | 27   |
| Fig 2.5 A common situation of annexation  | 27   |

|                 |   |           |
|-----------------|---|-----------|
| <b>Fig 2.6</b>  | <b>Internally separating the primary unit and adding only supplementary spaces</b>  | <b>30</b> |
| <b>Fig 2.7</b>  | <b>Walawwa at Molpe road Katubedda</b>  | <b>30</b> |
| <b>Fig 2.8</b>  | <b>Original situation of the Walawwa</b>  | <b>31</b> |
| <b>Fig 2.9</b>  | <b>New subdivision into two units</b>   | <b>31</b> |
| <b>Fig 2.10</b> | <b>view of the two entrance doors from road</b>   | <b>31</b> |
| <b>Fig 2.11</b> | <b>Preferred situation- The Eccentrically situated gate overlooking the Walawwa.</b>  | <b>32</b> |
| <b>Fig 2.12</b> | <b>Actual situation- The high style gateway leads to a low expressive newly added supplementary space (verandah) of the Annex</b> | <b>32</b> |
| <b>Fig 2.13</b> | <b>Ranasinghe Annex at Piliyandala</b>  | <b>33</b> |
| <b>Fig 2.14</b> | <b>Arapperuma Annex at Kohuwala</b>   | <b>34</b> |
| <b>Fig 2.15</b> | <b>Seneviratne Annex at Rajagiriya</b>  | <b>35</b> |
| <b>Fig 2.16</b> | <b>Front view elaborating the two entrances</b>   | <b>36</b> |

### **CHAPTER THREE**

|                 |   |           |
|-----------------|---|-----------|
| <b>Fig 3.1</b>  | <b>Spatial fabric of the hunter gatherer societies</b>  | <b>37</b> |
| <b>Fig 3.2</b>  | <b>Collective gathering of Nomadic societies</b>  | <b>37</b> |
| <b>Fig 3.3</b>  | <b>Spatial fabric of the Agricultural societies</b>   | <b>38</b> |
| <b>Fig 3.4</b>  | <b>Interior of the karo house at lingga. Showing its four hearths each for a separate family unit</b> | <b>38</b> |
| <b>Fig 3.5</b>  | <b>Typical layout of a tankfed village</b>  | <b>39</b> |
| <b>Fig 3.6</b>  | <b>Plan of a typical rain fed village</b>   | <b>39</b> |
| <b>Fig 3.7</b>  | <b>image of a Sarawak Dyak Longhouse</b>  | <b>40</b> |
| <b>Fig 3.8</b>  | <b>Section of a Sarawak Dyak Longhouse</b>  | <b>41</b> |
| <b>Fig 3.9</b>  | <b>Front perspective of the long house</b>  | <b>41</b> |
| <b>Fig 3.10</b> | <b>Original primary dwelling</b>  | <b>42</b> |
| <b>Fig 3.11</b> | <b>First attachment</b>   | <b>42</b> |
| <b>Fig 3.12</b> | <b>Second attachment with kitchen</b>   | <b>42</b> |
| <b>Fig 3.13</b> | <b>Front elevation of the longhouse</b>   | <b>43</b> |
| <b>Fig 3.14</b> | <b>Entrance and the entrance stone</b>  | <b>43</b> |
| <b>Fig 3.15</b> | <b>Diffusion of the psychological space to other territories</b>                                      | <b>44</b> |
| <b>Fig 3.16</b> | <b>The pila has been separated into three separations by extending the dividing walls.</b>            | <b>44</b> |
| <b>Fig 3.17</b> | <b>Side view of the secondary unit</b>  | <b>45</b> |
| <b>Fig 3.18</b> | <b>Layout of a typical hill country valley village</b>  | <b>46</b> |
| <b>Fig 3.19</b> | <b>Plan of the first construction</b>   | <b>46</b> |
| <b>Fig 3.20</b> | <b>Earlier plan of the primary unit and the secondary unit</b>  | <b>46</b> |

|          |   |    |
|----------|---|----|
| Fig 3.21 | Present plan of the house   | 47 |
| Fig 3.22 | Present front view of the house   | 47 |
| Fig 3.23 | Side view showing the secondary dwelling unit<br>and the tertiary unit                            | 47 |
| Fig 3.24 | Fish eye view of the front space of the primary dwelling  | 47 |
| Fig 3.25 | Placement of the entrances  | 47 |
| Fig 3.26 | Outdoor public spaces   | 48 |
| Fig 3.27 | Space A   | 48 |
| Fig 3.28 | Space B   | 48 |
| Fig 3.29 | Space C   | 48 |
| Fig 3.30 | Projected early stage of the dwelling   | 49 |
| Fig 3.31 | Demolition of the front living area of the primary unit   | 49 |
| Fig 3.32 | Demolition of the rear bed rooms from the secondary unit  | 49 |
| Fig 3.33 | Newly build house at Attanwala by one of the sons   | 49 |
| Fig 3.34 | Newly build house at Attanwala by another son   | 50 |
| Fig 3.35 | New territory has annexed the modern newcomer<br>and excludes the deteriorating traditional unit. | 50 |
| Fig 3.36 | A traditional backyard covered with a modern frontage   | 50 |
| Fig 3.37 | Typical single house build in early 60's  | 51 |
| Fig 3.38 | Tenureship of housing units by district   | 54 |
| Fig 3.39 | Tenureship of housing - Colombo district  | 55 |

## CHAPTER FOUR

### CASE STUDY ONE

|           |   |    |
|-----------|---|----|
| Fig 4.1.1 | The third house as seen from the junction   | 57 |
| Fig 4.1.2 | The later added mass dominates  | 58 |
| Fig 4.1.3 | The pattern of the blocks have been intentionally broke down                                | 58 |
| Fig 4.1.4 | Entrance view showing the connection of the two masses                                      | 58 |
| Fig 4.1.5 | Floor plans illustrating the spatial formation of annex with<br>primary dwelling            | 59 |
| Fig 4.1.6 | Sectional elevation illustrating the spatial formation of annex<br>and the primary dwelling | 59 |
| Fig 4.1.7 | Former front garden has been shared by both the annex<br>and the primary dwelling           | 60 |
| Fig 4.1.8 | Intimacy gradient of spaces   | 60 |
| Fig 4.1.9 | Psychological space diffusion towards the common realm in<br>horizontal planes              | 61 |

|                   |   |           |
|-------------------|---|-----------|
| <b>Fig 4.1.10</b> | <b>Psychological space diffusion towards the common realm in vertical planes - cross section</b>        | <b>61</b> |
| <b>Fig 4.1.11</b> | <b>Psychological space diffusion towards the common realm in vertical planes - longitudinal section</b> | <b>61</b> |
| <b>Fig 4.1.12</b> | <b>Comparison of the territorial demarcation</b>  | <b>62</b> |
| <b>Fig 4.1.13</b> | <b>The setback of the primary house entrance providing room for the secondary entrance</b>              | <b>62</b> |
| <b>Fig 4.1.14</b> | <b>Arrangement of forms creating a dialog between two</b>   | <b>63</b> |
| <b>Fig 4.1.15</b> | <b>Arrangement of forms without giving any provision for a dialog</b>                                   | <b>63</b> |
| <b>Fig 4.1.16</b> | <b>The blinds drop down providing adequate privacy</b>  | <b>63</b> |
| <b>Fig 4.1.17</b> | <b>Interior space flow towards common space outside</b>   | <b>64</b> |
| <b>Fig 4.1.18</b> | <b>Privacy is achieved with dropdown blinds</b>   | <b>64</b> |
| <b>Fig 4.1.19</b> | <b>Upper floor space extends towards front space</b>  | <b>64</b> |
| <b>Fig 4.1.20</b> | <b>The roof gable has been demolished to reduce inconsistency of attachment</b>                         | <b>64</b> |

#### **CASE STUDY TWO**

|                   |  |           |
|-------------------|--|-----------|
| <b>Fig 4.2.1</b>  | <b>Courtyard concept achieved by arranging the primary mass and the annex and bridging both the masses</b> | <b>66</b> |
| <b>Fig 4.2.2</b>  | <b>A typical example of the courtyard house</b>  | <b>66</b> |
| <b>Fig 4.2.3</b>  | <b>Ground floor plan</b>   | <b>67</b> |
| <b>Fig 4.2.4</b>  | <b>first floor plan</b>  | <b>67</b> |
| <b>Fig 4.2.5</b>  | <b>Longitudinal section</b>  | <b>68</b> |
| <b>Fig 4.2.6</b>  | <b>View of the annex from the courtyard</b>  | <b>68</b> |
| <b>Fig 4.2.7</b>  | <b>View of the annex from dining area of primary dwelling</b>  | <b>68</b> |
| <b>Fig 4.2.8</b>  | <b>The veranda of the annex at the far side properly punctuated by the courtyard</b>                       | <b>69</b> |
| <b>Fig 4.2.9</b>  | <b>intimacy gradient of spaces</b>   | <b>69</b> |
| <b>Fig 4.2.10</b> | <b>The vertical space above the living area is shared by the sleeping areas.</b>                           | <b>69</b> |
| <b>Fig 4.2.11</b> | <b>The bedroom space flows towards the multifunctional space</b>   | <b>70</b> |
| <b>Fig 4.2.12</b> | <b>The heights have been consciously handled to cut off direct contact of the courtyard and the annex</b>  | <b>70</b> |
| <b>Fig 4.2.13</b> | <b>Entrance door demarcating the main territory</b>  | <b>70</b> |



### CASE STUDY THREE

|            |   |    |
|------------|---|----|
| Fig 4.3.1  | Contrasting masses encouraging the expression of the primary mass   | 73 |
| Fig 4.3.2  | The annex in contrast with the primary dwelling   | 73 |
| Fig 4.3.3  | side elevation of the annex facing away from the primary unit<br>– all the opening are located towards this side of the annex | 74 |
| Fig 4.3.4  | side elevation  | 74 |
| Fig 4.3.5  | front elevation of annex<br>– clearly showing the devoted expression  | 74 |
| Fig 4.3.6  | Ground floor plan   | 75 |
| Fig 4.3.7  | First floor plan  | 75 |
| Fig 4.3.8  | Second floor plan   | 75 |
| Fig 4.3.9  | side elevation of the annex<br>( front elevation of the primary dwelling )  | 75 |
| Fig 4.3.10 | intimacy gradient of spaces   | 76 |
| Fig 4.3.11 | The entrance door of the annex  | 76 |
| Fig 4.3.12 | minimalist approach and the simple color usage  | 77 |
| Fig 4.3.13 | A door with decorated moldings merge with the tiled roof of other unit  | 77 |
| Fig 4.3.14 | Arrangement of windows  | 78 |

### CONCLUSION

|          |  |    |
|----------|--|----|
| Fig 5.1  | Make at least some part of the building rentable                                     | 80 |
| Fig 5.2  | Ill communication between the architectural language of the main house and the annex | 80 |
| Fig 5.3  | Face to face rental which Ole Dybbroe implemented                                    | 81 |
| Fig 5.4  | multifunctional use of common space at Narein annex                                  | 83 |
| Fig 5.5  | multifunctional use of common space at Anjalendran annex                             | 83 |
| Fig 5.6  | multifunctional use of common space at Narein annex                                  | 83 |
| Fig 5.7  | multifunctional use of common space at Anjalendran annex                             | 83 |
| Fig 5.8  | Unintentional multifunctional use of Interior common space at Seneviratne annex      | 83 |
| Fig 5.9  | multifunctional use of annex with arrangement of semi fixed elements                 | 84 |
| Fig 5.10 | open plan space with partitions  | 84 |

## ACKNOWLEDGEMENTS

I am deeply indebted to prof. Samitha Manawadu (Head of dept. of Architecture) and Arch Harsha Munasinghe (Essay coordinator) for the inspiring guidance given to me in making this dissertation possible. I have benefited a great deal from their valuable advice and encouragement to achieve this goal.

Similarly my sincere thanks go to Acht Varuna DeSilva for his valuable advice and encouragement throughout my study.

I am very grateful to Arch. Sudarshana and Arch. Cris Desaram for unsolicited support given to me in right from the beginning of the study.



University of Moratuwa, Sri Lanka  
Electronic Theses & Dissertations  
[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)

I wish to take this opportunity to convey my thanks Arch. Naren Perera Arch. Ranjith Alahakoon and Arch. Anjilendran for letting me the houses for my case studies and.

I finally like to extend my gratitude to my loving parents Mr. Jayantha Jayasooriya and Mrs. Lalitha Jayasooriya and my brother Isuru Jayasooriya and all the university and other friends for their help given and for their valuable time spent assisting on this dissertation.

And my heartiest thanks to Chathuri for her encouragement and help provided to make this dissertation a success.