A GENERATIVE TYPOLOGY FOR CRITICAL REGIONALISM: AN URBAN DESIGN PERSPECTIVE

A THESIS SUBMITTED TO
THE GRADUATE SCHOOL OF NATURAL AND APPLIED SCIENCES
OF
MIDDLE EAST TECHNICAL UNIVERSITY

BY

ZEYNEP ELİF KAR

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR
THE DEGREE OF MASTER OF SCIENCE
IN
URBAN DESIGN IN CITY AND REGIONAL PLANNING

JULY 2021

Approval of the thesis:

A GENERATIVE TYPOLOGY FOR CRITICAL REGIONALISM: AN URBAN DESIGN PERSPECTIVE

submitted by **ZEYNEP ELİF KAR** in partial fulfillment of the requirements for the degree of Master of Science i**n** Urban Design in City in Regional Planning**, Middle East Technical University** by,

Prof. Dr. Halil Kalıpçılar
Dean, Graduate School of **Natural and Applied Sciences** _____

Prof. Dr. Serap Kayasü
Head of the Department, **City and Regional Planning** _____

Assoc. Prof. Dr. Olgu Çalışkan
Supervisor, **City and Regional Planning, METU** _____

Examining Committee Members:

Assist. Prof. Dr. Esin Kömez Dağlıoğlu
Department of Architecture, METU _____

Assoc. Prof. Dr. Olgu Çalışkan
Department of City and Regional Planning, METU _____

Prof. Dr. Derya Oktay
Department of Architecture and Design, Maltepe University _____

Date: 09.07.2021

I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work.

Name Last name : Zeynep Elif Kar

Signature:

ABSTRACT

A GENERATIVE TYPOLOGY FOR CRITICAL REGIONALISM: AN URBAN DESIGN PERSPECTIVE

Kar, Zeynep Elif
Master of Science, Urban Design in City and Regional Planning
Supervisor: Assoc. Prof. Dr. Olgu Çalışkan

July 2021, 189 pages

Traditional cities have evolved through a series of local codes from material use and architecture of the buildings to the syntactic structure of settlement pattern. The building rules embedded within the multi-layered nature of the traditional urbanism characterizes traditional towns in specific manners. Various combination of the rule sets in specific manners, therefore, is the main factor in the characterization of different urban contexts and their evolution, accordingly. In this regard, any design act put in practice within the fabric of any traditional urban context has a real challenge to adapt themselves within such particular evolutionary processes.

Since evolution does not only involve the fundamental mechanism of inheritance, but variation in the form of generation of the unprecedented forms and patterns, formulation of the new in a subtle yet critical continuity with the existing patterns can be seen as a major challenge of any innovative design which respects for the already evolved types in urbanism. In the architectural design discourse, such a perspective has long been identified as 'Critical Regionalism'. In the context of urbanism, this approach is yet to be elaborated by robust design methods including the generative interpretation of the traditional spatial typologies.

This research, from this perspective, is an attempt to suggest a methodological framework for the generation of contemporary urban fabric via the design codes of the traditional urban form. To that end, Uçhisar, one of the most characteristic traditional settlements in Turkey is selected for the development and testing the suggested generative method of typological urban design from the perspective of Critical Regionalism.

Keywords: Type and Typology, Context, Critical Regionalism, Urban Coding

ÖZ

ELEŞTİREL BÖLGESELCİLİK TEMELİNDE ÜRETKEN TİPOLOJİ: BİR KENTSEL TASARIM PERSPEKTİFİ

Kar, Zeynep Elif
Yüksek Lisans, Kensel Tasarım, Şehir Bölge Planlama
Tez Yöneticisi: Doç. Dr. Olgu Çalışkan

Temmuz 2021, 189 sayfa

Geleneksel şehirler, malzeme kullanımı ve yapıların mimari özelliklerinden, yerleşim örüntülerinin mekan dizimsel yapısına kadar bir dizi yerel kodla biçimlenmişlerdir. Geleneksel şehirciliğin çok katmanlı doğasında içkin olan yapılaşma kuralları, tarihi kentleri kendine özgün kılar. Buna göre, çeşitli kural dizilerinin farklı kombinasyonları, özgün kentsel bağlamların karakterlerinin oluşumu ve gelişimindeki en belirleyici etkendir. Bu bakımdan, geleneksel kent bağlamında uygulamaya konmuş her tasarım ediminin, kendini bu özgün evrimsel sürece uyumlamak gibi zorlu bir görevi vardır.

Kentlerin evrimi, kalıtımsal olarak mekansal örüntü ve formların dönüşüme uğramasıyla morfolojik çeşitliliği beraberinde getirir. Bu nedenle, yeni olanın, mevcut örüntülerle uyum içinde bir süreklilik göstermesi, mevcut yapı ve mekan tipolojisini önemseyen her yenilikçi tasarım pratiğinin temel hedeflerinden biridir. Mimari tasarım söyleminde böylesi bir perspektif "eleştirel bölgeselcilik" adıyla tanımlanmış ve tartışılagelmiştir. Kentsel tasarım bağlamında ise bu yaklaşım, geleneksel mekan tipolojilerinin üretici (generative) bakış açısıyla yeniden

yorumlanmasına dayalı olarak, yeni tasarım yöntemleri ile geliştirilmeyi beklemektedir.

Bu çalışma, yukarıda sözü geçen bakış açısını benimseyerek, çağdaş kentsel dokunun geleneksel şehri oluşturan tasarım kodlarıyla üretilmesi için yöntemsel bir çerçeve sunma denemesidir. Bu amaçla, eleştirel bölgeselci bakış açısıyla, üretici bir tipolojik kentsel tasarım yönteminin kentsel gelişim üzerine denenmesi için, Türkiye'de özgün ve görece korunarak günümüze taşınmış bir geleneksel dokuya sahip yapılaşmalardan biri olan Uçhisar seçilmiştir.

Anahtar Kelimeler: Tip ve Tipoloji, Bağlam, Eleştirel Bölgeselcilik, Kentsel Kodlama

to my dear life partner, Oğuzhan, and my beloved mother, Zerrin

ACKNOWLEDGMENTS

First and foremost, I would like to express my sincere gratitude to my supervisor, Assoc. Prof. Dr. Olgu Çalışkan. Since my undergraduate design projects, I've learned a lot from him about critical (design) thinking as well as academic research and writing. His enthusiastic approach to urban design with endless energy for learning and making more inspired me to pursue a master's degree in urban design. I profoundly appreciate all his valuable contributions to my academic life, and his patience and guidance throughout this study.

I am also thankful to Prof. Dr. Derya Oktay and Assist. And Prof. Dr. Esin Kömez Dağlıoğlu for their valuable participation and contributions to this work.

I would like to thank the Scientific and Technological Research Council of Turkey (TÜBİTAK) for supporting my master's studies under the 2210/A Scholarship Program.

I am sincerely thankful to Argos Yapı in Uçhisar, especially to Aslı Özbay and Tuğçe Dolmuş. They provided background knowledge about the locality and shared the sets of drawings and photos of Uçhisar's traditional fabric, which was priceless. Aslı Özbay also motivated me to select Uçhisar as the place for a case study by sharing her enthusiasm for the unique architectural and natural heritages in Uçhisar –as well as the overall Cappadocia Region. Besides, I am thankful to Sevim Aslan (DS Mimarlık) for providing me with an additional set of survey drawings regarding the same area.

I also would like to thank the members of Master of Urban Design Studio 2018-2019, especially my friends Tuğçe, Yasemen, Yağız, and Sabrina, for their contributions and kind friendships at the beginning of this research. I also deeply thank my friends Neris, Mert, Buse Ezgi, İrem, and Selen for the productive discussions that we had as well as their great support and motivation.

Finally, I am deeply grateful to my family. To begin with, I thank my new family, my mother-in-law, Şerife, and my brothers-in-law, Furkan and Batuhan, who have always been very lovely and supportive. Furkan has also been kind enough to help me complete the thesis submission, to which I am deeply thankful.

I sincerely thank my beloved father, Hüsamettin, who has always been lovingly supporting me whatever I do, and my dear sister Latife, who has always been a source of happiness and joy in my life. I owe special thanks to my beloved mother, Zerrin, who has always been my dearest friend, always much more than a mom. I would not be the same person and find myself without her guidance, kindness, and intelligence; that is why I dedicate this thesis to her.

Last but not least, I thank Oğuzhan, my dear life partner, and closest friend. Since the beginning of our relationship, he has always been present in the best and the worst times with loving support and endless patience. I seize the opportunity here to express my profound gratitude to have him in my life while dedicating this thesis to him.

TABLE OF CONTENTS

ABSTRACT v

ÖZ vii

ACKNOWLEDGMENTS x

TABLE OF CONTENTS xii

LIST OF TABLES xv

LIST OF FIGURES xvi

CHAPTERS

1 INTRODUCTION 1

1.1 Context and Problem Definition 1

1.2 Aim of the Study and Research Questions 3

1.3 Methodology of the Research 4

1.4 Structure of the Research 5

2 CRITICAL REGIONALISM AND URBAN DESIGN 7

2.1 Context and Contextualism: A Theoretical Framework 7

2.1.1 The Emergence of 'Context' in the Architectural Theory 7

2.1.2 Discussions on 'Context' in Post-war Period (1950-80) 9

2.1.3 Discussions on 'Context' After the 1980s: The Autonomy of Architecture (as a Reaction to Contextualism) 21

2.1.4 Theoretical Background of Critical Regionalism: A Possibility of an Autonomous Architecture in Context 24

2.2 Critical Regionalism in Urban Design 33

2.2.1 The Contemporary Criticism of Critical Regionalism Theory: Towards an 'Urban' Perspective 33
2.2.2 The Prospects of Critical Regionalism in Urban Design 41
3 TYPE AND TYPOLOGY IN URBAN DESIGN 43
3.1 Conceptual Framework and Traditional Background of Type 43
3.1.1 Type in the Enlightenment Era.....44
3.1.2 Modernist Type: Standard.....47
3.1.3 Italian School of Typomorphology 48
3.1.4 Type in Neo-Traditionalist Approaches.....58
3.2 Use of Typology in the Contemporary Urban Design: A Generative Type .70
3.2.1 Generative Typological Reasoning in Traditional Mediterranean Context 71
3.2.2 The Fourth Typology and Generative 'Dominant Type' 78
3.2.3 The Contemporary Reflections on Type 88
3.3 The Prospects of Critical Regionalism with a Generative Typological Thinking in Traditional Context 90
4 TOWARDS A MODEL APPROACH: THE CASE OF UÇHİSAR, NEVŞEHİR.....97
4.1 Description of the Context: Uçhisar in Cappadocia.....97
4.2 The 'Generative' Analysis: Decoding the Traditional Urban Form 104
4.2.1 Typomorphological Analysis 104
4.2.2 Urban Design Codes: Form and Pattern Languages 117
4.3 A Design Experiment of Generative Typology for Uçhisar 146
4.3.1 Operations within the Ensemble 149

4.3.2 Evaluation of the Morphological Characteristics of the Emerging Form Composition 153
4.4 Findings of the Design Experiment 157
5 CONCLUSION 161
5.1 Evaluation of the Method 162
5.2 Implications for Urban Design in Traditional Context 164
5.3 Limitations and Further Studies 165
REFERENCES 167
APPENDICES
A. Building Organization Types 175
B. Plots Examined in the Traditional Settlement of Uçhisar 176

LIST OF TABLES

TABLES

Table 4.1 Building coverage ratio of 36 plots within the traditional fabric of Uçhisar. For further details of the calculated plots, see: Appendices B. 111

Table 4.2 Floor area ratio of 13 plots within the traditional fabric of Uçhisar. For further details of the calculated plots, see: Appendices B. 112

Table 4.3 Building coverage ratio of 27 plots within an ensemble (in which the design experience is conducted) in the new settlement area of Uçhisar. The values are acquired from https://parselsorgu.tkgm.gov.tr/ in March 21, 2021. 113

LIST OF FIGURES

FIGURES

Figure 2.1. Teatro del Mondo by Aldo Rossi, at the First Venice Architecture Biennale (1980). This floating building is one of the symbols of the shift in Rossi's architectural design theory regarding 'context.' Here, the design is rooted in self-imagination and past experiences of the architect in a 'floating' context. (Source: web 1) 11

Figure 2.2. He exemplifies the appropriation of the rational and rectangular plan schema of a basic modernist living unit, namely Le Corbusier's Apartment Building in Marseilles (right), into a non-orthogonal schema, namely Aalto's Apartment Building in Bramen (left), in relation to contextual requirements. By this way, each unit is directed to receive sufficient sun light as well as to have a view. (Source: Venturi, 1977, p. 51)..... 12

Figure 2.3. Vanna Venturi House (1959-64) by Venturi (Source: web 2) 13

Figure 2.4. The model of Bill-ding Board project (1967) by Venturi and Brown (Source: web 3)..... 13

Figure 2.5. The solid-void comparison of traditional city and modern city (Source: Koetter & Rowe, 1980, p. 116) 15

Figure 2.6. To illustrate the ideal forms and their deformation as per their context, Rowe and Koetter (1983) refer to Hadrian's villa in Tivoli – the aerial view of which is above – as *"an accumulation of disparate ideal fragments"* (pp. 106-107). and the anti-thesis of 'totality' – or finished, object-like buildings of modernist architecture. (Source: web 4)..... 17

Figure 2.7. The Mund Project conducted in the Cornell University in 1969 is an example of the contextual design formation using the straight line process. The steps are described by Shane as such, from left to right: (1) *"the polarization of figure and ground,"* (2) *"the identification of fields and ideal cores,"* (3) *"their mediation, connection, and disassociation"* (Source: 1976, pp. 678-679). 18

Figure 2.8. A studio project at Cornell University for Harlem redevelopment in 1967. The axonometric view of a part of the proposal (left), examples of the proposed housing blocks (right) (Source: Middleton, 1982, p. 52)..... 19
Figure 2.9. Eisenman's House VI, designed in 1975 (Source: web 5) 23
Figure 2.10. The section and the north elevation of Bagsværd Church in Denmark by Jørn Utzon in 1976. The building is made of a concrete skeleton and prefabricated concrete in-fills as part of the universal civilization, whereas its reinforced concrete shell vault whose construction is 'relatively uneconomic' refers to a sacred form. (Source: Frampton, 1983b, pp. 22-23)..... 28
Figure 2.11. One of the houses that Mario Botta designed in Riva San Vitale, Switzerland, in 1971, with respect to the landscape conditions of the context and referring to a local summer-house type (Source: web 6)..... 29
Figure 2.12. Biers house in Varzim/Portugal by Alvaro Siza in 1976: note the tectonic character of the building and the use of local light (Source: web 7)..... 30
Figure 2.13. Koshino House in Japan by Tadao Ando who prioritizes local light and architectural details, which reinforce the tactile experience in his buildings (Sources: web 8 and 9)..... 31
Figure 2.14. The Aga Khan Award recipient Baitur Rauf Mosque project in Dhaka/Bangladesh by Marina Tabassum: note the concern of the building's integration to public open space, and the reinterpretations of local materials in a low-cost manner (Source: web 10)..... 32
Figure 2.15. The Aga Khan Award recipient Friendship Centre project in Gaibandha/Bangladesh by Kashef Chowdhury. This building complex was completed with a rather limited budget. The designers had to react to the potential geographic problems such as flood in a subtle and economical manner. In terms of its tactile and tectonic character, the building refers to the close-by remains of an ancient town and employs only the local and hand-made bricks (Source: web 11; Alarcón, 2013). 32
Figure 2.16. The examples of old and nearby Arabic towns, based on photographs in the 1960s (above); the elevations and a house module of the Terraced Carpet

project (one of the examples that Shadar discusses) in 1961 in Nazareth Illit/Israel by A. Ventura and Y. Drexler (below) (Source: Shadar, 2010, p. 236) 37
Figure 2.17. The project's current condition, reflecting the urban evolution in time (Source: Shadar, 2010, pp. 234, 239). 37
Figure 2.18. New Barrid Village project (1967) in Kharga/ Egypt by Hassan Fathy (Source: Bertini, 2020; web 12). 39
Figure 2.19. The Aga Khan Award recipient Dar Lamane Housing project in Casablanca/Morocco by Abderrahim Charai and Abdelaziz Lazrak: note the spatial exercises on local architectural and urban vocabulary (Source: Özbay, 1989, p. 45; web 13). 40
Figure 2.20. The Aga Khan Award recipient Shushtar New Town project (1975) in Shushtar/Iran by DAZ Architects. The house type was used as the origin point which was then processed through a deformation and transformation (Source: Özbay, 1989, p. 45; web 14). 41
Figure 3.1. An example of Muratori's typomorphological studies: urban analysis for Quartiere di S. Giovanni Grisostomo (Source: Muratori, 1959). 50
Figure 3.2. Base types (A) and their consecutives (B, C, D), in Italy (Source: Caniggia et al, 1979, p. 96)..... 52
Figure 3.3. Time-based mutations of basic types in Florence, Rome and Genoa (left), row and courtyard houses originated from *domus* (right) (Source: Caniggia et al, 1979, pp. 100-101). 52
Figure 3.4. Rob Krier's typomorphological matrices including various geometries of urban space which would guide designers in their design process (Source: Krier, 1991, pp. 24, 30). 60
Figure 3.5. Leon Krier's criticism of Berlin block in terms of its measures, placement, length, and public space (the ex-outs); and counterproposal based on pre-industrial city (right). Note his normative typological approach (Source: Krier, 1978, p. 47)..... 61

Figure 3.6. Pattern book examples: spatial composition of buildings (left), and window and door ‘patterns’ (right) (Source: Mississippi Renewal Forum, 2005, pp. 12,24) 64
Figure 3.7. Some examples of design codes in SmartCode, and possible arrangements regarding private and public frontages (Source: Duany et al, 2009, pp. 32, 36). 65
Figure 3.8. Façade articulation and frontages in different transects indicating the ‘implementation syntax,’ from Lexicon of New Urbanism (Source: DPZ Partners, 2003, p. 69). 66
Figure 3.9. Residential and mixed-use types’ prescriptions in Seaside Project designed by DPZ, in 1980 (Source: web 15). 67
Figure 3.10. Open and closed private spaces in the fabric are addressed (top-left); exploded axonometric drawing of a typical house in Mostar (top-right). Types of courtyard access are analyzed in the urban fabric (below) (Source: Petruccioli, 2007, pp. 93,103). 74
Figure 3.11. The possible evolution of the mono-cellular house (‘elementary cell’) type into various poly-cellular types. Note that the elementary cell is represented in three variants (1, 2, 3) in terms of its topographic position (Source: Petruccioli, 2007, p. 66) 75
Figure 3.12. One (A) of the five sets of a courtyard house’s evolution process into a single-family courtyard house via ‘diachronic variations.’ In all the sets, the evolution process starts with three options of courtyard access: (1) the building is placed at the opposite end of the plot as per the street, and the courtyard entrance is through the enclosing wall; (2) the built part is adjacent to the street where the entrance is through the building; and (3) similar to the first one, but the building is rotated 90 degrees (Source: Petruccioli, 2007, pp. 78-79)..... 76
Figure 3.13. Examples of routes and their tissues (left to right): **matrix** with rectangular and regular plots along; **planned**; **connecting**; **restructuring** (Source: Petruccioli, 2007, pp. 138-141)..... 77

Figure 3.14. Two student projects from the studio of Lee and Jacoby at AA School of Architecture: Transformation of the built environment is controlled by means of typological parameters (Source: Lee et al, 2007). 78
Figure 3.15. A student project supervised by Lee et al.: The multiscalar typological thinking in the context of urban plan (Source: web 16). 80
Figure 3.16. Three 'collective forms' by Fumihiko Maki, left to right: 'compositional form,' 'the mega-structure' and 'group-form' (Retrieved 27/02/2020 from web 17, 2012 June 26). 81
Figure 3.17. The Chinese traditional courtyard-house type analyses which focuses on the ***structure, porosity, hierarchy*** and ***circulation*** referring to the Vitruvian triad of *firmitas, venustas, utilitas*. (Source: web 18) 85
Figure 3.18. The proposed dominant mega-block type (above); overview of the 'norms,' or typicalities, and 'exceptions' during the evolution of the city (below): The proposal is addressed as a typological instance rooted in the dominant type of the contemporary city sustained with traditional dominant types (Source: web 18). 85
Figure 3.19. The typological analysis of the traditional (left) and modern (right) courtyard house; the former *was* and the latter *is* the dominant type in that context (Source: web 19)..... 86
Figure 3.20. The studio project by Feng Shen: Note the emerged variety of the dominant type and public space once applied in context (Source: web 19)..... 87
Figure 3.21. The studio project by Dimitris Venizelos: Note the subtle variety on the scale of plots (Source: web 19). 87
Figure 3.22. Examples of patterns: *"accessible greens"* (top-left); *"south facing outdoors"* (top-left); *"place to wait"* (bottom-left); *"hierarchy of open space"* (bottom-right) (Source: Alexander et al, 1977, pp. 309, 516, 560, 711). 92
Figure 3.23. Salingaros (2006) claims that *"design in architecture and urbanism is guided by two distinct complementary languages: a pattern language, and a form language;"* and together they create an adaptive design method. When one of them is missing, the result would be *"alien environments"* (pp. 272-275). 93

Figure 3.24. The examples of ***proscriptive design principles***. Here, two entrance door should not be directly facing to each other concerning the privacy conditions. Prohibiting a certain urban relationship, the principles are argued to accommodate a wider range of different solutions (Source: Hakim, 2007, p. 95). 94
Figure 4.1. Uçhisar is within the Cappadocia region, i.e., the triangle among Nevşehir, Ürgüp and Avanos (Mapbox, 2019). 98
Figure 4.2. Traditional fabric in Uçhisar (By courtesy of Argos Yapı, 2011). 99
Figure 4.3. The unique settlement principle in Uçhisar: carved out and connected spaces *in* the hill. The soft soil consisting of volcanic tuffs facilitates carved out spaces **(**Binan, 1994, p. 67). 99
Figure 4.4. Two urban sections drawn during a building survey within Uçhisar's traditional fabric show a number of carved out spaces on the slope. Note that the masonry parts of the houses are destroyed to a large extent, but two instances of such masonry structures can be seen in the section below (By courtesy of DS Mimarlık, 1999). 99
Figure 4.5. Old (left) and new (right) settlement areas in Uçhisar (Yandex Maps, 2020). 101
Figure 4.6. The collective urban form of the traditional fabric of Uçhisar, note the spatial characteristics being on top of each other as if an urban relief (Source: O. Çalışkan's personal archive, 2021; Personal archive, 2019). 101
Figure 4.7. Street views within the traditional fabric of Uçhisar, note that the compact, dense urban composition is integrated with the topography and material through a creative three-dimensionality (Source: O. Çalışkan's personal archive, 2021). 102
Figure 4.8. New settlement area in Uçhisar (Source: O. Çalışkan's personal archive, 2021). 102
Figure 4.9. Street views from the new settlement area of Uçhisar (Source: Personal archive, 2019). 103

Figure 4.10. The trend of the break from the traditional spatial features manifests itself on the layers of development over time, note the low-rise apartment blocks on the fringes (Source: O. Çalışkan's archive, 2021). 103
Figure 4.11. Block typology in the traditional fabric of Uçhisar, based on the Base Map of Uçhisar 2015. 107
Figure 4.12. Plot subdivision typology in the traditional fabric of Uçhisar, based on the Base Map of Uçhisar 2015. 108
Figure 4.13. Plot and building typology in the traditional fabric of Uçhisar, based on the Base Map of Uçhisar 2015. 109
Figure 4.14. Building typology in the traditional fabric of Uçhisar with legend, based on F. Cimşit's organizational studies in the scope of her doctoral dissertation (2007). 110
Figure 4.15. Building density in the traditional and new fabric of Uçhisar, based on the Tables 4.1, 4.2 and 4,3. Note that the overall density ratios of the planned new settlement are derived from the current Revision and Addition to Conservation Development Plan of Uçhisar (Ömerül Faruk Yolveren Planning Office, 2015). 114
Figure 4.16. Two morphologies in Uçhisar, new (left) and old (right). 114
Figure 4.17. Comparative street sections within two morphologies in Uçhisar... 116
Figure 4.18. The legend of the design codes. 119
Figure 4.19. Block dimension code. 120
Figure 4.20. Code of potential pedestrian route passing through the block. 120
Figure 4.21. Possible application of the block dimension code. 121
Figure 4.22. Dead-end code. 121
Figure 4.23. Possible application of the dead-end code. 121
Figure 4.24. New alley definition code. 122
Figure 4.25. Code against left-over and unbuildable space in the block. 122
Figure 4.26. Alley dimension code. 123
Figure 4.27. Code against unified plot subdivision. 123
Figure 4.28. Possible application of code against unified plot subdivision. 123
Figure 4.29. Code against undefined space inside the block. 124

Figure 4.30. Plot size code. 124
Figure 4.31. Plot shape code. 125
Figure 4.32. Plot shape code. 125
Figure 4.33. Plot front code..... 125
Figure 4.34. Plot orientation code. 126
Figure 4.35. Possible application of plot orientation code. 126
Figure 4.36. Building setback code. 127
Figure 4.37. Possible application of building setback code. 127
Figure 4.38. Code of blind façade on courtyard. 128
Figure 4.39. Possible application of code of blind façade on courtyard. 128
Figure 4.40. Code of connection of different units. 128
Figure 4.41. Possible application of code of connection of different units..... 128
Figure 4.42. Building height code. 129
Figure 4.43. Possible applications of building height code. 129
Figure 4.44. Code of building coverage and minimum building dimensions. 129
Figure 4.45. Pattern of alley width. 131
Figure 4.46. Possible application of pattern of alley width. 131
Figure 4.47. Pattern of light car usage on alleys. 132
Figure 4.48. Possible application of pattern of light car usage on alleys. 132
Figure 4.49. Pattern of parking on alleys. 132
Figure 4.50. Possible application of pattern of parking on alleys, note the garages within plots..... 132
Figure 4.51. Pattern of fenestration towards neighboring plot. 133
Figure 4.52. Possible applications of pattern of fenestration towards neighboring plot. 133
Figure 4.53. Pattern of visibility condition between neighboring plots. 134
Figure 4.54. Pattern of neighboring building distance. 134
Figure 4.55. Possible applications of pattern of neighboring building distance. . 134
Figure 4.56. Pattern of second-floor projection and gallery. 135

Figure 4.57. Possible application of pattern of second-floor projection and gallery. 135
Figure 4.58. Pattern of courtyard wall height on street. 136
Figure 4.59. Possible application of pattern of courtyard wall height on street. .. 136
Figure 4.60. Plot access pattern. 136
Figure 4.61. Pattern of building entrance. 137
Figure 4.62. Possible application of building entrance pattern. 138
Figure 4.63. Pattern of building entrance from courtyard. 138
Figure 4.64. Possible application of pattern of building entrance. 138
Figure 4.65. Pattern of plot access through a passage. 139
Figure 4.66. Possible application of plot access pattern trough a passage. 139
Figure 4.67. Pattern of building entrance from street. 139
Figure 4.68. Possible application of pattern of plot access through a building. ... 139
Figure 4.69. Pattern of building mass. 140
Figure 4.70. Possible applications of pattern of building mass. 140
Figure 4.71. Pattern of used terraces. 140
Figure 4.72. Possible application of pattern of used terraces. 140
Figure 4.73. Pattern of separate places for each couple in grand family. 141
Figure 4.74. Possible application of pattern of separate places for each couple in grand family. 141
Figure 4.75. Pattern of interior light. 142
Figure 4.76. Possible application of pattern of interior light. 142
Figure 4.77. Pattern of privacy of ground floor on the street. 143
Figure 4.78. Possible application of pattern of privacy of ground floor on the street. 143
Figure 4.79. Pattern of atelier and guest/rentable room. 143
Figure 4.80. Possible application of pattern of atelier and guestroom. 143
Figure 4.81. Pattern of garage. 144
Figure 4.82. Possible application of pattern of garage. 144
Figure 4.83. Courtyard placement pattern. 144

Figure 4.84. Possible application of courtyard placement pattern. 145
Figure 4.85. Pattern of spatial variety in courtyards. 145
Figure 4.86. Possible application of pattern of spatial variety in courtyards. 146
Figure 4.87. The chosen ensemble as the site for the design experiment. The site is chosen because it contains plots without building formation and provides a proper base for the design interventions in all relevant scales. 147
Figure 4.88. The proposed street network in the new settlement area. The existing street layout is not changed except several alleys passing through existing building-blocks. Note that in the scope of this study, only the area reaching up to the in-city and regional link road (the bright colored area) is studied in terms of alleys. 148
Figure 4.89. The set of design operations defined by the design codes in the Stage 2. 149
Figure 4.90. Stages 1 & 2: introducing alleys into the existing blocks by employing above-mentioned relevant codes. 150
Figure 4.91. The set of design operations defined by the design codes in the Stages 3 and 4. 151
Figure 4.92. Stages 3 & 4: plot subdivision and building infill. 152
Figure 4.93. A possible urban composition based on generative typomorphological urban design code: the plan of the ensemble within the proposed street layout (above) and a close-up plan within the ensemble (below). Note that different shades of color indicate different plots. 153
Figure 4.94. A possible urban composition based on generative typomorphological urban design code: partial mass articulation within the ensemble. 154
Figure 4.95. A possible urban composition based on generative typomorphological urban design code: sections within the ensemble. Note that different sections in the emerged collective form reflects and exemplifies the rich variety of spatial relationships inside and in-between plots. 154
Figure 4.96. Several codes in the proposed ensemble plan and sections: (1) building setback code, (2) code of alley width, (3) code against unified plot subdivision, (4) code of potential pedestrian route passing through the block, (5) courtyard placement

code; (6) code of courtyard wall height on street, (7) code of separate places for each couple in grand family, (8) code of used terraces, (9) code of building entrance from courtyard, (10) code of plot access through a passage, (11) code of garage, (12) code of car-usage on alleys, (13) code of building mass, (14) code of neighboring building distance, (15) code of visibility condition between neighboring plots. 155
Figure 4.97. Urban fabric generation via existing planning framework (above) is compared to that of via generative typomorphological urban design codes (below). 156
Figure 4.98. The comparison between generic traditional (top-left), new (bottom-left) and proposed (right) street sections. 157
Figure 4.99. Theoretical framework of the study in a nutshell..... 158

CHAPTER 1

INTRODUCTION

1.1 Context and Problem Definition

Traditional cities are shaped through the processes of evolution incrementally. Their evolution is based on the flexible, bottom-up rules that themselves also change in time. However, the modernist approaches in urbanism created a rupture in the evolution process of cities due to top-down and static masterplans by disregarding the contextual architectural and urban features. In the current practice, the contextual concerns are mostly limited/reduced to positioning the architectural piece or urban intervention in the surrounding spatial setting in the name of 'site'. Therefore, the aspects of the context in question are generally reduced to the immediate physical environment of the design projects and spatial plans. In Turkey, the traditional cities suffer from such a disregard and gradually lose their distinct spatial qualities over time, especially following the foundation of the modern Turkish Republic in 1923 that aimed for an integration to the western culture, claims Oktay (2004, p. 25). Within that context, raising the contextual question again promises to develop alternative approaches and methods to the conventional urbanism practices alien to their contexts.

As a matter of fact, the context has the prospects of developing the existing traditional cities in continuity with their inherent structures. In that sense, the concept of regionalism in architectural and urban discourse has been discussed many times within different perspectives since the beginning of the 20th century. Regionalism has been argued from different critical perspectives. Within those discussions, the aspects of context that are in question (or the definition of the context by means of these aspects) and the methodological framework wary in terms of the level of innovation and orthodoxy, flexibility and control. This difference is based

on the initial aim of the regionalist theories such as to conserve a certain style, material or type, etc. and to develop a contemporary alternative based on an existing building knowledge in a local context.

Among all, Kenneth Frampton's theory of 'Critical Regionalism' (1983a; 1983b) occupies an important position as it advocates the autonomous and critical attitude of the designer in the process of contextually concerned/responsive design practice. Although this approach has long been argued in the architectural discourse, it is yet to be elaborated in that of urbanism along with a certain methodological framework.

In the sense of a methodology, type and typology have long been regarded as useful conceptions/tools to first understand a certain context and then offer a design response to it. In fact, with regionalist tendencies, a number of typo(morpho)logical approaches have been developed to address the question of 'how to understand a vernacular built environment and react accordingly for the formation of the new.' However, it can be argued that all of those worthwhile studies remain limited by either only concentrating on the typological analyses and not offering a clear methodological framework, or proposing to reuse old architectural or urban types (or models) to be copied, which conflicts the flexible nature of urbanism/city. Therefore, it is argued that there is a methodological gap in the definition of a typomorphological urban design framework within regionalist theory accorded with the ***generative*** processes of the (traditional) city.

Such a methodological gap can be traced in the architectural and urban design practices that fall into the Critical Regionalist theory, as well. In those examples, even though certain material or nonmaterial features are incorporated in the final design, there is not any clear methodological definition that can lead to similar design interventions in a different context. In other words, the design practices that can be regarded as Critical Regionalist exercises are a product of ***only*** the unique thinking mechanism of an individual designer or a group of designers, instead of being a product of such individual design thinking ***guided by*** a generic yet context-driven design method to be reinterpreted and re-implemented in any locality.

Considering the methodic procedural deficiency in the sense of typological and contextual (regionalist) urban design on the one hand, and the standardized applications in the vernacular contexts on the other hand, this study would focus on the problematic of the so-called Critical Regionalist urban design in traditional urban contexts by means of a generative typomorphological thinking.

1.2 Aim of the Study and Research Questions

The main objective of the research is to develop a framework towards an alternative design methodology from the theoretical perspective of Critical Regionalism for the traditional urban design contexts. Such an aim is motivated by the prospective approach to ***generate urban fabrics that are in subtle yet critical continuity with the vernacular forms and activities***. Since the current planning practices in unique traditional built environments and vernacular architecture cannot meet the complexity and variety in the traditional city, the continuity between old and new is sought in the ***generative typicalities*** in the city which focuses on the ***bottom-up elementary relations***. Yet, a critical attitude is maintained especially in terms of the way of life as the study seeks a means for enabling the contemporary lifestyle going on in the context, and it aims to grow that means from the traditional morphologies. To that end, the concept of urban coding is readdressed in the context of developing a generative design code based on vernacular typomorphology to reveal and reinterpret the inherent activity-related and geometrical rules in the traditional city.

In this context, the research would principally cover the theories and exemplary practices of Critical Regionalism and typological thinking. By doing so, the research would unfold the prospects of those concepts in the issue of formulating an alternative method. To that end, the research builds itself around two main research questions. Firstly, the research problematizes ***'how can the Critical Regionalist theory contribute to formulating the new in a subtle yet critical continuity with the existing patterns in traditional contexts within urban design perspective.'*** This question is greeted by investigating the Critical Regionalist theory's potentiality to

be innovative yet bounded by urban typicalities within the perspective of urban design. In the light of that investigation, the second question of ***'how the typomorphological methodology can be utilized to establish a generative urban design framework within the Critical Regionalist perspective'*** is raised adding a methodological layer to the research. The second question is examined to reinterpret the typological approach in a generative urban design problem with the aim of decoding the local rules and grounding the proposal of urban design codes. In this way, the research aims to define an operational framework to trigger the discussion of an alternative generative urban design solution in the context of vernacular settlements. Parallel to that, the research can readdress the aforementioned gap between theory and practice within this overview.

1.3 Methodology of the Research

To fulfill the objectives of the research, principally, the literature of Critical Regionalism in urbanism with examples of design practices is studied to be used as a base for the generative typomorphological method to be eventually suggested.

In order to present a solid theoretical background on which the theoretical and methodological framework of the research is based, a retrospective overview is created. To define the main subject of the research, first, the notion of context and the contextualist theories after Modernist era is discussed. Then, the theory and practice of Critical Regionalist theory of Kenneth Frampton is examined. Following this retrospective overview, contemporary critiques and urban design practices rooted in their local contexts are reviewed within the perspective of flexible and evolutional urbanism to reveal the limitations in those exercises and the unresolved challenges.

After establishing a thorough theoretical framework methodological base through typicalities is sought. To that end, the theory and methodology of type and typology and the potentiality of their generative use in the urban design practice are discussed

in retrospective. Based on the literature review, the validity of examining the generative types in the vernacular city and coding those local generic rules to condition the formation of the new is argued. In that sense, the concepts of 'form and pattern languages' by Christopher Alexander and Nikos Salingaros are revisited in the context of developing a typomorphology-based generative urban design code. Guiding the creation of those two conceptions accorded to the context, a typomorphological analysis is suggested to decode the existing local building rules. To test this proposed method, a design simulation is conducted in Uçhisar, Nevşehir discussing the potentialities and the limitations of the method. By this way, Besim Hakim's theory of 'dynamic generative processes for town and neighborhood development' would be elaborated.

After all, within the context of the first research question, the relevancy of the Critical Regionalist theory in the urban design practice is questioned, and its challenging points to meet the evolutionary character of the city and to respond to the generative means of urbanism are identified. This would provide an understanding of potentiality of the context-bounded yet innovative urban design practice. Within the context of the second question which completes the first one, the methodical potentiality of typological themes and variations is questioned to establish a generative urban design control mechanism in the case of the given context.

1.4 Structure of the Research

This study is organized in five consecutive sections. Chapter 1 introduces the general overview of the research submitting the contextual framework and problem definition, research questions, methodology and the structure of the study. Chapter 2 initiates the main question of the research and provides a thorough theoretical background to the issue of context and contextualist approaches over time by focusing on the Critical Regionalist theory. Kenneth Frampton's Critical Regionalist approach is examined via examples and contemporary critiques in the architectural and urban design field. After laying out the challenging aspects of the theory, an

evolution on the prospects of it is argued. In this regard, examining the typical forms and patterns in the city is regarded as a promising approach to the problem. Following that discussion, Chapter 3 revisits the notions of type and typology as the possible tool for the proposed methodical framework. Those concepts are thoroughly discussed with a retrospective view on them, as well. Then, the contemporary conceptions and critiques of the concepts are reviewed and the alternative perspectives, which would be potentially considered an updated Critical Regionalist understanding, are reviewed. Accordingly, a generative urban design code based on prevailing types in the city is attempted to be created. To that end, Cristopher Alexander's pattern language and Nikos Salingaros' form language conceptions are employed to define the urban codes. Moreover, Besim Hakim's proscriptive understanding of urban coding in the formulation of an operational approach to the reproduction of traditional urban fabrics is integrated into the discussion. Chapter 4 is reserved to test the proposed design framework in an actual context, namely Uçhisar, Nevşehir. For this purpose, firstly, the contextual overview is laid out which is followed by a typomorphological analysis on the levels of block, plot and building. Then, the prevailing common forms and patterns are specified as urban design codes under the name of form and pattern languages expressed in an extensive index. Finally, in order to test the working performance of the codes in design, the specified rules are applied within a design experiment conducted in the framework of urban ensemble (block group) from the given context of Uçhisar. To conclude, Chapter 5 offers a critical evaluation of the proposed model by discussing the strong and weak points of the research as well as its limitations and possible studies that it would be developed further on the current basis.

CHAPTER 2

CRITICAL REGIONALISM AND URBAN DESIGN

In this chapter, the contextual concerns' emergence and development in time in the architectural and urban design are reviewed in general. Different approaches to context and contextuality are addressed and their potentials in urban design theory are discussed. In doing so, a general framework has been drawn within the scope of the contextuality and then specifically of Kenneth Frampton's Critical Regionalism conception. Finally, the criticism of that theorization are examined within urban design perspective. Within this framework, how the concept of context is included in different design processes and how they can be applied in an urban context are discussed as well.

2.1 Context and Contextualism: A Theoretical Framework

2.1.1 The Emergence of 'Context' in the Architectural Theory

Before the 1910s, the urban design practice was concerned and oriented with the surrounding conditions. At the RIBA Conference on Town Planning in 1911, the discussions on "building types, corners, the layout of streets, boulevards, and the monumental dimension of the city" were prominent. Then, after a 35-year of 'modernist' break, the traditional urban design and its elements were at CIAM's agenda for a brief moment – until Team X's "different set of urban concerns." However, after then, the terminology to discuss urban context has been forgotten by the designers, including the term 'context,' Shane claims. Although several schools incorporated this terminology even during the orthodox modernist era, the terms came to surface again only in the 1960s (Shane, 1976, pp. 676-677).

Following the modernist discussions in architecture and its post-war applications in Europe and the USA, the reactions against the modern architecture started to arise in different segments of the western society in 1950s. Jane Jacobs was one of the prominent figures of the protests in the USA summoning the diversity and density in urban realm (Jacobs, 1961). The new quests based on the criticism of modernist architecture were suggesting either a return to the vernacular architecture and city, or a renewal of the modernist concepts within a framework of tradition, history and the contemporary city as a context. The notion 'context' has appeared in the architectural theory in such circumstances to highlight the material and nonmaterial environment of buildings (Kömez-Dağlıoğlu, 2017, pp. 5, 193).

Context is defined as "the circumstances that form the setting for an event, statement, or idea, and in terms of which it can be fully understood and assessed" by Oxford Dictionary ("Context," 2020). Similarly, by narrowing its meaning to the architectural domain, we can define context as the "situatedness and engagement of an architectural design in the interrelated conditions of its setting" where the conditions can be "physical, social, cultural, geographical, etc. or a combination of them" (Kömez-Dağlıoğlu, 2017, p. 12). Moreover, these conditions are not merely conditioning the architectural object. Instead, the relation between architecture and its setting is more of a reciprocal dialogue. To better understand this dialogue, Heidegger's contextual understanding should be revisited.

In the post-war period, context was discussed by the philosophers in addition to architects and urbanists. Martin Heidegger was one of the prominent figures in that subject. Primarily questioning the Being of humans, he also reflected on the Being of architecture in its setting, in his article "Building, Dwelling, Thinking" (originally published as "Bauen, Wohnen, Denken" in 1951). For him, the act of building is the precondition of 'dwelling' which is "the manner in which mortals are on the earth" (Heidegger, 1997, pp. 96-97). Further in his argument, he implies a contextual framework through a bridge example in which the bridge is not only an object to be adopted by a setting but it adapts the setting with its own Being:

> "To be sure, the bridge is a thing of its own kind; for it gathers the fourfold in such a way that it allows a site for it. But only something that is itself a location can make space for a site. The location is not already there before the bridge is. Before the bridge stands, there are of course many spots along the stream that can be occupied by something. One of them proves to be a location, and does so because of the bridge. Thus the bridge does not first come to a location to stand in it; rather, a location comes into existence only by virtue of the bridge. The bridge is a thing; it gathers the fourfold, but in such a way that it allows a site for the fourfold. By this site are determined the localities and ways by which a space is provided for." (Ibid, p. 100).

In short, Heidegger challenges the conventional understanding of pre-defined, *a priori* conditions as a context, and instead advocates that the architecture itself is a place that "allows a site to become a place" (Kömez-Dağlıoğlu, 2017, p. 15).

2.1.2 Discussions on 'Context' in Post-war Period (1950-80)

As mentioned above, the discussions of context appeared as a counter-reaction towards theory and practices of orthodox modern architecture, specifically, against its disregard to the surrounding conditions and search for a universal architecture. In that topic, namely context in the architectural and urban theory, Kömez-Dağlıoğlu's PhD dissertation (2017) is one of the recent and comprehensive studies. It reflects context's potential of being open to different theorization and application in a wide spectrum on the basis of three prominent figures – namely Aldo Rossi, Robert Venturi, and Colin Rowe. In the scope of this research, in order to present the evolution of contextualist discourse in urban architecture and urban design, we utilize her framework in this section.

To begin with, Aldo Rossi (1931-1997) is an influential figure in typological and contextual debates of the postmodern architectural discourse. His "Architecture of the City" is a rather influential book, determining his architectural framework. The

‘autonomy of architecture’ within the context of city, which he employs in the book seeking a scientific base in the discipline, lays out the inherent contextual dynamics in his theory. For him, this autonomy stems from a continuity of the disciplinary acts in such a way that the building is bounded with the typical – or constantly recurring – entities within the city. In that sense, he puts forward the city in general as the context of architecture (Rossi, 1982).

For Rossi, city, as the source of the autonomous architecture, should be thoroughly analyzed before architectural design (1982). According to that, the “physical ground” that the different urban artifacts exist is highlighted. The notion of ‘study area’ is used to define and analyze these particular physical grounds that contain specific architectural elements with more clarity. As per that conception, the particularities of a certain plot are assumed to condition certain types. Therefore, Rossi argues that architects should focus on the neighboring plots and buildings, so as to analyze the elements that are particular to the context (Ibid, p. 63). On top of that, Rossi puts forward a rather abstract concept, ‘locus,’ as “a relationship between a certain specific location and the buildings that are in it. It is at once singular and universal” (Ibid, p. 103). The locus can be conceived as a reciprocal relation between the building and its setting, and it enables the unique existence of the urban artefacts in a certain location.

In time, Rossi’s architectural theories as much as his practice underwent some significant changes (Ibid, p. 68). Those changes can be traced through the comparison between his books “Architecture of the City” and “A Scientific Autobiography,” the latter of which Rossi indicates as the complementary addition of the former. In the later book, Rossi claims “I scorned memories, and at the same time, I made use of urban impressions: behind feelings I searched for the fixed laws of a timeless typology” (1981, p. 15). Thereby, he actually declares the replacement of ‘the architecture of the city’ idea in favor of ‘the architecture of the analogy’ (Kömez-Dağlıoğlu, 2017, p. 69). After that significant change, context for Rossi was not a real particular place cultivating “the singularity of place” anymore, instead, it was an “abstract imaginary place that was invented through analogies” of the

architect stemming from the personally recalled forms (Ibid, pp. 71, 101). The problematic was not the existing city anymore, but the imaginary one existing in the architect's mind.

Figure 2.1. Teatro del Mondo by Aldo Rossi, at the First Venice Architecture Biennale (1980). This floating building is one of the symbols of the shift in Rossi's architectural design theory regarding 'context.' Here, the design is rooted in self-imagination and past experiences of the architect in a 'floating' context. (Source: web 1)

Rossi's two books represent two different understandings of context. In the scope of this research, Rossi's primary theories promise a more relevant basis in urban design since they provide a multi-scalar and multi-dimensional context, i.e. the existing city. Also, the different keywords in these two conceptions reveal the power and wide potentiality in the way we theorize context. On the one hand, the city as context is determined with the focus on 'collective memory,' 'permanencies,' and 'locus' whereas the analogy as the context is determined with the focus on 'personal memory,' 'remembrances,' and personal 'cross-references' of forms (Ibid, p. 101).

As another prominent figure of the postmodern era, Robert Venturi (1925-2018) is mostly associated with symbolism, especially after his book "Learning from Las Vegas" (1972) during which he worked with Denise Scott Brown. However, his

previous works have rather different tendencies and thought-provoking ideas in terms of context. In his book "Complexity and Contradiction in Architecture" (1966), the terms architectural form and spatiality shine out – which are supplemented with the references to history and context – rather than signs, symbolism or iconography in architecture. Within this complexity and contradiction in architectural design, Venturi asserts "the whole is difficult to achieve" and accounts for his conception of 'difficult whole.' With reference to Gestalt psychology, he claims that it contains "multiplicity and diversity of elements in relationships." As being "more than its parts," the difficult whole is influenced by "the position, number, and inherent characteristics of the parts" (1977, p. 88).

Thus, his early understanding of context hinges upon the existing urban complexity that the architecture finds and relates itself. In terms of the relationality of the architectural form in a particular setting, he argues that the conventions of architecture are to be appropriated to the particular circumstances as in the example of Alvar Aalto's Apartment Building in Bramen (Figure 2.2).

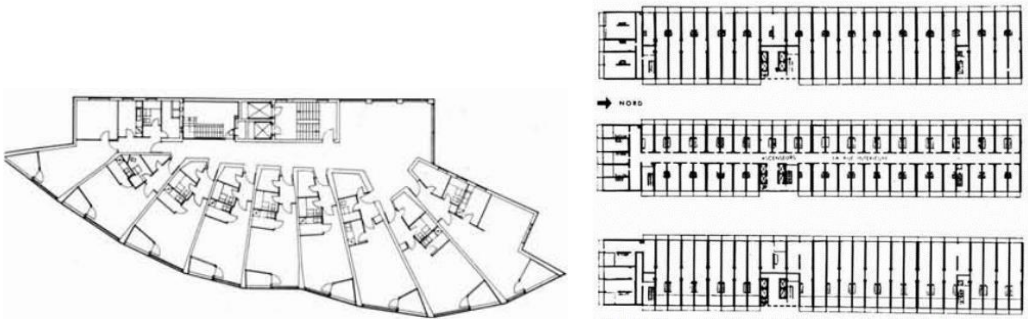

Figure 2.2. He exemplifies the appropriation of the rational and rectangular plan schema of a basic modernist living unit, namely Le Corbusier's Apartment Building in Marseilles (right), into a non-orthogonal schema, namely Aalto's Apartment Building in Bramen (left), in relation to contextual requirements. By this way, each unit is directed to receive sufficient sun light as well as to have a view. (Source: Venturi, 1977, p. 51).

Similar to Rossi, Venturi's ideas also evolved in time such that his main emphasis clearly changed its direction from architectural form within a complex whole to signification, and he focused more on the symbolic aspects of architecture in his later

works. To illustrate, Vanna Venturi House (1959-64) encapsulates a number of 'contradictions' providing a basis for 'complexities' such as being *"complex and simple, open and closed, big and little; […] its order accommodates the generic elements of the house in general, and the circumstantial elements of a house in particular"* (Venturi, 1977, p. 118). On the other hand, Bill-ding Board project (1967), which is inspired by pop art and the billboards mushrooming in especially Las Vegas, proposes an iconic, mega-scale, billboard-like flat façade without any spatial dialogue with its context, aside from a symbolic one.[1]

Figure 2.3. Vanna Venturi House (1959-64) by Venturi (Source: web 2)

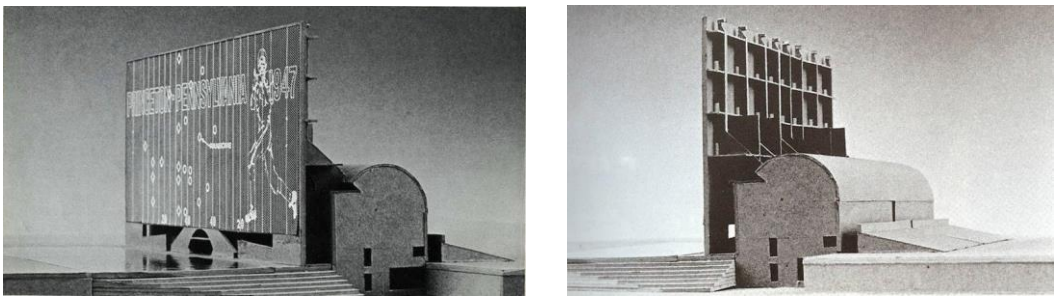

Figure 2.4. The model of Bill-ding Board project (1967) by Venturi and Brown (Source: web 3)

Finally, Colin Rowe (1920-1999) established an influential contextual approach especially in urbanism. He is well-known for his solid-void studies on urban maps

[1] These later ideas of him revolving around iconography are well reflected with his description of this project *"space, form, and structure, the traditional architectural elements mean little in the vast parking spaces that are the context of this building and most other buildings that architecture can't force into their megastructural fantasies"* (Venturi, 1968, p. 76 cited in Kömez-Dağlıoğlu, 2017, p. 138). This proposal of symbolizing different *"vocabularies"* of architecture can be regarded as a contextual gesture no matter how different than his former one (Kömez- Dağlıoğlu, 2017, p. 108).

under the name of ‘contexturalism.’ But, his early spatial conceptions regarding buildings and settings are also highly relevant in the contextual debate.

In the 1960s, the contextualist tradition was started to be rediscovered at Cornell University which hosted different practical and theoretical studies of urban history and design. One prominent of these studies is that of Colin Rowe and Robert Slutzsky’s Transparency articles. Following a spatiality debate over transparency (Rowe et al., 1963), their second Transparency article puts forward the Gestalt principles to apply on architectural façades, which would lead to applying those principles on figure-ground plans and maps in the upcoming years. In the article, the figure and the ground’s reciprocal analysis by means of Gestalt principles is conceived quite significant for comprehending the “discrete visual stimuli” on the figure and also the ground by reversing which one is to be read (Rowe et al., 1971, pp. 299-300). In the scope of the thesis, it is also important to mention the introduction of the notion ‘field’ in this essay:

> “[It is] a prerequisite of all perceptual experience […] assumed to be more than the sum total of the elements which it embraces. Genetically it is prior to them. It is the condition of their quality and the reason of their behavior” (Ibid, p. 300).

Here, an early description of the reciprocal and bounded relationality between the figure and (its ground) ‘field’ is suggested, which found its way into a contextual urbanism at the Cornell School, as is known. Switching to the urban ground, the ‘field’ of the architecture is regarded as *“the spatial or psycho-cultural field which gives meaning to a specific gesture or demonstration”* (Koetter and Rowe, 1980, p. 123). With that understanding, one of the most influential methodic approach at the time, namely ‘collaging,’ was put forward by Rowe and his colleagues.

Thomas Schumacher, one of Rowe’s students, describes that approach in his article “Contextualism: Urban Ideals and Deformations” (originally published in 1971). According to that, the city after modernist implications turned into a discordant amalgamation of the vernacular and modernist city (“the city-in-the-park”). Here,

the vernacular is characterized by the "spaces defined by continuous walls of building which are arranged in a way that emphasizes the spaces and de-emphasized the building volumes," while the modernist city is "composed of isolated buildings set in a parklike landscape […] which emphasizes the building volumes and not the spaces which the buildings define or imply" (Schumacher, 1996, p. 296). Although reserving the vernacular city without any alteration is not possible, bulldozing it all together to allow modern domination is regarded as "irresponsible" (Ibid, p. 297). Since these two models still exist in the contemporary city (despite their differences) the school is in search of a "mediation and equilibrium" between these two (Koetter & Rowe, 1980, p. 109), by means of a figural contextualism in which the urban spaces (voids) and buildings (solids) are rationally analyzed by means of figure-ground maps. Thus, their problematic is not about the deficiency or relevancy of the vernacular or modernist city, but their figural "common sense and common interest" (Ibid, p. 117).

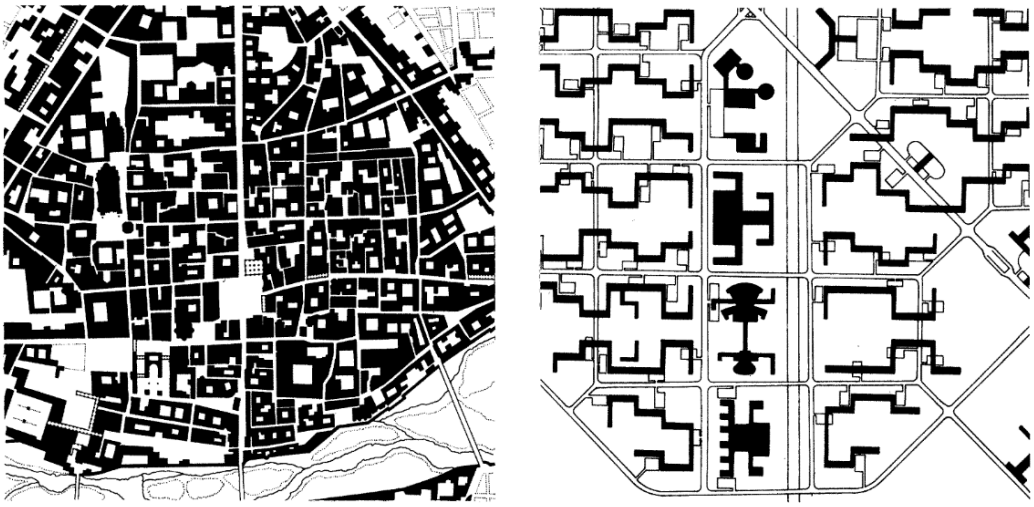

Figure 2.5. The solid-void comparison of traditional city and modern city (Source: Koetter & Rowe, 1980, p. 116)

Schumacher (1996) refers to the idealized prototypes of the Renaissance and modernist architecture – such as Tempietto del Bramante and van Doesburg's project

for a private house (p. 299) – as they are contextless figural buildings for which "the image of the building as an object" is of importance (Ibid, p. 301). Parallel to this, Koetter and Rowe (1980) remark the modernist "object fixation," i.e. the contextless architecture, and indicate that it can be the "present concern only in so far as it involves the city" (p. 116). Schumacher (1996), referring to Venturi's comparison of 'hybrid' and 'pure' elements, stresses that modernist architecture overlooked the possibility of circumstantial hybridization of the pure forms. Instead, with contextualism, the potentiality of 'collage' of the ideals types[2] and partis is pursued. According to that, ideal forms are to be adjusted, or 'deformed,' as per their contexts by means of "the systems of geometric organization which can be abstracted from any given context" without losing their essence (p. 301).

This deformation or adjustment can be traced in the book "Collage City," where the city is put forward as a definitive source from which to learn. As an alternative to the modernist pure and contextually-indifferent ideals depending on *"scientific certainties,"* Rowe and Koetter advocated *"a collusion of interest, in a permanently maintained debate of opposites"* in the city. After presenting the 18th century Rome as the 'collusion city,' they recommended the city of Rome *"as some sort of model which might be envisaged as alternative to the disastrous urbanism of social engineering and total design"* (Rowe et al., 1983, pp. 106-107).

[2] Shane claims that Rowe's typological studies can be compared to the concurrent works in Milan by Rogers and Rossi of the Italian School which differentiates itself from the Cornell school with the *"monumental type-forms and purist geometry"* that it utilizes (Shane, 1976, pp. 677-678).

Figure 2.6. To illustrate the ideal forms and their deformation as per their context, Rowe and Koetter (1983) refer to Hadrian's villa in Tivoli – the aerial view of which is above – as *"an accumulation of disparate ideal fragments"* (pp. 106-107). and the anti-thesis of 'totality' – or finished, object-like buildings of modernist architecture. (Source: web 4)

The urban procedures that the school suggested are called "straight line process." According to that, (1) "the fields are identified through the abstraction of the town via figure-ground drawings," then (2) "the areas of collision are brought into sharp focus as needing resolution," and finally (3) they are "brought together through the use of overlapping zones and geometrically multi-functioning buildings" (Schumacher, 1996, p. 305). In this process, the designer identifies the "areas of overlap and collusion," then reinforces and refines certain patterns,[3] as Grahame Shane asserts. According to Shane, this process is well reflected in the Mund Project as seen in the Figure 2.7. Besides, it is important to note here that in addition to the ideal forms of the vernacular city, the modernist architectural and urban vocabulary was also employed when it is inevitable to propose new forms, despite the reluctance of the école to do so (Shane, 1976, pp. 678-679).

[3] David B. Middleton highlights the normative aspect (*"value judgment")* of the studio implied in the process of completing and reinforcing *"an incomplete order."* In that regard, the procedures the studio proposes that *"the existing scale and type of architectural order (status quo) are worth preserving,"* i.e. completing and reinforcing (1982, p. 47).

Figure 2.7. The Mund Project conducted in the Cornell University in 1969 is an example of the contextual design formation using the straight line process. The steps are described by Shane as such, from left to right: (1) *"the polarization of figure and ground,"* (2) *"the identification of fields and ideal cores,"* (3) *"their mediation, connection, and disassociation"* (Source: 1976, pp. 678-679).

With that approach, it is suggested that the vernacular city and the modern city would coexist within a kind of "solid-void dialectic which might allow for the joint existence of the overtly planned and the genuinely unplanned, of the set piece and the accident, of the public and the private, of the state and the individual." This dialectic, i.e., the coexistence through incremental deformation of ideal and existing forms, is maintained by specific 'strategies' such as "crossbreeding, assimilation, distortion, challenge, response, imposition, superimposition, conciliation,"[4] neither of which should be strictly prescribed by the designers (Koetter and Rowe, 1980, p. 140). As seen in the following figures, the exercises at the Cornell University are not necessarily context-sensitive and in search of reviving the existing context. Instead, the works seek and reflect a 'collision,' a dialect, between the antagonist forces, namely the existing site and the new proposal.

[4] William Ellis defines these strategies as *"either a complete resolution of parts or a collage of parts, or a collision between parts"* (1979, p. 4).

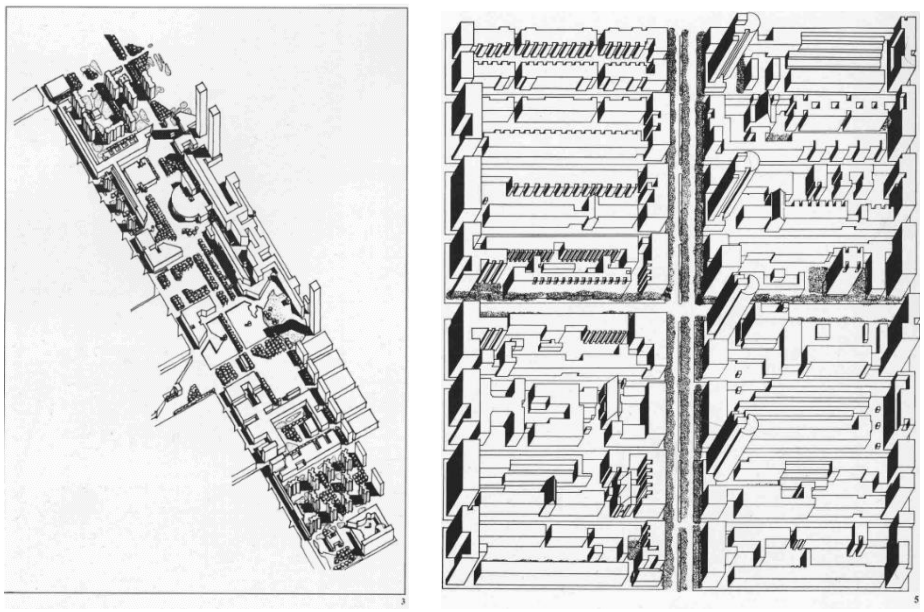

Figure 2.8. A studio project at Cornell University for Harlem redevelopment in 1967. The axonometric view of a part of the proposal (left), examples of the proposed housing blocks (right) (Source: Middleton, 1982, p. 52).

According to William Ellis (1979), Rowe's theory is mistaken with "a procedure of 'matching' new additions to the style and scale of the existing context," which indeed conflicts with Rowe's initial intentions. Instead, with the supervision of Rowe, Cornell urban design studio sought a 'mitigation' between the traditional and the modernist city in the form of "a discourse between 'ideal' types and 'imperfect' contexts," i.e., the argument "between ideals and continuity" (p. 4). In that regard, the contextualist theory aims to simultaneously inhibit "continuity and change," i.e., "the two paradoxical faces of the traditional process itself" (Ibid, p. 6). In fact, this way of looking at urbanism is highly different from that of modernist urbanism[5] since it was concerned with "the typical nature of elemental objects" rather than the "relationships between objects" (Ibid, p. 4). Thus, despite its formal characteristic, the figure-ground analysis and design method is concerned initially with the "relationships rather than objects, pattern rather than picture" (Ibid, p. 7).

[5] Ellis describes the modernist urban *"groupings"* as *"exercises in geometrical logic abetted by presumptions of functional propriety [rather] than compositions"* of the contextualist approach (1979, p. 4).

However, Rowe's contextual understanding evolved in time. Ellis summarizes the evolution of the relationship between type and context in Rowe's theory as "from instrumental and open to hypothetical and totally designed," and parallel to that, "from work at the scale of city fragment or set piece to the deductive design of whole areas of the city." Ellis describes this change in two conflicting branches. The first is Rowe's "responsiveness" to the contextual circumstances as his theory evolves "from the mixing of modern types with traditional contexts, […] finally to a Neoclassicism of delicate simplicity." The second is Rowe's counteraction to those circumstances as he ultimately tends "to sustain resolved, complete compositions rather than the more abrasive 'monumental' fragments now in vogue," and tends "towards total design and over-precise deductive demonstration." Throughout his endeavor, Rowe's works turned into a "more hypothetical" perfection of the urban field through "the hermetic terms of his compositional standards," at a point that "it addresses only the 'merely' ideal." Although the theory's problematic provokes further discussions, the theory itself fails the ambitious aim of "resolve[ing] all contradictions" employing trustable past forms, as Ellis asserts. Here, "too large and complete" ideal 'fragments' in the city prevent the theory from embodying "the powerful fuel of humanism: profound contradiction and dilemma" (Ibid, p. 26).

> "The design of artifacts like large cities never takes place in an unbroken deductive sequence. Thus, the ***larger*** and ***more precisely resolved*** Rowe's urban demonstrations become, the ***less influence***, paradoxically, they have at the large scale, and thus the less successful they are as theoretical urbanism. As these fragments - these demonstrations - become ***more perfect*** within themselves, they diminish their own possibility to persuade. They are true cities of the mind, 'perfect,' in search of contradiction and human life." (Ellis, 1979, pp. 26-27).

Parallel to that, Kömez-Dağlıoğlu criticizes the decrease in the volumetric concerns in Rowe's urban theory. She indicates Rowe's primary emphasis on spatial layering (in the transparency studies) evolved into a relatively flat interpretation of urban maps with the collage approach. Even though Rowe nominally objects to the idea that site and building are indifferent to each other, this objection grounds itself on a

rather narrow understanding of context as "the formal pattern of the built environment, as represented in figure-ground maps" (Kömez-Dağlıoğlu, 2017, p. 172). That flatness results from the shift of communication medium from vertical planes to horizontal figure-ground plans (due to the change in scale of interest), as Kömez-Dağlıoğlu argues. This way, the vitality of architectural design is sacrificed to the stability by "crystallizing form through the depiction of the solid-void patterns of an urban setting." In turn, reducing context into footprints as solid and void forms minimizes the potential of vivid volumetric architectural qualities (Ibid, p. 187).

Finally, Shane remarks on the cultural aspect of context-making in architectural practice by comparing the emphasis on cultural references and that of the physicality of urban architecture and urban design. He argues that although the inclusion of "memory, time and culture" enhances the conventional contextual understanding, it adds difficult complexities to an already complicated problem in which "collage as a metaphor" is only a starting point with certain deficiencies (1976, p. 678).

2.1.3 Discussions on 'Context' After the 1980s: The Autonomy of Architecture (as a Reaction to Contextualism)

Following Rowe's ideas, context was associated with "an eclectic formal language" in the late 1970s, then it got linked with "conformity and visual compatibility with surrounding built environments" as a means of blending into a setting. The multi-layered discussions with various dimensions revolving around 'context' were abandoned, which reduced the notion to "a single and simplistic design approach" (Kömez-Dağlıoğlu, 2017, pp. 6-7). Here, the conservationist camps played a significant role. To illustrate, Keith Ray's book "Contextual Architecture: Responding to Existing Style" expresses that great interest in traditional buildings and their conservation. According to Ray, the traditional buildings should be "modified for new uses" and the new buildings should be placed into the existing urban fabric. However, the modifications and the new additions "cognizant of their surroundings" results undesired relationships with existing buildings. So as to

prevent that, he puts forward a contextualist approach via "designing in relation to the context" and he suggests certain relationships between the old buildings and the new ones by offering possible compositional choices (Ray, 1980, p. viii).

The critiques of that limiting conception of context in architectural practice arrived mainly in the 1980s. The three prominent critics in that period, namely Peter Eisenman, Michael Hays, and Kenneth Frampton, suggested a ***disciplinary autonomy in architecture*** as opposed to the contextual limitation to the discipline.

Firstly, in his article "The End of the Classical: The End of the Beginning, the End of the End," Peter Eisenman[6] advocates that "representation, reason, and history" are the three 'fictions' dominating and overshadowing disciplinary autonomy of architecture. These fictions individually serve for the purposes of encapsulating the 'meaning,' systematizing the 'truth,' and maintaining the 'timeless' instead of 'change' (Eisenman, 1984, p. 155). For him, the disciplinary autonomy infers an architecture that is only concerned with its "intrinsic formal principles" and that is to resist to the "external forces," while the architectural context is not intrinsic to its design procedures (Zaera, 1997, pp. 50-63 cited in Kömez-Dağlıoğlu, 2017, pp. 3-4).

His design of the House VI (1975) well reflects the realization of his proposed way of architectural design which is only governed by its intrinsic principles – excluding external forces (Figure 2.9). In the drawings of the building, the form and abstraction were the basis of architectural design process (Luscombe, 2014, p.564) from where the context is deliberately excluded.

[6] His emphasis on architectural autonomy can also be seen in the editor's introduction to Rossi's "Architecture of the City" for the English edition (Eisenman, 1982, pp. 3-11).

Figure 2.9. Eisenman's House VI, designed in 1975 (Source: web 5)

On the other hand, Hays' article "Critical Architecture: Between Culture and Form" implies a more flexible position such that the architecture is "resistant to the self-confirming, conciliatory operations of a dominant culture" by opposing a conformist understanding of contextualism, and "yet irreducible to a purely formal structure disengaged from the contingencies of place and time" (1984, p. 14). His critical architecture resists both the hegemony of "the dominant ideological, institutional, and traditional forms" and the architecture "as a detached, disinfected object." (Ibid, p. 27). In this track, neither the context is a means of determining architectural form as being pre-defined external forces, nor the form is detached from the physical place. In Hays' critical architecture, context is in a middle ground and rather abstract. What he offers is a 'semi-autonomy' that embraces cultural codes and resists to the economic demands, without determining a practical framework per se. In that sense, his proposal overlooks "the physical, social and traditional context of the architectural work" (Kömez-Dağlıoğlu, 2017, p. 4).

Finally, Frampton's two articles "Prospects for a Critical Regionalism" (1983) and "Towards a Critical Regionalism: Six Points for an Architecture of Resistance" (1983) re-introduced the dilemma of being modern and critically reviving the old in a resistant and nonconformist way within an existing environment. In those works, he points to the architectural tectonic as the basis for the disciplinary autonomy rather than 'scenographic' aspects such as context. However, instead of overlooking those

local aspects, he suggests them to be incorporated while "building the site" (Frampton, 1983b, p. 26). In the scope of this study, it is argued that Frampton's Critical Regionalism conception provides a still-inspiring framework to be revisited from an urban design perspective, which is discussed further in the next section.

2.1.4 Theoretical Background of Critical Regionalism: A Possibility of an Autonomous Architecture in Context

Critical Regionalism was introduced in the architectural discipline through the influential texts of Alexander Tzonis and Liana Lefaivre, and then that of Kenneth Frampton in the 1980s. It was a reaction to the placeless-ness of universal civilization as much as to the superficially historicist postmodern ideas. The term does not indicate a specific form or style, but instead an attitude to result in different products and processes in each individual locality (Eggener, 2002, pp. 228-229). In this framework, Frampton is the most prominent figure – despite his later inclusion to the discussion – and he rooted his theory in both history and criticism as an architectural historian and critic. His propositions of 'material culture' and 'tectonic' as well as his theorization of Critical Regionalism enabled architects to draw connections between the past and the present (Avermaete, 2019, p. 1).

Frampton's Critical Regionalism theory was persistently[7] developed with a distance to growing postmodernist ideas of the time. He was highly critical with these ideas which, for him, was reducing architecture into images[8]. His willingness to detach himself from the postmodernist camp prompted him to reframe modernist

[7] According to Urbain, the cornerstone-texts of Frampton's gradual journey towards Critical Regionalism can be summarized as follows: His "America 1960-1970" (1971) essay which he responses to *"capitalist urban space and its limitations"* improved with a philosophical view in his "Oppositions no. 4" (1974) editorship, and "Du Néo-Productivisme au Post-Modernisme" (1981) grounded these counter-arguments within architectural discipline with a – then – contemporary view (2019, pp. 42, 48).

[8] By the same token, Frampton resigned from the organizing committee of the First Venice Architecture Biennale (1980) which he perceived as a parade of historicist postmodern architecture.

architecture through Critical Regionalism as an alternative to the postmodernist ideas he opposed (Urbain, 2019, pp. 45-46; Kömez-Dağlıoğlu, 2017, pp. 30-31). Through that alternative, he aimed for a ***critical*** architectural framework "that does not reject the thrust of modernization, nonetheless resists being totally absorbed and consumed by it" (Frampton, 2004, p. 214). Parallel to that, he presents his Critical Regionalist approach as a design strategy that negotiates between universal and local/traditional conflicts while being resistant, hence progressive. With that, he champions the potentiality of being critical towards immediate physical and traditional aspects of the local setting (Avermaete, 2019, p. 2). Although Frampton was in search of an alternative to postmodern ideals by reframing modernist approach by virtue of the locality of architecture, it is important to mention here that his theory of Critical Regionalism has a parallel origin point to that of aforementioned prominent postmodernist figures such as Robert Venturi and Colin Rowe. In fact, the early contextualist ideas triggering later postmodernist discussions are corresponding to Frampton's arguments such as the opposition to the modernist and (then) contemporary placelessness in the city (stemming from the conceptions of free-standing building and tabula rasa), and the intention of improvement in the spatiality of built environment. Still, sharing the same origin points, their directions and destinations happened to be quite different (Kömez-Dağlıoğlu, 2019, p. 67).

In 1983, Frampton wrote two seminal essays on the theorization and exemplification of Critical Regionalism, referring to Tzonis and Lefaivre's use of the concept in their article "The Grid and the Pathway" (1981): "Prospects for a Critical Regionalism" and "Towards a Critical Regionalism: Six points for an Architecture of Resistance." In both of his papers, Frampton primarily quotes the French philosopher Paul Ricoeur in order to depict his problematic as the paradox of "how to become modern and to return to sources; how to revive an old, dormant civilization and take part in universal civilization" (Ricœur, 1961 cited in Frampton 1983a, p. 148; 1983b, p. 22). In this long quote, Paul Ricoeur argues the flaws of universal culture dominating the subcultures, despite its merits. He acknowledges the universalization as a development in human history, while criticizing the destruction of "the creative

nucleus of great cultures" that it causes, and "the basic consumer culture" that it imposes – due to which people come across same and ubiquitous objects and concepts everywhere. Still, his argument does not call for a return to old traditions, as he underlines his progressive position by supporting to "take part in modern civilization." Instead, by remarking the flaws of modernization process, he directs the attention to an 'encounter' of modernism with local cultures "at the level of an authentic dialogue" that we had not then experienced. For him, modernist implementations did not go beyond a "shock of conquest and domination" over localities (Ibid).

In the light of these critiques and arguments, Frampton reinterprets the cultural situation that Ricoeur depicts in the architectural field by addressing the traditional processes of avant-gardism starting from 18th century and finishing with the modernism project. Hereunder, the orthodox modernism as the final step of avant-garde attitude is no longer valid. Instead, the critic recommends an *arrière-garde* position as an alternative to that, in which one positions itself equally distant to "the Enlightenment myth of progress," and the nostalgic and "unrealistic impulse to return to the architectonic forms of the preindustrial past." On the other hand, the progressive character of this position is underlined by depicting it "a rooted yet critical strategy" (1983b, p. 20).

In that sense, the main strategy of Critical Regionalism is "to mediate the impact of universal civilization with elements derived indirectly from the peculiarities of a particular place." That attention on particularities of a place puts the context forward as a source of guidance that is filtered through a critical mindset. Referring to Heidegger's "Building, Dwelling, Thinking,"[9] Frampton compares the 'universal placeless' and the clearly 'bounded' place which is the absolute condition of

[9] As mentioned previously, Heidegger's "Building, Dwelling, Thinking" on the grounds of his primary conceptions of Being and *dasein* was a distinguished article with its focus on the architecture's situatedness on earth. For him, the setting is not a pre-condition for buildings but, instead, it becomes a place thanks to the buildings (Heidegger, 1997).

dwelling and being. He criticizes modernism's tabula rasa, and instead puts forward a contextual understanding that encapsulates the physical aspects of a setting – such as the architectural elements or geographic conditions – and excludes any "communicative or instrumental sign" (Ibid, pp. 21,24). Despite his skepticism of "the grounding critical practice in a concept so hermetically metaphysical as Being," he promotes the bounded domain, instead of "the ubiquitous placelessness of our modern environment." For him, only with that bounded domain, a resistant architecture finds a ground to "stand against" (Ibid, pp. 24-25). This concludes Frampton's approach to context as an intrinsic part of his theory.

The architectural critic develops his argument through several examples in both of his articles. He exemplifies the "self-conscious synthesis between universal civilization and world culture" with Jørn Utzon's Bagsværd Church (1976) in Denmark by underlining "the rationality of [its] normative technique" and "the arationality of [its] idiosyncratic form" (Ibid, pp. 22-23), as seen in the Figure 2.10. Although the vault-like roof recalls the Eastern sacred places instead of a local vernacular form, this example presents Frampton's understanding of appropriation of the vernacular forms. In fact, Frampton indicates that Critical Regionalism sometimes "insert reinterpreted vernacular elements as disjunctive episodes within the whole I will moreover occasionally derive such elements from foreign sources […] either at the level of formal reference or at the level of technology" (1992, p. 327). That is, employing and reinterpreting 'foreign' architectural sources are a part of being critical to the locality.

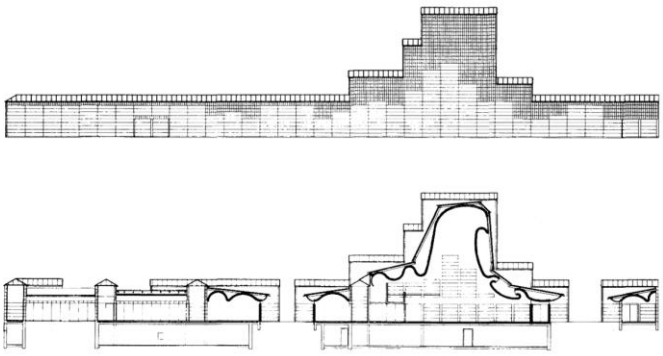

Figure 2.10. The section and the north elevation of Bagsværd Church in Denmark by Jørn Utzon in 1976. The building is made of a concrete skeleton and prefabricated concrete in-fills as part of the universal civilization, whereas its reinforced concrete shell vault whose construction is 'relatively uneconomic' refers to a sacred form. (Source: Frampton, 1983b, pp. 22-23)

In addition to the cultural aspects, context in the Critical Regionalism discourse is also to be conceived in terms of its natural aspects, namely the physical context. That is, Frampton acknowledges the effect of topography, climate and local light on the existing built environment. For example, he asserts the window type generally used in a particular place indicates the effects of the local conditions on the outer skin of the building. On the other hand, domination of the universal technique is visible in places where air-conditioning system is present. In that sense, he also criticized the "absolute placelessness" by means of flatting, i.e. 'bulldozing,' every irregular land because it is the most economic land to build on. For him, designing with respect to the local natural (in this case, topographical) conditions has the potential of encapsulating "the specific culture of the region – that is to say, its history in both a geological and agricultural sense" in the architectural form and the way of building. Thus, Frampton favors "in-laying" on the site which enables the particularities of a place to express themselves without a nostalgia, by referring to Mario Botta's several architectural designs (Ibid, pp. 26, 27). Botta's design strategy of "complementing landscape formations with built forms," or with his words "building the site," and his works in the mountainous regions of Switzerland provided Frampton with an example of the 'bounded-place forms' "as an experiential […] enclosure" in lieu of a physical enclosure (Davidovici, 2019, p. 99). Moreover, Botta's works correspond

with Frampton's suggestion of using vernacular architecture as something "to be self-consciously cultivated," to be reinterpreted and assimilated – not as something "given and relatively immutable" (Frampton, 1992, p. 315). Parallel to this, Botta captures local cultural references through local architectural types as in the house in Riva San Vitale which refers "obliquely to the traditional country summer house or rocoli which was once endemic to the region," Frampton asserts (1983a, p. 157).

Figure 2.11. One of the houses that Mario Botta designed in Riva San Vitale, Switzerland, in 1971, with respect to the landscape conditions of the context and referring to a local summer-house type (Source: web 6).

In addition to his emphasis on the topographic conditions, Frampton puts 'tectonic' forward as the base of architectural autonomy. For him, tectonic represents "the revealed ligaments of the construction and in the way in which the syntactical form of the structure explicitly resists the action of gravity." Here, it should not be mistaken for "the purely technical" parts of architecture or "the expression of skeletal framework" (1983b, p. 27). In that sense, the critic argues that Alvaro Siza's works render his "sensitivity towards local materials, craft work, and, above all, to the subtleties of local light." Moreover, his buildings reflect the great attention paid to their particular context, and the architect's ability "to ground his building in the configuration of a given topography and in the fine-grained specificity of the local context." That contextual concerns and ability makes his works "tight responses to the urban fabric" as being "more layered and rooted than the eclectic tendencies." Thus, Frampton defines Siza's approach as "tactile and materialist, rather than visual and graphic" (1983a, pp. 150-152).

Figure 2.12. Biers house in Varzim/Portugal by Alvaro Siza in 1976: note the tectonic character of the building and the use of local light (Source: web 7).

To complete Frampton's conception of Critical Regionalism, it is important to refer to the 'tactile' experiences. The critic primarily differentiates the act of comprehending a 'place-form' visually from comprehending it by other tactile experiences.[10] He denotes that the tactile can only be comprehended through experience, and his Critical Regionalism objectifies "to complement our normative visual experience by readdressing the tactile range of human perceptions." Positioning tactile and tectonic over image liberates architecture from its longstanding duty of mere visual representation and information-delivery, i.e. decreases the importance of merely visual aspects of architecture. (Frampton, 1983b, pp. 28-29). In this regard, he mentions Tadao Ando's sensitivity towards "the tactile value of the tectonic components," especially the architectural detailing which Ando calls "an element which achieves the physical composition of architecture, but at the same time, it is a generator of an image of architecture" (1982 cited in Frampton, 1983a, p. 159).

[10] Such as *"the intensity of light, darkness, heat and cold; the feeling of humidity; the aroma of material; the almost palpable presence of masonry as the body senses its own confinement; the momentum of an induced gait and the relative inertia of the body as it traverses the floor; the echoing resonance of our own footfall"* (Frampton, 1983b, p. 28).

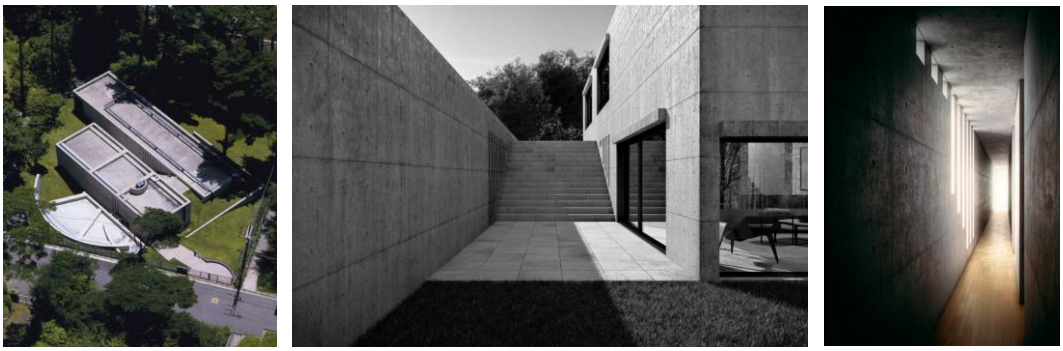

Figure 2.13. Koshino House in Japan by Tadao Ando who prioritizes local light and architectural details, which reinforce the tactile experience in his buildings (Sources: web 8 and 9).

Finally, almost 40 years after Frampton's first theorization of Critical Regionalism, it is relevant here to touch on the contemporary examples on which Frampton comments within the theory's discourse during a recent interview by Metropolis Magazine (2018). These recent examples reflect a different set of approach to their localities and reveal the flexibility and potential of the theory.

One of the important points to make is that unlike his primary essays, the currently-practicing architects he mentions are non-western and their projects are not in western countries. In fact, he confesses his impression by the eastern architects – specifically from India and Bangladesh such as Marina Tabassum and Kashef Chowdhury. The architectural critic also calls the Aga Khan Awards receivers as a group of recent 'talents' working in a critically regionalist manner (Edelson, 2018). Challenging the after-mentioned criticism of the Critical Regionalism's elitist characteristics, the designers Frampton mentioned produce architectural works problematizing the issues that inhabitants of a locality face via a critical manner. For example, the mosque by Marina Tabassum in Dhaka (Figure 2.14) reinterprets the local materials with a low-budget and functions as a community center for public events and gatherings (Griffiths, 2017).

Figure 2.14. The Aga Khan Award recipient Baitur Rauf Mosque project in Dhaka/Bangladesh by Marina Tabassum: note the concern of the building's integration to public open space, and the reinterpretations of local materials in a low-cost manner (Source: web 10).

Furthermore, again in Bangladesh, Kashef Chowdhury designed several NGO buildings for public education and public meetings lately, one of which is the Friendship Center in Gaibandha (Figure 2.15).

Figure 2.15. The Aga Khan Award recipient Friendship Centre project in Gaibandha/Bangladesh by Kashef Chowdhury. This building complex was completed with a rather limited budget. The designers had to react to the potential geographic problems such as flood in a subtle and economical manner. In terms of its tactile and tectonic character, the building refers to the close-by remains of an ancient town and employs only the local and hand-made bricks (Source: web 11; Alarcón, 2013).

After reviewing Frampton's conception of Critical Regionalism, it is certain that the theory still provides a critical perspective to the context in urban design and urban architecture after several decades of its formulation. Even though the implementations and suggested examples would differ in the contemporary perspective, the intellectually rich and reactionary idea of being critically bounded by a particular context provokes further discussions. In the scope of this thesis, the potentiality of recycling the context-based architectural and urban spatial conditions during design process is particularly addressed.

2.2 Critical Regionalism in Urban Design

2.2.1 The Contemporary Criticism of Critical Regionalism Theory: Towards an 'Urban' Perspective

In the following years of Frampton's two seminal essays, the theory has been criticized and/or embraced by different groups of designers and theoreticians. In this section, we briefly discuss the concept's criticized flaws as well as its ability and potential of employment in the urban design process, regarding the scope of this thesis.

In general, the critics argue the contextual references and contextual learnings in the Critical Regionalist examples of Frampton. For example, in the article "Constructing the Site: The Ticino and Critical Regionalism" (2019), Irina Davidovici comments on Mario Botta (as a representative of the Ticino School) on whose works Frampton dwells in his Critical Regionalism articles. As mentioned above, Botta is known for his use of cubic forms, exposed concrete and reinterpreted vernacular forms together with his sensitivity of the topography in terms of formal aspects. Despite Botta's local sensitivities, Davidovici argues that the cultural tradition that Botta recycles was not restricted to the local sources, as he employed also the modernist and classical sources. She perceives this approach an elitist way of emphasizing the architecture's "rootedness in a highbrow cultural tradition." Thus, Botta's pursuit of

reviewing the sources did not result in a harmonized urban context, but a "fragmented" one, since he uniquely introduced certain universal forms to context, in the opinion of Davidovici (2019, p. 95). Here, we see the 'region' to be focused on, reinterpreted and react to is mainly the ***physical aspects*** of the architectural setting. That concludes the contextual understanding, namely without or with little influence of the local residents. A critically regionalist design act is perceived as the cultivation of that physical context by means of subtle architectural reinterpretations of it.

This disinterest in the social body of context was previously discussed in the architectural historian Keith L. Eggener's article "Placing resistance: A critique of Critical Regionalism" (2002). Eggener discusses Frampton's Critical Regionalism in terms of its – unintended – impositions on localities. For him, the theory often works as an equivalent of "a fashionable formula" or "a catchword to describe a range of difficult and diverse architectures arising from markedly different circumstances." Therefore, it turns easily into a misleadingly superficial conception, despite its sophisticated theorization. In this misconception, the top-down position of the theory and the disregard of the real residents (non-designers) of the local built environments play a significant role. Critical Regionalism's pursuit of being a global argument – despite its emphasis on the locality – forces it to be "a general theory of the particular," i.e. a universal disposition, with which the original intentions conflict, claims Eggener. And yet, he argues that this universal character results in "imposing" alien principles on people who are actually "responsible for building particular cultures, architects among many others" (Eggener, 2002, p. 235). Quoting Anthony King, he upholds that 'the global theories' bring about the theoreticians to address the other worlds from a certain position, where that "totalizing vision or overview […] is likely to be at odds with the meanings which the inhabitants […] place on the buildings themselves" (King, 1996, p. 71 cited in Ibid). Instead of that, Eggener proposes paying attention to those people so as to "understand better the richness of internal, local discourses in their full range and complexity" (Eggener, 2002, p. 235).

On the other hand, Douglas Kelbaugh, whose New Urbanism argumentations are discussed in the second chapter, reviews the Critical Regionalist discussions from the perspective of an urban designer. Referring to the top-down architectural examples (such as the ones done by Utzon, Ando and Botta), he asserts that Critical Regionalist architecture is by nature elitist and these examples are in search of a "profound architecture." That is, Kelbaugh discusses, these buildings seek to shine out instead of being a 'background.' Their bold intention is regarded as a potential problem in the urban context (Kelbaugh, 2002, p. 89). Instead, he argues that "the city needs many background buildings that behave in ***predictable***, ***normal*** ways and that honor their context for every foreground architectural/artistic statement," with the intention of reinforcing the context. In that sense, although Critical Regionalism promotes an *arrière-garde* position as an alternative, it practically maintains an avant-garde position "with its endless overturning of tradition by an artistic elite." In fact, the search for being 'authentic' in architectural scale results in the distancing from the architectural 'norm' in a locality (Ibid, pp. 131-132). In the light of that, Kelbaugh puts forward type and typology as means for connecting the buildings to their contexts. Referring to Leon Krier, he favors the enduring and well-tested architectural types instead of constantly discovering new forms (Ibid, p. 105). Because, for him, "[a]n architectural type that has stood the test of time, like the basilica or courtyard house, must be doing something right in terms of responding to climate, social and cultural needs, tradition, and economy" (Ibid, p. 82). In that sense, he embraces type's limitations, whereas advocates its possible diversity, albeit different than that of Deconstructivists and Modernists (Ibid, p. 116). However, as discussed in the previous chapter, this understanding of type bases itself on the creation of a context as a background, and prioritize the repetition of visual aspects in architectural entities. Thus, it can be argued that Kelbaugh's suggestion of type implies and performs as model, even though he semantically distinguishes type from model in his book (pp. 106-107).

Adding to these discussions of elitism, i.e. top-down applications on localities, Hadas Shadar discusses the relevance of 'evolutional architecture' in the theory of Critical

Regionalism, in her article "Evolution and Critical Regionalism" (2010). She initiates her discussion by asserting that the Critical Regionalist discourse did not give close attention to "the ability to change and adapt to the varying human and cultural conditions of the residents using them." For her, the designs cited as Critical Regionalist examples are "not prone to changes" as being "completed products" (p. 227). On the contrary, the vernacular architecture – which is the resource in Critical Regionalist design process to be critical about – is "built of small and personal fragments that change according to the circumstances of the place and the society building it," in order to meet the evolving requirements of its residents. This proves that vernacular architecture is by nature an evolutional architecture (Ibid, pp. 228-229). Thus, a strong critique that modernist theory misses an evolutional characteristic should be present in the Critical Regionalism discourse as a part of its criticism of modernism (Ibid, p. 230) In accordance with this, the theory should not perceive buildings as if they are complete products, instead, leave room for the social extent of the context and its ability to change.

To elaborate her ideas, Shadar discusses three urban design projects in Israel as Critical Regionalist examples pliable for embracing the unavoidable changes in their cities, one of which is seen in the following figures. These works date back to the 1950s and 1960s, before the Critical Regionalism theory was coined. The architects of the designs had received a European and modernist architectural education, yet they had – not deliberately – derived contextual lessons and applied them on their designs, as stated by Shadar (Figure 2.16). The projects are presented to be quite able to adapt themselves to the changing conditions of their contexts insomuch as that some of the buildings are not easily distinguishable from its surrounding today (Figure 2.17). Besides, the alterations are limited to the adjustments of individual buildings as per the changing needs and technological abilities. Apart from this, the residents did not alter the urban patterns, which indicates that these urban designs were corresponding with the society's prospects. Thus, the projects exemplify the integration of vernacular – which is evolutional – architecture with modernist planning, asserts Shadar (Ibid, p. 237).

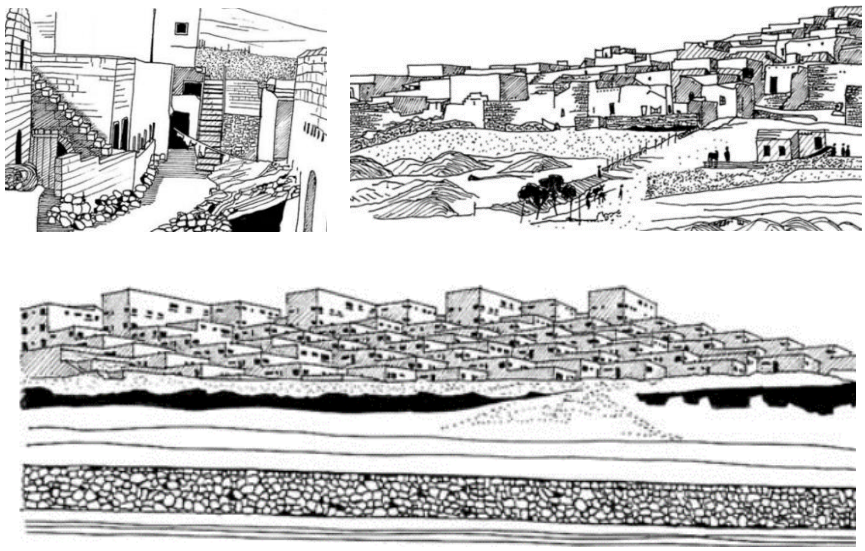

Figure 2.16. The examples of old and nearby Arabic towns, based on photographs in the 1960s (above); the elevations and a house module of the Terraced Carpet project (one of the examples that Shadar discusses) in 1961 in Nazareth Illit/Israel by A. Ventura and Y. Drexler (below) (Source: Shadar, 2010, p. 236)

Figure 2.17. The project's current condition, reflecting the urban evolution in time (Source: Shadar, 2010, pp. 234, 239).

These projects managed to capture the desired urban forms in their locality so as to produce compatible versions of them. Regarding the adaptation of the buildings, the reinterpretation of the local architectural types must have a certain effect. In fact, unlike mega-projects of the epoch, the projects consist of detached houses with

courtyards (similar to the surrounding Arabic cities), which allow their residents to make alterations on individual buildings. It can also be argued that their generic plan schemas and basic spatial relations affected in a similar sense, unlike the buildings that are elaborately designed.

In parallel to these, there are several contextually-conscious studies in urban design scale such as New Baris Village (1967) in Egypt, Dar Lamane Housing (1983) in Morocco and Shushtar New Town (1975) in Iran – to which Hasan Özbay refers (1989, p. 46).

Hasan Fathy's New Baris project (1967) is a holistic urban design example seeking to provide a pleasing urban condition even in the economically vulnerable rural regions (Özbay, 1989, p. 46). The architect Hasan Fathy valued the continuity of building culture and sought to learn from the local architecture and urbanism for contemporary applications. In that sense, he prioritizes the local know-how, i.e. local technics and low-cost, available local materials (mostly the mud-brick in Egypt). Since his projects generally address the low-income local people's needs, he is referred to as "the architect of the poor."[11] The project New Baris is regarded as reflecting this architectural competence even though it was never completed. Using the local know-how, he reinterprets the local elements/forms and creates a contemporary design language stemming from the context (Bertini, 2020).

[11] Still, Fathy's works were appreciated more by the intellectuals rather than the locals. This might result from the societies' pursuit of *"the myth of the West, of progress and modernity,"* which does not correspond to *"the idea of living in traditional houses built with mud brick"* in layman's mind, as argued by Bertini (2020).

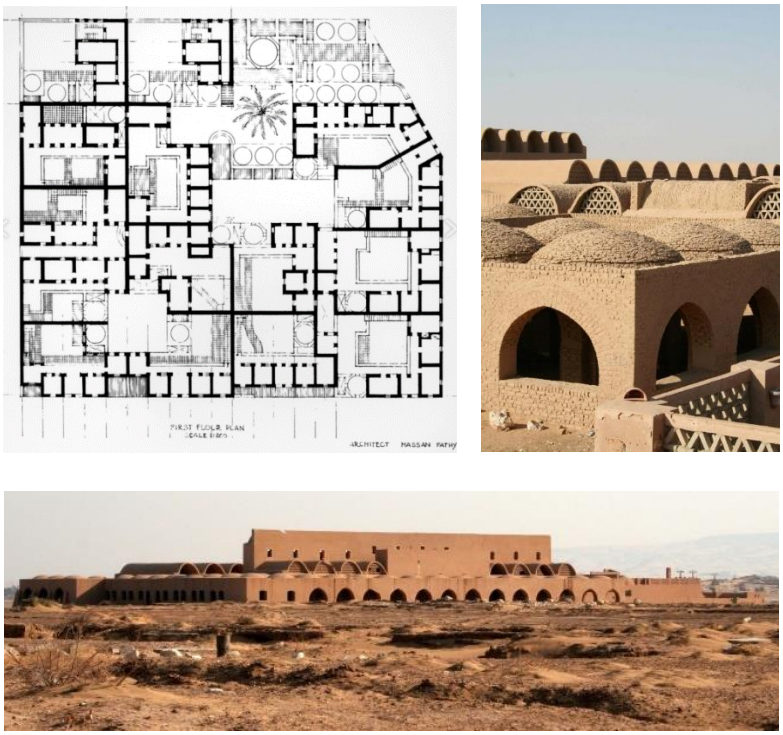

Figure 2.18. New Barrid Village project (1967) in Kharga/ Egypt by Hassan Fathy (Source: Bertini, 2020; web 12).

Dar Lamane Housing (1983) is a low-income housing project for 25 thousand people and another example of holistic urban design. The project grounds itself on the observations of the local and low-income residents, which remarks the importance of the public areas, i.e. "pedestrian networks and the interrelation of housing groups," rather than the designs of individual buildings. Parallel to that, privacy and security concerns were noticed ("Dar Lamane Housing," 2020). In keeping with the contextualist understanding, the local climate conditions were concerned, while traditional style was maintained. (Özbay, 1989, p. 46).

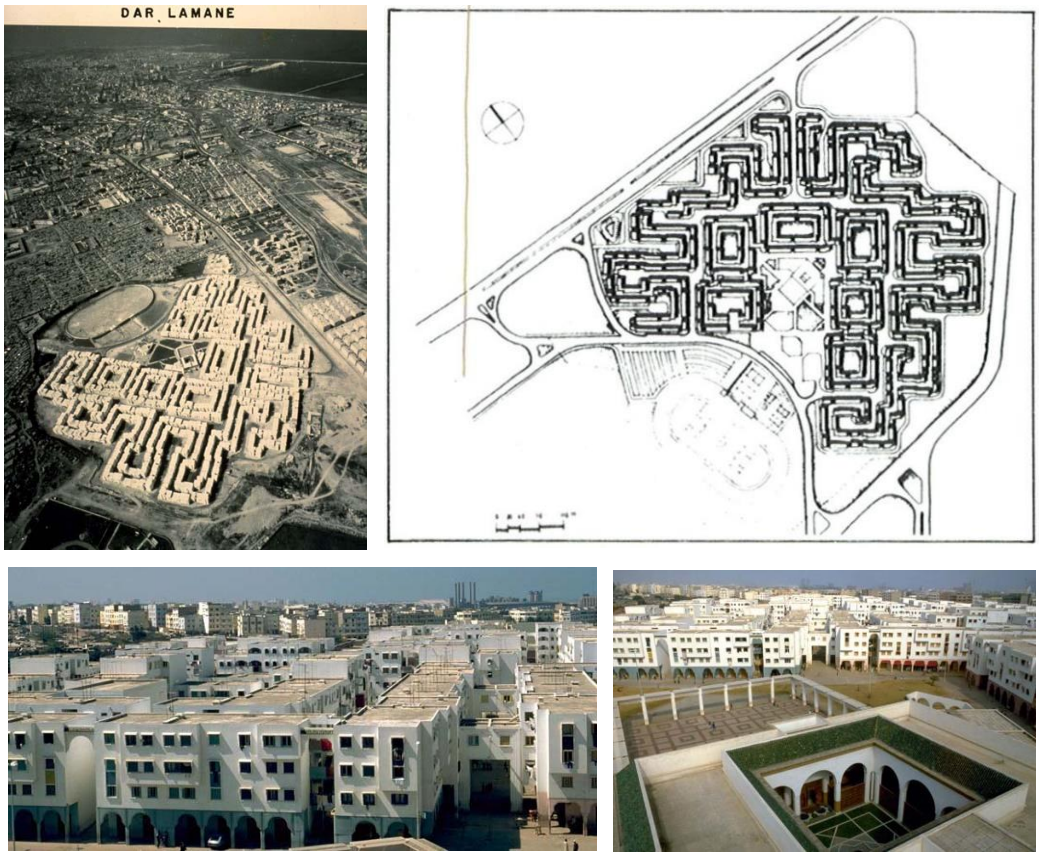

Figure 2.19. The Aga Khan Award recipient Dar Lamane Housing project in Casablanca/Morocco by Abderrahim Charai and Abdelaziz Lazrak: note the spatial exercises on local architectural and urban vocabulary (Source: Özbay, 1989, p. 45; web 13).

On the other hand, the Shushtar New Town (1975) – as "a satellite city" sheltering workers – was designed via transforming transformed a basic (dominant) type in order to create diversified public and private spaces (Figure 2.20). In that process, the climatic conditions and street-house relations (through windows and doors) were prioritized, while various privacy conditions were deliberately designed by means of "semi-public gardens and internal plazas." Moreover, car access is limited so as to maintain the compact urban characteristic of the vernacular city ("Shushtar New Town," 2017). Therefore, the architectural and urban traditions were maintained along with the material characteristics of the vernacular city (Özbay, 1989, p. 46) by using "thick stone walls or local bricks ornamented with abstract patterns" and employing local workers for the construction ("Shushtar New Town," 2017).

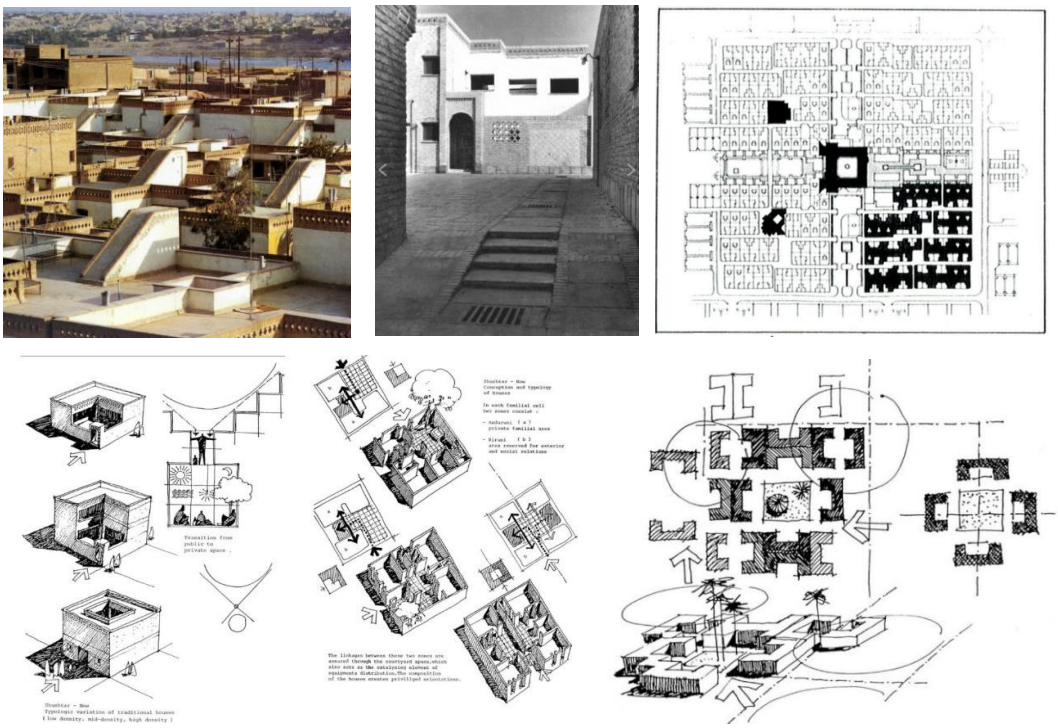

Figure 2.20. The Aga Khan Award recipient Shushtar New Town project (1975) in Shushtar/Iran by DAZ Architects. The house type was used as the origin point which was then processed through a deformation and transformation (Source: Özbay, 1989, p. 45; web 14).

After all, although the regionalist and critical regionalist approaches have been manifesting themselves for a long time, ***they lack a methodological framework***. Therefore, individual practices which show success in terms of the implementation of a contextual framework cannot be methodologically recycled (i.e., independent of its own context and concrete reality) in different contexts.

2.2.2 The Prospects of Critical Regionalism in Urban Design

Frampton's Critical Regionalism provides a valuable framework with its critical position in the globalized world. His proposal of reviving the traditional and local built environment through a critical filter and refraining from any nostalgia upon vernacular is still relevant propositions in the contemporary conditions of traditional settlements of Turkey, as well, where the 'universal civilization' dominates most of the urban scenes with its ubiquitous built environments. In that context, it is relevant

to address the possibility of Ricoeur's (1961) – yet untested – suggestion of an "authentic dialogue" (cited in Frampton, 1983a, p. 148; 1983b, p. 22), i.e., cross-fertilization, of modern and old in the localities – while criticizing the indifference to the local knowledge of the built environment and the dominance of the global conventions over local cultures.

In that endeavor, one of the main concerns is to refrain from populism by means of a "simplistic evocation" upon the nostalgia of vernacular, which induces "the sublimation of a desire for ***direct*** experience through the provision of information" (Frampton, 1983a, p. 149). Therefore, the question that is highly important to raise is ***how to avoid the understanding of context as a mere physical entity*** in order to ***free the vernacular experiences from the reductionist images of the past***. Moreover, Shadar's proposal of leaving room for residents in architectural and urban design thinking and Frampton's recent praises of public-driven designs address another urgent need of recognizing locals' spatial preferences in the urban design process.

In that framework, the residents' ***settled existing activity patterns,*** or the ***vernacular behavior and activity patterns,*** offer significant contributions to embrace the human dimension. For that purpose, ***the examination of spatial relations provides a relevant overview*** by allowing to capture the desired spatial conditions that facilitate those activities. ***Critically observing and reinterpreting the vernacular spatial relations*** in the built environment (namely in buildings, urban places, and in-between these two) renders the instrumental data of human dimension in the urban design process. That kind of an examination can be conducted via ***examining the prevailing types of the context in question***. Indeed, by covering the widely repeated forms of design elements, the typological thinking offers a relevant overview of an urban context's spatial setup. By relying on these understandings, the prospects of a generative typological thinking in such a design problem is discussed in the following chapter in order to formulize a design model based on the spatial typicalities of vernacular architecture that correspond to the residents' vernacular behavior and activity patterns.

CHAPTER 3

TYPE AND TYPOLOGY IN URBAN DESIGN

‘Context’ has a direct relation with the notion of type as both the presence of the contextual concerns and the definition of the context affect the theorization and application of typological studies. Although these studies can also be conducted without a contextual concern (such that the orthodox modernist architecture’s context-less instruments ‘standard’ and ‘prototype’ are the uprooted conceptions of type), that disregard for the context has already proven its flaws with the modernist applications. Today, the ubiquitous ‘models’ copied and pasted in the contemporary cities continue to prove that point. However, typological thinking might raise a considerable interest in the notion of context in terms of the multi-layered conditions of the contemporary city.

The aim of this chapter is to present a brief traditional background and the current understandings of the terms type and typology in architecture and urban design discourse. The terms are scrutinized in influential architectural and urban design theories beginning from the enlightenment ideas to recent discussions in different intellectual contexts.

3.1 Conceptual Framework and Traditional Background of Type

Definitions of the term ‘type’ is quite ambiguous that differ in a wide spectrum from ‘prescriptive models’ to ‘abstract ideas,’ which prompt various construal in both theory and practice of architecture and urban design. Within this complicated debate, it is relevant to initially make the distinction between the concepts of ‘type’ and ‘typology’ – so as to prevent further misconceptions:

> “…the etymology of the word 'typology', from the word 'type' and the suffix

—ology, comes from the Greek 'logia', which means 'a discourse, treatise, theory or science'. Thus, typology should be understood as such - a discourse, theory, treatise (method) or science of 'type'" (Lee, 2012, p. 163).

3.1.1 Type in the Enlightenment Era

The emergence of the notion of ***type*** dates to the 17th century, when the raising scientific knowledge attempted separating 'form' from its ethereal meanings (Madrazo, 1995, p. 30).[12] Under the influence of that discussion in natural sciences, together with social and technical changes, architecture was questioned as a discipline (Moneo, 1978, p. 28). In that era, in 1825, the first clear definition of type in the theory of architecture was developed by an architectural theorist, Antoine Chrysôthome Quatremère de Quincy (2000, pp. 254-255) in "*Dictionnaire d'Architecture*:"

> "The word type presents less the image of a thing to copy or imitate completely, than the idea of an element which must itself serve as a rule for the model. […] The model, understood in the sense of practical execution, is an object that should be repeated as it is; contrariwise, the type is an object after which each artist can conceive works that bear no resemblance to each other. All is precise and given when it comes to the model, while all is more or less vague when it comes to the type" (Quatremère de Quincy, 2000, pp. 254-255).

His definition of type expressed the distinction between ***copying*** and ***imitating*** which is important for him alluding to the Platonic concepts of 'idea' and 'image.' In that conception, type "carries an idea for imitation," while model implies a "literal copy"

[12] According to Madrazo, with the Enlightenment ideas, the *epistemological sense of form* was questioned. Classifications are idealized to be the (only) way of gaining *scientific knowledge*. Traditional disciplines are questioned based on their abilities to classify their elements. It was a debated topic that either form similarity, or the real characteristics [of the element] was to establish the categories (Madrazo, 1995, pp. 30-31).

(Lee, 2012, pp. 19, 42). As stated by Moneo, type was utilized, then, to interpret the "reason behind architecture" which is buttressed with the endurance of "the first moment in which the connection between form and the nature of the object was understood and the concept of type was formulated" (Moneo, 1978, p. 28).

On the other hand, in the same epoch, Jean-Nicolas-Louis Durand developed a typological design approach with the aim of "building a scientific basis for architecture" resulting in the "idea that design of a building is the result of a rational procedure."[13] As claimed by Madrazo, Durand was eager to optimize genuine architectural principles out of that relationship. Durand described architecture as a form of composition; following that, he proposed a compositional design method in which the first step was the determination of architectural 'axiomatic elements' to compose with, i.e. design, in "*Précis des Leçons d'Architecture Données à l'École Polytechnique*." A type, in that sense, is constructed on the undulating relationship between geometric form and that of architecture, i.e. it is a simplification of complex architectural knowledge represented in architectural form. Although Durand did not use the terms type and typology, his reversible design method addresses the terms as architectural design tools (Madrazo, 1994).

In the extent of the thesis, it is relevant to discuss Durand's composition method and the criticism raised against more deeply. Madrazo (1994, p. 17) and Lee (2012, p. 157) both stated that Durand's composition idea is not present in the whole process, despite the literal part of *Précis*. In order to confirm the "combination of elements" as composition, the first step of his method should have been picking the elements. However, Durand's sample design sequence begins with a schema of plan on which

[13] Madrazo claims that Durand was convinced by the possibility of objective architectural knowledge. To achieve that, he attempted to create a rational process, a design method. That is, architecture was attempted to be objectified in the form of a method. Relatedly, only if architectural knowledge was rooted in the design process itself – not in individual buildings-, a design method could be possible. Thus, once the method was established, studying precedents was to be futile, architects should, instead, have learn the abstract methods of design (Madrazo, 1994, p. 21).

incremental transformations are to take place, as though being the evolution of architecture out of geometry. According to Madrazo, the reason that Durand did not 'compose' simply out of the elements – instead, a schema – is that the individual 'elements' include a level of identity, or style, which Durand aimed to free his design method from. That is, since Durand supported that the formal character, namely style or language, was to be inserted after building structure is composed, as stated by Moneo (1978, p. 15), the elements carrying a character were not a starting point, but geometric lines were. Madrazo, then, concludes here architectural elements in Durand's theory are indeed geometric lines.

From this point, apart from inconsistent nature of Durand's theory, Lee suggests implementing his theory of method as "the logic of precedents, the logic of the deep structure," as a classification procedure that enables to instantly engage in the new demands. Acknowledging the elements out of precedents "as the deep structure of type," Durand's method rearranges them in accordance with different needs – as Durand called 'utility and economy.' Lee defines that approach as both didactic yet flexible since the elements are not utilized to copy a model, instead to 'compare' and 'define.' Comparing is highlighted here as being the only way type clarifies itself, and the method is an early example of instrumentality of typology "as a comparative method," which is Durand's distinctive attitude towards architectural design at that time. As opposed to the mainstream criticism towards Durand's works, his "Ensemble d'Edifices" can be seen as the genesis/beginning – not the summit – of a pursuit of type inside the limits of concrete reality (Lee, 2012, pp. 156-164).

In the 19th century, following Durand's works on display of available architectural entities and their 'elements,' several architects or craftsmen written architectural manuals and handbooks which categorize buildings through functional criteria. Durand's – and his successors' – approach is criticized by Moneo (1978) since, being used as no more than a "compositional and schematic device," the idea of type is reduced to a "total and indestructible formal structure" (pp. 31-32).

3.1.2 Modernist Type: Standard

In Vidler's "The Third Typology" (1998), he suggested after the Enlightenment era, the second main conceptualization of type in the architectural theory was developed during Modernism (p. 13). In the early 20th century, the early Modernist architects and theoreticians objected the idea of typology understood and applied in the 19th century, as stated by Moneo (1978). That typology was criticized of being restrictive and non-flexible to develop a renewed architectural understanding. However, due to the need of mass housing, and the possible association of repetition/series in industry with that need, type was reintroduced in modern discourse (Moneo, 1978, p.32).

In the discussion of type in Modernism, Lathouri highlighted type-related concepts used in Modern theory such as 'typical object,' 'standard product' and 'objet-type.' These concepts were utilized to define a novel conceptualization of architecture by "turning 'particulars into abstract generalities' such as the individual, the 'dwelling unit', the 'collective' and so on" (Lathouri, 2011, p. 29). This idea was the outcome of standardization and mass-production. According to Lee, 'typical' in Modernism was recognized only with the concept of 'standard.' The standardization that Le Corbusier proposed was possible only by a collective endeavor "where the process of design and experimentation is governed by a set of established and agreed rules or principles, and level of quality" (p. 191). Mass production buttressed with 'standards' was advocated to provide architecture with the 'perfection:'

> "Architecture is governed by standards. Standards are a matter of logic, analysis and precise study. Standards are based on a problem which has been well stated. Standardization is imposed by the law of selection and is an economic and social necessity" (Le Corbusier, Towards a New Architecture, 1987, p. 145 cited in Lee, 2012, p. 190).

'Modern type' legitimized itself through an endeavor of so-called architectural perfection, economy and mass production. Architectural perfection here is declared as a pursuit of "a strictly standardized element" namely "ideal proposal" which is a

unification of “an analytical scheme in which programmatic functions and architectural elements,” and “economic and technical variants” with the aim of building ‘new city’ (Lathouri, 2011, p. 26).

Type in modernism was rather an analogy than an “ontological premise” as Vidler claimed. The analogy was developed upon the resemblance of the pyramid of production with that of space. Regarding the concept of mass production, which was recognized as an urgent need in that era, Modernists (especially Le Corbusier) suggested an architecture emerged from the “production process itself.” This conceptualization of type is expressed as “equivalent to the typology of mass production objects.” Pursuit of generating an architectural design model derived from its production process leads to the idea of mass-production, repetition, and finally a modified version of type – namely ‘prototype’ or ‘standard’ (Vidler, 1998, pp. 13-14). As Moneo concludes, an industrial analogy was used to verify the legacy of architecture once more, despite conflicting with the initial objectives of Modernism. Implying the possibility of limitless repetition, Dom-ino house, towers in Ville Radieuse and other readapt-able works of Le Corbusier were results of his desire of an industrial prototype. To exemplify this phenomenon, Moneo claimed that “[the Unité d’Habitation] is a unit, the result of factory production process, capable of being set anywhere.” It is deduced here that with ‘Modern type,’ the singularity of buildings, which enabled buildings to fit in their context, was rejected over repetition and re-adaptation of prototypes (Moneo, 1978, p. 32-33).

3.1.3 Italian School of Typomorphology

In 1940s, observing the destructive effects of modernism over traditional cities, several Italian researchers started analyzing the procedures of ‘city building’ and developing a design theory based on these analyses. Pioneered by Saverio Muratori and Gianfranco Caniggia, the endeavor turned into a school of typomorphological studies in Italy. The conducted analyses were based on “extensive classification of

buildings and related open spaces extending from their original state to their various mutations over time" (Moudon, 1994, p. 290).

3.1.3.1 Saverio Muratori and Gianfranco Caniggia

Saverio Muratori (1910-1973) was an Italian architect and the protagonist of the idea that "the roots of architecture lie not in the fantastic projections of the modernists, but within more continuous tradition of city building which prevailed from antiquity until the 1930s." For him, the existing structure and form of city were an accumulation "of many ideas, choices and actions which are manifested in given buildings and their surrounding spaces." Type, which was understood as "the essence of" character of both buildings and spaces, could classify this accumulation, he suggested. A typology developed out of these types would define "the essence of the building fabric" (Moudon, 1994, p. 290).

Figure 3.1. An example of Muratori's typomorphological studies: urban analysis for Quartiere di S. Giovanni Grisostomo (Source: Muratori, 1959).

Gianfranco Caniggia (1933-1987), one of Muratori's students, followed his typomorphological approach and utilized the ideas to create 'operational histories' of several cities in Italy.

He asserts that the built environment is in a constant (typological) mutation and, thus, their work is based on the "diachrony," i.e., time-based changes on structures and on types. In that context, the design practice is to be conducted by "a continuous comparison of what already exists with what we are doing," to refrain from dissociated, isolated buildings in urban fabric (Caniggia et al, 1979, pp. 26-27).

In his studies, the built environment is described in multiples scales, namely ‘elements,’ ‘elementary structures,’ ‘structure systems’ and ‘systems organism,’ which have reciprocal relations in-between:

> “By ***elements***, we mean smaller components still oriented towards and related to the dimension of the global organism. By ***structures***, we mean those associations of elements not equipped with an accentuated autonomy within the whole; by ***systems***, we usually mean sub-organisms already readable according to a certain autonomy, albeit in their individual specialization apt to making them an efficient part of the more general ***organism***, or the entire object that we are examining” (Ibid, p. 73).

Parallel to that understanding of city, the conception of ‘type’ in Muratorian school, especially in Caniggia’s works, is defined by physical expressions based on reciprocal ***relations*** between urban elements and different ***scales,*** and by taking the ***evolution of the city*** into consideration (Moudon, 1994, pp. 292-293).

In that context, the notion of ‘base type’ (Figure 3.2) is promoted and determined by “its volumetric characteristics, its position relative to the street, and its solar orientation” in Caniggia’s works (Ibid) and it is considered as the “foundation matrix of the typological process” (Caniggia et al, 1979, pp. 94-97). The transformation of that specific ‘base type’ in time was then analyzed in relation with its surrounding urban fabric.

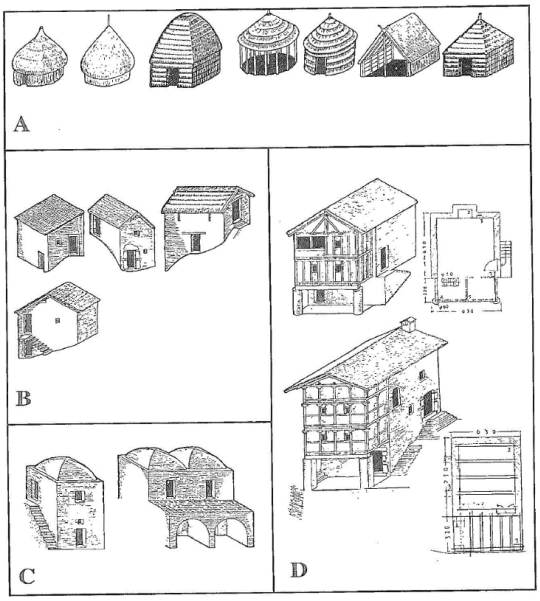

Figure 3.2. Base types (A) and their consecutives (B, C, D), in Italy (Source: Caniggia et al, 1979, p. 96).

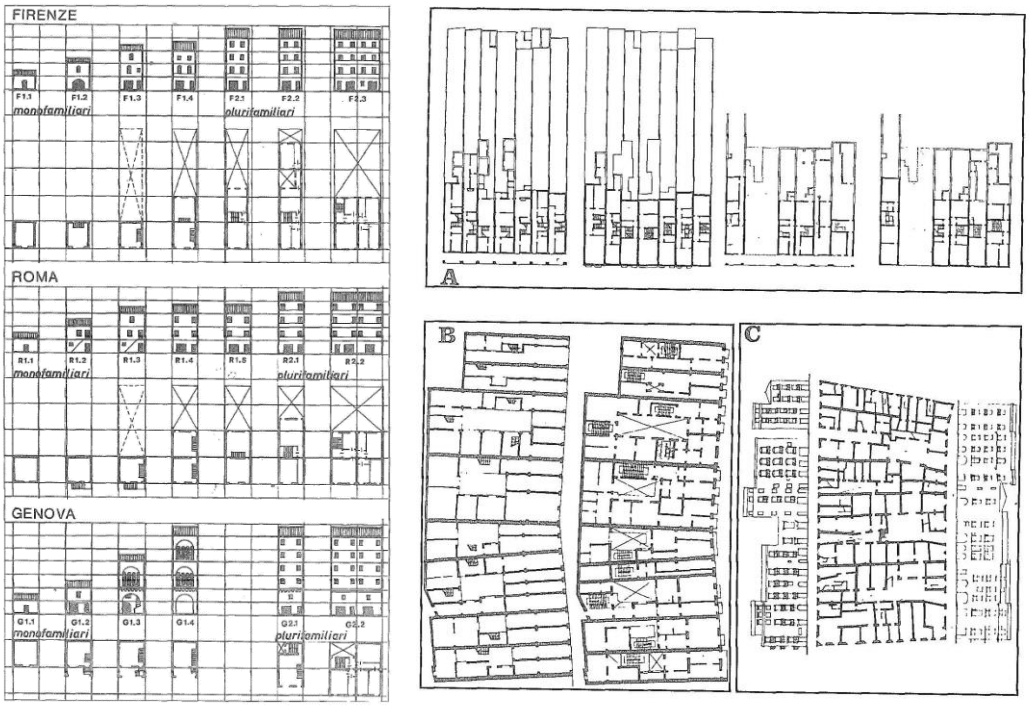

Figure 3.3. Time-based mutations of basic types in Florence, Rome and Genoa (left), row and courtyard houses originated from *domus* (right) (Source: Caniggia et al, 1979, pp. 100-101).

In that framework, Caniggia's understanding of ever-changing built environment is formed by "human action and environmental reaction." He classifies the mental driving force of that human action in two classes: '***spontaneous consciousness'*** and '***critical consciousness.'*** The former represents "the attitude of subjects [humans] adapting […] to their inherited civil substance, without needing or requiring mediations or choices" in the making of built space. To illustrate, "when someone builds his own house with his own hands, […] he does it as a house is built at that particular moment and in his own cultural area, thus acting in full spontaneous consciousness" instead of following architectural trends or approaches. That leads to the implementation and appropriation of local types in the city – creating vernacular houses. In contrast to that, the latter represents a conscious and critical process of creating structures which may or may not differ from the local ones. That results in monuments, which are extraordinary and/or symbolic buildings done by exceptional thoughts and efforts (Caniggia et al, 1979, pp. 43-49).

With a quick glance, it would be easy to see that Muratorian School was exceptional with "its attempt to build a theory of design based on traditional processes of city building" (Moudon, 1994, p. 296) Their works were rooted on several concepts which revolutionize the way we approach the types and the city they form: (1) the continuity of the built environment, (2) the relational nature of the elements of the city, (3) the form-based character of the analysis and possible design understandings from there, and (4) the multi-scalar and modular attitude towards these concepts. It is also important to mention that the typomorphological analysis of Muratorian approach has generally been utilized as a preliminary research in design process, in order to understand "the logic and tradition" of the context before design (Ibid, p. 295).

Despite not being well-known out of Italian speaking communities at the time they were suggested, Muratorian ideas affected quite a number of Italian designers of the epoch such as Aldo Rossi and Carlo Aymonino both of whom reached universal recognition. Muratori's critics towards Modernism, and featuring traditional city as the source of design established the base of their ideas. Even though Rossi and

Aymonino then defected from Muratorian typomorphological approach, their architectural approaches are still influenced by Muratorian concepts (Moudon, 1994, p. 294).

3.1.3.2 Discussions on Muratorian Method and 'The Third Typology'

Carlo Aymonino (1926-2010) was one of the leading followers of the Italian School in post-modern era. As stated by Moudon (1994), he explained the "dialectical relationship between building typology and urban morphology" as 'building types' had been serving 'urban form' to be defined and evolved through time (p. 294).

On the other hand, Moudon (1994) points to a conflict between Muratori-Caniggia and Aymonino as he advocated that the Modernism irreversibly changed the traditional relationship between building and city and individual buildings were currently creating their own and disconnected environments unaware of the features and demands of the urban form "as part of an irreversible change in the socioeconomic forces that shaped the city" (p. 294). In that sense, a typological analysis on traditional town would be irrelevant in the process of design. Freeing designers from the past, Aymonino and Rossi's design approach was more liberal than that of Muratori and Caniggia. They favored less methodical and more individualistic interpretations of traditional city:

> "Urban analysis does not provide a structure for architectural intervention. In fact, it is wrong to assume a direct relationship of cause and effect between the two: this leads to the academic embalming of architecture, shown clearly in the projects of Muratori's and his School" (Aymonino, 1976: cited in Moudon, 1994, p. 294).

On the other hand, Muratori and Caniggia suggested the problem was "a temporary crisis in the way cities are produced." Therefore, they advocated the necessity of rehabilitating that broken relationship via typomorphological analysis in the traditional city. To that end, Caniggia indicated that the crisis due to Modernism

should be repressed by “a critical examination of the process of formation and transformation of the human environment.” Within that context, ‘preexisting structures’ in the city must govern contemporary architectural practices. The preexisting structures were composed of “the [1] existing built environment as well as [2] building traditions and [3] living practices which shaped it.” That examination should be based on the “knowledge of the traditional processes shaping urban form” not mere “style and experience” (Moudon, 1994, p. 294).

Here, it is relevant to switch to Aldo Rossi’s (1931-1997) typological approach having covered his contextual approach in the previous chapter. As being the assistant of Aymonino, Rossi also contravenes those ideas and builds his own typological understanding under the influence of Aymonino’s approaches. Moreover, as following and leading the neo-rationalist ideas, Rossi’s studies aspire to “redefine the discipline of architecture as an autonomous field with its own ‘disinterested’ history” that is rooted in its architectural rational, which implies ‘positioning’ architecture to its independent place among other disciplines (Turan, 1998, p. 159) in search of the previously mentioned “autonomy of architecture.”

The autonomous characteristics of architectural knowledge forms the basis of studying with the concept of ‘urban artifact.’ That is, since the architectural knowledge is sufficient enough to analyze and assess the city and its architecture, the very elements of the built environment should be studied. Thus, he propounds examining 'urban artifacts' as they manifest the processes of the city, including its evolution through time (Rossi, 1982, p. 22). In addition to the physical work of building which is "large and complex and growing over time" in the city (Ibid, p. 29), 'urban artifact' purports also the "history, geography, structure, and connection with the general life of the city" as Peter Eisenman puts it as an editor's note in Rossi’s renowned book, “The Architecture of the City (Ibid, p. 22). With the ‘urban artifact’ concept, Rossi narrates the city mostly based on its ‘form.’ Thus, as being the outline of city’s form, architecture is the primary focus of his studies (Ibid, p. 29). Here, 'type’ gains a crucial role since he dubs the term as the ‘basis’ in the architectural discipline or "the very idea of architecture" (Ibid, p. 40).

Following Quatremère's definition of type, Rossi summarizes the term as the essence-like "constant" or "the rule, structuring principle of architecture" (Ibid, p. 40). Aureli interprets Rossi's conception of type as "repeatable and interpretable forms, not as mass production but […] as the ability to think of the city as a whole through the specific practice of a simplified vocabulary of architectural forms" (2007, p. 50). Thus, typology is the way of thinking about 'urban artifacts' in architectural terms – which reinforces the autonomy of the discipline.

For Rossi, type also represents the 'irreducible part' in the elements of urban artifacts as the recurring rule. That is, the typological way of thinking can be applied every architectural artifact. In this way, the typological act as the "analytical moment of architecture" finds its object of study in 'urban artifacts.' (Rossi, 1982, pp. 40-41). Within this study, types in the city are a means to "empirically represent […] structural and formal aspects of the city," and in a particular urban context, to visualize "the logical structure of relationships" (Aureli, 2007, p. 60).

Since type can be found in all urban artifacts, that implies the term's adaptability to be accommodated in different contexts or to bear other construction demands:

> "Type is thus a constant and manifests itself with a character of necessity; but even though it is predetermined, it reacts dialectically with technique, function, and style, as well as with both the collective character and the individual moment of the architectural artifact. [...] The house with a loggia is an old scheme; a corridor that gives access to rooms is necessary in plan and present in any number of urban houses. But there are a great many variations on this theme among individual houses at different times." (Rossi, 1982, p. 41).

Parallel to that, type is flexible also with the programmatic changes. Rossi indicates that a single type can accommodate different functions and different ways of life (Ibid, p. 41), so the mere function of a building is incapable of defining types, opposing the functionalist and/or modernist approaches (Ibid, p. 60).

As mentioned earlier, Rossi's ideas impressed many European architects and their works. As one of the prominent examples, Vidler's article "The Third Typology" (originally published in 1976) was written with an impression from Rossi and other Italian architects whose works had not been yet translated to other languages back then. Vidler assess those works as a breaking point from the typological conceptions of the past, and refers to these new attitudes as being a brand-new typological framework. In the article, he heralds the emergence of that new 'type' "based on reason and classification" claiming its validation within its own disciplinary knowledge (Vidler, 1998, p. 13-4). In that conception, the context of that new typology is the city itself with its past and present:

> "It is in itself and of itself a new typology. This typology is not built up out of separate elements, nor assembled out of objects classified according to use, social ideology, or technical characteristics: it stands complete and ready to be de-composed into fragments: These fragments do not re-invent institutional type-forms nor repeat past typological forms: they are selected and reassembled according to criteria derived from three levels of meaning – the first, inherited from meanings ascribed by the past existence of the forms; the second, derived from choice of the specific fragment and its boundaries, which often cross between previous types; the third, proposed by a re-composition of these fragments in a new context" (Vidler, 1998, p.14).

In addition to these, Vidler also highlights the 'social and political meaning' – embedded in types – as a reference point which would transform future designs to be a contemporary successor of the past (p. 15). To illustrate, the City Hall in Trieste designed by Rossi is examined by means of its social and political meanings. Vidler suggests that the design 'refers' to the formal characteristics of a "late eighteenth-century prison." That referring mainly expresses the 'signification' of "the ambiguous condition of civic government" (p. 15), which associates the vague definition of third typology with collective meaning and its formal references amongst a society. In the process of that type and its 'meaning,' once the image of

that past prison type fades away in society's mind, Rossi's city hall will lose its signification. Then, either the city hall type will turn into a new type due to the prison's effect, or Rossi's design will remain as a unique incidence which will not repeat (p. 15). Type's transformation and continuity stems from that changes in meanings and in their formal echoes.

In accordance with these remarks, Vidler claims that in Rossi's typological conception "there is no clear set of rules for the transformations and their objects, nor any polemically defined set of traditional precedents. Nor should there be […]" (Ibid, p. 16). As stated by Aureli, the "logical structure of relationships" identified through typological analysis were not meant to produce prescriptive and/or standardized arguments. Actually, with that conception of type, conventional restrictions, and any "optimal measure or standard" are opposed. Instead, the main purpose of Rossi's type is to create an urban vocabulary[14] in order to communicate on a specific context and its architecture. Thus, Rossi's typological conception favors the 'problematic' of the city over the 'city as a problem' (2007, p. 61):

> "Rossi was not interested in proposing a methodological recipe to build a coherent and linear research program. In his develop of a typological study of the existing city, he no longer viewed the city as a problem to solve, but rather as a problematic on which to base a more realist attitude toward the project of the city" (Ibid).

3.1.4 Type in Neo-Traditionalist Approaches

Neo-traditionalist architecture gained popularity as a judgmental response to modernist architecture and planning in the 1970s. Its pioneers gathered around the objective ***of reproducing the spatial form of pre-modern traditional city*** by means of a formal and stylistic attitude rather than functional (Al-Hindi et al, 1997, p. 356).

[14] The linguistic-based terms associated with type show the structuralist tendencies of the epoch.

The protagonists openly pursued the idea of rebuilding the European cities torn apart by both world wars and the 'anti-historicism' of the modernist approach. Following this purpose, type and typology drawn attention (Bandini, 1984, p. 80; Nesbitt, 1996; Krier, 1984, p. 41).[15]

The architectural attitudes of the movement's pioneers Rob and Leon Krier, or Krier brothers, are shaped primarily by the urban concerns. Altogether, the brothers devoted their work into bringing contemporary city into the condition of pre-industrial times. Rob Krier (1991), in his book "Urban Space" (originally published in 1975), criticizes the subjective characteristic of the postmodern architecture. He attempts to establish a so-called objective and true way of architecture, based on geometry and the 'trustworthy' traditional practice. Parallel to that, his younger brother Leon Krier (1978) expresses his aim of broadening the understanding of the city history as 'the history of types' by means of "typological components" of the city – such as types of settlements, spaces, buildings and constructions. Moreover, objecting to read the city through its monumental types, he revises architectural history of the city in order to involve "the typological complexity of the urban fabric" with mundane buildings that are not "the result of high art but of building tradition" (p. 41). Praising the past, Leon Krier examines specifically Enlightenment neoclassicism and the preindustrial 18th century city and he composes an index of suggested types that would re-erect the true European city. By means of a taxonomy of 'urban building types,' he aspires to recreating the past – i.e. so-called 'proper' urban realm – using a method based on those types (Krier, 1984, pp. 38-41; Nesbitt, 1996). On this basis, Durand's typological works can be conceived as the premise of that of Krier brothers (Scheer, 2010, p. 21).

[15] Although Bandini did not use the term 'neo-traditionalist' while referring to the group, they were affiliated with the term later on.

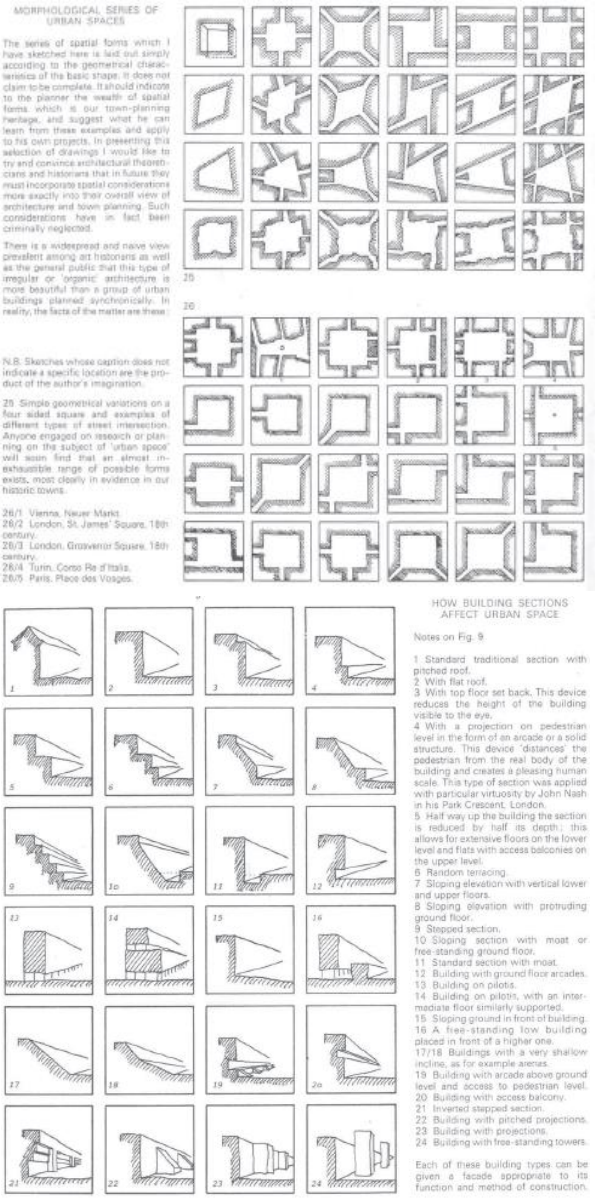

Figure 3.4. Rob Krier's typomorphological matrices including various geometries of urban space which would guide designers in their design process (Source: Krier, 1991, pp. 24, 30).

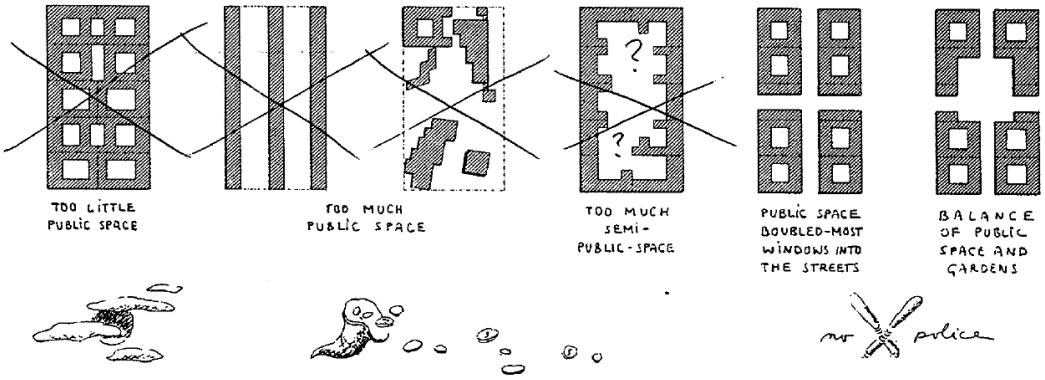

Figure 3.5. Leon Krier's criticism of Berlin block in terms of its measures, placement, length, and public space (the ex-outs); and counterproposal based on pre-industrial city (right). Note his normative typological approach (Source: Krier, 1978, p. 47)

In the neo-traditionalist studies, typological method is used to achieve a persistence in traditional architecture and its city through upholding the traditional types fixed and repeating them. Although the past examples are documented similar to the Italian School, the determined architectural and urban forms and styles are suggested to be identically reproduced without a room for thorough critical thinking and innovation. As a result, the notion of type turns into being 'suggestive,' not 'inclusive' in nature (Scheer, 2010, p. 21), and it behaves as **Quatremère's conception of 'model'** compared with 'type.' In that sense, the notion of convention in the neo-traditionalist approach is the keyword as the its method encourages to employ *"**typology as a form of convention**"* (Bandini, 1984, p. 80). Here, typological method is used as a means of suppressing 'individuality,' and adjusting contemporary architectural practices to agree with the urban forms and types in their contexts (Scheer, 2010, p. 22). Here, the overrated importance of the meaning conveyed through traditional forms represents itself in the fact that the *"iconographic appropriation"* of traditional forms dominate over the critical typological thinking. According to Scheer, *"postmodern historic pastiche"* is a result of that attitude (Ibid, pp. 22-23).

Similar to that, some critics address neo-traditionalist movement – and New Urbanism as its successor – as the origin of typological method's and form-based codes' disrepute in the disciplinary practice, despite packing these concepts with a

populist identity and gaining a reputation in the public (Ibid, p. 24). After all, by representing a rather conservative side of the typologıcal argumentation, the movement triggered further discussions on the relevance and status of ***tradition*** in the conceptualization of typological methods. This tendency paved the way for New Urbanism in the sense of revising and reviving the traditional city and its types.

3.1.4.1 New Urbanism

Succeeding the abovementioned initial neo-traditionalist discussions, the idea of "attempting to reform or preempt contemporary and modernist models of urbanism" spread in the 1980s' U.S.A., which contributed to the emergence of New Urbanist movement (Kelbaugh, 1997, p. 142). Publishing their own charter after Congress for New Urbanism in 1993, New Urbanists gathered around several principles which are adopted from several postmodern ideals such as "neo-traditionalism, traditional neighborhood design, pedestrian-pockets, transit oriented design, and traditional urbanism" (Talen, 2000, p. 320). Criticizing Modernist urbanism, the group subscribes to an alternative approach named 'neo-traditional planning' in which traditional urban patterns are examined to be revived (Ibid; Ellis, 2002, p. 261). In that sense, New Urbanism poses a 'normative view' in the way of formation and the development of the city, and it suggests a 'prescriptive' attitude directed to "image and plan," i.e., style and structure, by means of a particular formula to be followed (Talen, 2000, p. 320). Thus, grounding itself on the formal characteristics of traditional city and its architecture, the movement strives for revitalizing the old patterns and types instead of a 'reinvention' in design practice (Kelbaugh, 1997, pp. 142, 144). In this endeavor, pattern books and form-based codes are two major design tools that are utilized together with the concept of type.

3.1.4.1.1 Typological Features in Pattern Books

As being a certain kind of guide for further architectural articulation, pattern books are occasionally put into service in New Urbanist design practice so as to ***convey conventional architectural solutions*** to developers or builders, i.e., people who are not in the discipline of architecture, so that they implement these solutions on-site without further architectural guidance. In these books, the "typical characteristics and elements" in an area are categorized under 'patterns' that can be described as ***pre-determined and prescribed physical attributes***. The extent of these patterns spans "general massing types, window and door composition, common eaves and porch details as well as materials" (Mississippi Renewal Forum, 2005, p. 12). In that sense, 'pattern books' consist of an index of those patterns.

Initially, pattern books shared a common ground with the notion of type in the process of unlocking the independence of the disciplinary knowledge. Dating back to the 17th-century England, pattern books initially served to prove the authentic intelligence in the architectural discipline. That 'particular expertise in the intellectual, artistic, and managerial aspects of building" distinguished the status of architects from other actors of the building process such as laborers. They were regarded as a way of systematizing and broadening "the discrete and codifiable body of knowledge," (Ibid, p. 149) as their authors claimed to establish an independent ground for architects in the building and design practices. When the pattern book concept reached to the U.S. in the 19th century, however, they were employed to encourage certain styles – such as Elizabethan, Russian, Gothic or French – or the design perspectives of their authors. In that way, the books became the means of regulating the architectural choice of their audiences (Upton, 1984, p.107-110). Later on in the beginning of the 20th century, with the promotion of originality in the building 'appearance' in terms of ***particular styles***, and that of participation in decision making and building processes by residents, the use of pattern books resulted in a "popular architecture" freed from "elite taste" and superior supervision.

Thus, the initial claim of expert-position of architect had altered in time into the encouragement of certain styles determined by "public taste" (Ibid, pp. 149-150).

Currently, pattern books are still profited by New Urbanist practice as complementary tools – accompanied by an initial urban design or planning project – to determine architectural actions within urban design, and also as communication media which “enable all participants to understand, embrace, and build from a shared vision.” As it is seen in the Figure 3.6, Urban Design Associates (UDA) has published several featured pattern books to be applied in several places by following the tradition of the former pattern books (Urban Design Associates, 2010, p. 1). The method proceeds as (1) acquiring patterns in an area through a survey on the traditional building types for each specific area, and (2) grouping them under the “common architectural styles” – such as Victorian – from which (3) the audiences get to compose according to the prevailing styles in their neighborhood (Mississippi Renewal Forum, 2005, p. 12).

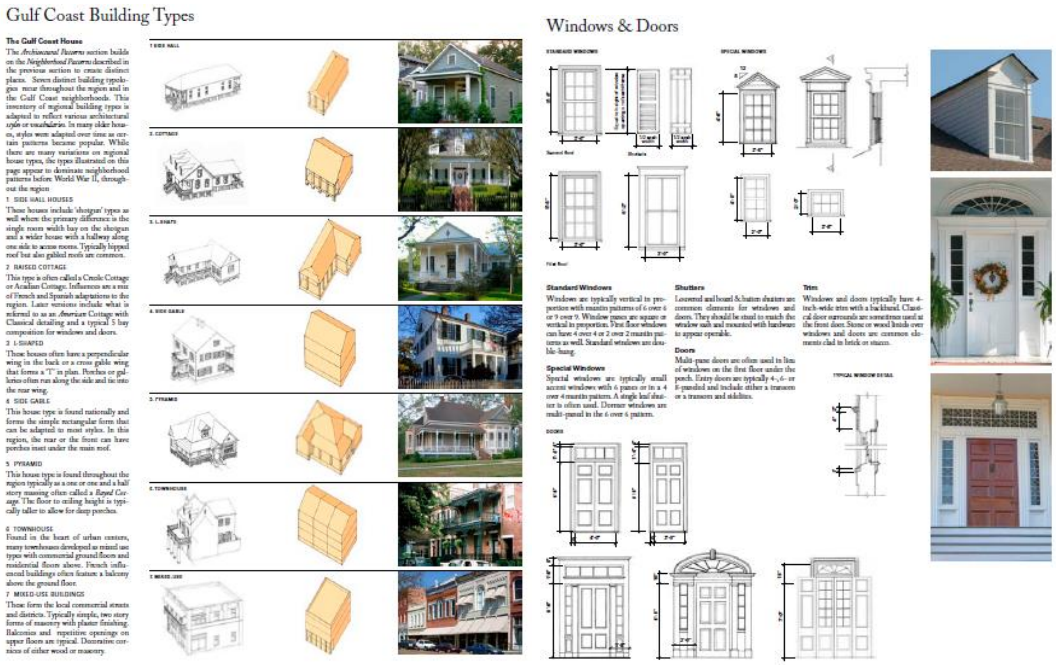

Figure 3.6. Pattern book examples: spatial composition of buildings (left), and window and door ‘patterns’ (right) (Source: Mississippi Renewal Forum, 2005, pp. 12,24)

3.1.4.1.2 Typological Thinking by Design Codes in New Urbanist Practice

Design codes or form-based codes are in use for a long time in order to "preserve static neighborhoods and create new development that has specific formal layouts and goals" (Scheer, 2010, p. 70). However, Matthew Carmona (2010) states that "they have reached their greatest degree of sophistication and simplicity in the planning of New Urbanist developments in the US" (p. 251). These defined principles, which mainly focuses on streets, blocks and massing, guide form-based codes to specify spatial elements of a site in multiple scales and their spatial relations in-between. In this practice, the final form is not definite, and is rather shaped through a process (Ibid).

To set an example, we can mention 'SmartCode' by DPZ (Duany and Plater-Zyberk) Co-Design, which is one of the prominent examples of design codes. It determines certain types to be applied in different 'transects' which are morphologically defined, successive regional categories. In that sense, the code is claimed to be generic, i.e., it can be appropriated according to every place it is applied, as being a "template" (Sheer, 2010, p. 71).

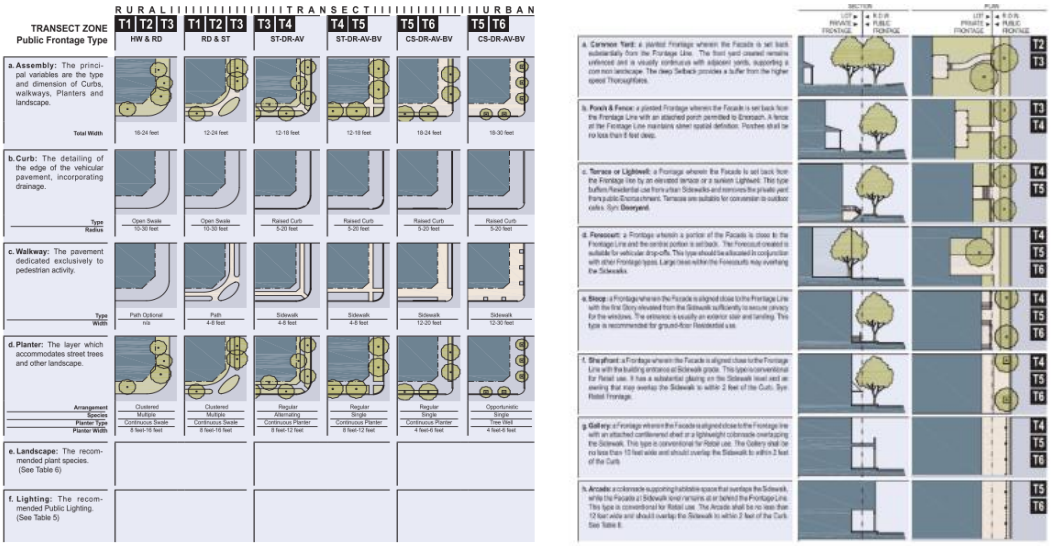

Figure 3.7. Some examples of design codes in SmartCode, and possible arrangements regarding private and public frontages (Source: Duany et al, 2009, pp. 32, 36).

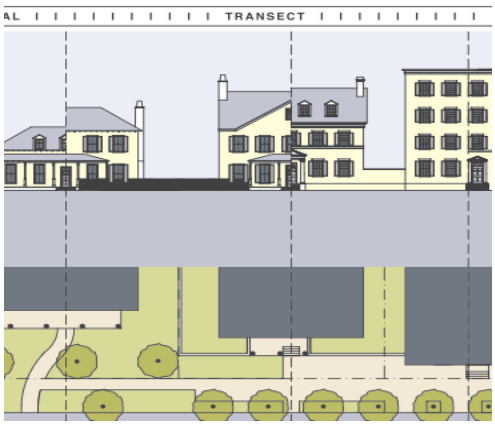

Figure 3.8. Façade articulation and frontages in different transects indicating the 'implementation syntax,' from Lexicon of New Urbanism (Source: DPZ Partners, 2003, p. 69).

Brenda Scheer (2010) points out that these codes are particularly typological since "they implicitly reference the types that are acceptable in a place, according to a set of ideals." With that in mind, she stresses the potentiality of the form-based codes being coherent with typomorphological processes, despite the idealist and limiting applications of the codes (p. 70).

Nevertheless, there exist certain oppositions about the use of type in SmartCode arguing that the notion of building type is reduced to the "frontages (architectural features on the public way) setbacks, building envelopes, side yards, and so on" by SmartCode (Ibid). Moreover, while being used as a generic template, SmartCode objectifies the 'calibration' of the design code as per different contexts as "adopting some of the unique building types or building frontages found in a place." This understanding fails to reflect the spatial typicalities and experiences of a particular place. Regarding discussions in the previous sections, it can be interpreted here that such an attitude damages the integral quality and flexible characteristics of type. That is, it leads to either a practice of eclectic compositions without integrity, or the misconception of type as 'model' which is copy-pasted as a finished composition to any context instead of being a pliable idea. In the case of SmartCode, that sort of a misconception resulted in applications of "very specific regulations and types [or models] appropriate for those categories [transects]" (Ibid, p. 71). As a result, the

stylistic outcomes of New Urbanist movement are expressed as a controversial aspect by a number of critics[16] (Carmona, 2010).

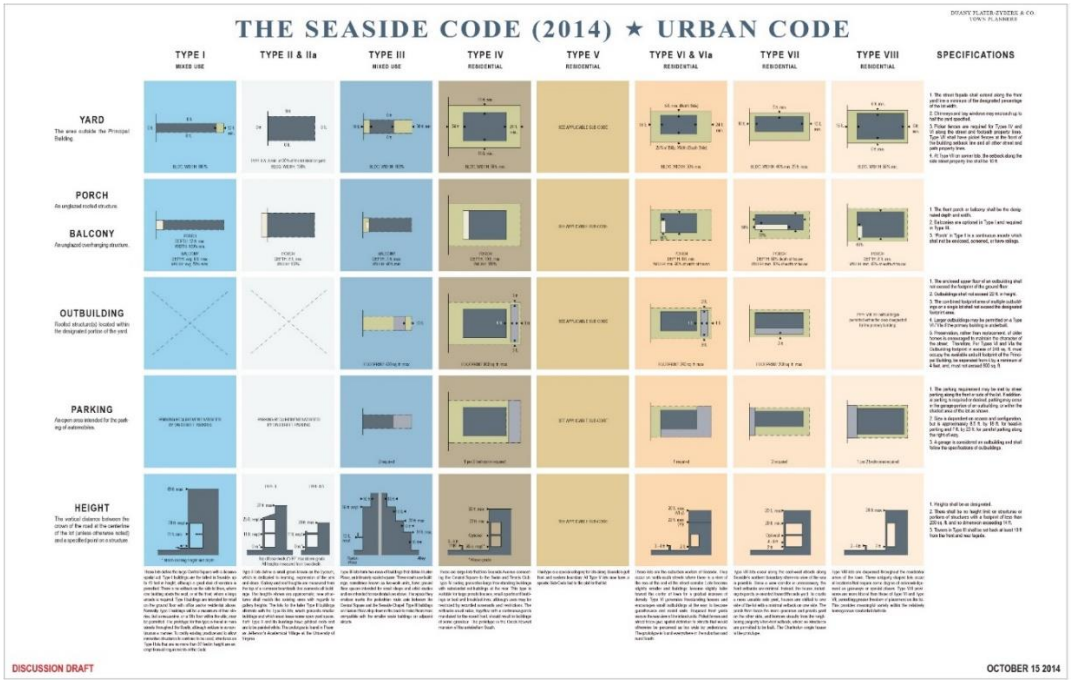

Figure 3.9. Residential and mixed-use types' prescriptions in Seaside Project designed by DPZ, in 1980 (Source: web 15).

Furthermore, having reviewed the New Urbanist codes, Scheer (2010) claims that there is a mismatch in terms of the structure of the suggested codes compared to the formation of traditional city since the traditional city is be emerged by means of ***proscriptive and prevailing types*** unlike its contemporary counterpart. That is, while traditional city-building procedures consist of "limitations of expectations, culture, technology, and custom" (proscriptive), the form-based urban design codes of the New Urbanist movement employ "heavy regulations" (prescriptive). As being an attempt on turning back to traditional way of building cities, New Urbanist design

[16] However, to the similar critiques towards Seaside Project (Figure 3.9), Duany responds that the design code they used following New Urbanist principles did not force people to build *"overdecorated 'gingerbread' cottages"* instead, American 'taste' of houses led to the final product. And, he continues that in order to get rid of that conventional taste, making the code even more restrictive would unexpectedly be the single solution in American context (Duany et al., 2000, p. 211).

codes reinforce certain urban tissue(s) and limit types either "by defining types or by defining a building envelope and other details" (p. 70).

On the other hand, as idealizing particular types and ignoring certain "enduring and prosaic types" such as stadiums and 'suburban office building,' the sustainability/durability of these codes become fragile. That way, they implicitly fail to deliver ***context-based outcomes meeting the current needs*** (Ibid, pp. 70-71). Consistently, recreating "anachronistic places" or promoting "anachronistic types" through design codes, together with complementary design guidelines, simply breaks the evolutionary development mechanism (Ibid, p. 72):

> "Successful and truly urban places change constantly, especially at the level that design guidelines were created to control: signs, colors, and porch details. Enacting a code that freezes current types might seem attractive to those who fear change, but it will limit the ability of types to have transformative effects and successful adaptations. […] It might not be the only way to organize an orderly place, but it is a method that offers enormous flexibility for the future." (Ibid, pp. 73-74)

Under these circumstances, the discussion of typological processes should be raised within that methodological framework (using form-based design codes) in order to propose an alternative instrumentalization of typological thinking in design codes. Based on Scheer's statements, an alternative vision for type in that regard can be featured as follows. As the primary principle, the codes should not be over restrictive, i.e., "regulate[ing] all things physical." Scheer indicates that the possible position against being restrictive is to focus on "carefully designed and varied tissues and public spaces." That way, the definition of building types can be flexible and adaptable as per changing conditions. In that sense, conserving a nostalgic ideal – together with any out-of-context ideal – should be avoided in form-based codes, otherwise that conflicts with the flow of typological processes and city development. Instead, design codes should direct city and its types in accordance with their nature,

i.e. constant change, so that current types would transform into new ones coupled with their urban tissue (Ibid, p. 74):

In order to achieve such a condition, the particularities of the formation and transformation of the urban tissue of each site should be examined for acquiring its ***typomorphological structure*** as much as tracing the ***active forces*** in the contemporary (Ibid, p. 71). Moreover, an acknowledgement of those forces restrains from the abovementioned idealism whose operative-ness is limited by the urban structure (Ibid, p. 72). Thus, ***prevalent types***, with a room for small modifications, should be the basis of form-based codes to create the urban tissue. That attitude requires to be in a "pragmatic and open-ended position," where there is not "always-right answers." Scheer opposes the idea that the only solution is "higher density, pedestrian districts, and mixed-use" for all problems of the city such as "environmental degradation or landscape integration" (Ibid, p.73). Parallel to that, Oktay (2017) expresses the neglect of New Urbanist designs on the social-cultural aspects of cities. This further buttresses the criticisms to the movement's "insularity" especially in terms of prioritizing "better-design suburban development, often for upper income groups, rather than creation of truly 'urban' places" (p. 297). To reverse such problems, a diverse set of context-based objectives should be set for each and every context. Also, exemplifications of diverse possible applications of design codes would pave the way for their executives (Scheer, 2010, p.73).

To conclude, design codes and pattern books in New Urbanism have certain potencies in their intentions of consulting to the precedents, and involving demands (and 'tastes') of different actors to design process (Carmona, 2010). However, reductive and restrictive parameters applied in the operation of these tools conflict with the city making processes, as context-sensitivity and city-evolution are being overlooked or misinterpreted. That reflects itself in the architectural articulation as the domination of architectural 'models' in the design process, instead of types. ***Architectural solutions cannot be reduced to several options***; thus, the possibility of alternative forms should be encouraged in architectural and urban design process.

That does not necessarily conflict with ‘learning from precedents.’ In terms of typological thinking in urban design, the approach of architectural articulation in pattern books and form-based codes discussed under New Urbanist movement can be recognized as preliminary experiments for an up-to-date conceptualization through more flexible and ‘critical’ typological studies.

3.2 Use of Typology in the Contemporary Urban Design: A Generative Type

After having briefly covered the emergence and evolution of the conception of type and typology, it is observed that the notions’ (potential) critical characteristic is still relevant in the context of contemporary architectural and urban practices. Indeed, type is still a topic of interest in such context, despite the common view that the use of type in design process cannot produce up-to-date, innovative design solutions.

However, it is seen that the conception of type determines the design output. On one side of that conception, there is a copy-pasted ***‘model’*** or ‘standard,’ which results in a rigid conservation of past conventions; whereas on the other side, there is a constantly evolving, dynamic and flexible ***inner structure*** of elements, which might generate more flexible and varied design solutions result in a continuation of certain typicalities. In that sense, the latter description of the concept is regarded promising in the contemporary city and examined in several influential studies such as that of Attilio Petruccioli and that of Christopher C. M. Lee. Subscribing to such a conception of type, we examine their typological studies in this section so as to discuss the potentiality of a generative typological thinking in contemporary context. Baring those in mind, David Grahame Shane’s recent criticism to the concept is referred, as well.

3.2.1 Generative Typological Reasoning in Traditional Mediterranean Context

Utilization of Italian School's typomorphological techniques to read the traditional processes of the city has been a highly regarded phenomenon since Muratori's studies. Attilio Petruccioli is one of the contemporary researchers who studies the implementation of those techniques (which are employed to examine largely occidental cities) particularly in Islamic contexts. His recent book "After Amnesia: Learning from the Islamic Mediterranean Urban Fabric" (2007), where he narrates the studies he conducted with his students, sets a recent example of the application of Muratorian method in a different region.

Following Italian School, Petruccioli's main objection is to the idea of "formulating a grammar of architecture that can solve, once and for all, the problem of making architecture" (2007, p. 9) which is associated with modernist architectural and planning practices. Instead, he seeks a method orienting to "a grammar that already exists and is preserved in the built landscape" hence unique to each particular context. Since type embodies such traditional architectural knowledge, Petruccioli revisits Muratorian typomorphological methods in the form of a typological analysis by interpreting (or reading) the city (Ibid) and, thereby, revealing the city's "internal mechanism that animates" its types (Ibid, p. 39). Addressing the exercises of "deriving historic formal scheme" (neo-traditional models), and "mechanical montage of forms broken off real world" (modernist standards/prototypes) as two possible historic errors (Ibid, 39), Petruccioli advocates that typological studies are to be served "as a reference point for action" by revealing spatial tendencies in a context (Ibid, 58).

Petruccioli (Ibid, p.10) asserts that type is "intimately connected to social body that presides over the examples in the built landscape through history," hence evolutionary. Thus, typological method is regarded as being the most useful when connected to the traditional process. However, the revival of types drawn from the traditional process (via copy-paste compositions) is rejected by asserting that ***type***

cannot be alienated from its time and human dimensions, i.e., its context. In that sense, "formal classification of [historic] types" are accused of leading to artificial imitations of a so-called decent past and being "a-traditional," despite their intention. The focus on schemas rather that inherent structure pivoted to a time and place is regarded as the downside of that approach (Ibid, p. 27).

> "[…] idea of 'type' as history cannot be separated from the idea of process. The most relevant concept of typological theory is that of processuality, which fixes the mutations of the type in the traditional duration" (Petruccioli, 2007, p. 38-9).

As being subject to constant change, type determines itself through possible changes and endurances within (Ibid, p. 33). The abiding features determine the unreducible structures/rules of the type, while variable features determine its capacity for experimentation in the process of forming new variants of it without leaving its boundaries[17] (Ibid, p. 39). Parallel to that, Petruccioli asserts that the focus of typological reading is the practice of 'building'[18] that stems from *a priori* type in spontaneous consciousness of mundane people, and that it results in 'ordinary structures' and their 'urban continuum.' (Ibid, pp. 16-17). However, those bottom-up processes faced a rupture due to modernist practices; thus, type can only be interpreted *a posteriori*, i.e., by assuming first a "critical[19] synthesis of the traditional record, including the fossilized fragments of the people's unconscious," and then a practice of "reflective critical consciousness" (Ibid, p. 27). On that basis, Petruccioli proposes to use Muratori's approach as a first reading "for a critical *a posteriori*

---

[17] Petruccioli suggests that if *"rule"* is the type, those *"exceptions"* within a single type are its boundaries (2007, p. 39)

[18] Following Caniggia's (1979, pp. 246-247) differentiation between *edilizia* (building) and *edilizia specialistica* (specialized building), Petruccioli uses the terms 'building' and 'architecture.' In that context, building refers to people's collective conscience while architecture refers to the role of the architect and the critical conscience.

[19] Being 'critical' is expressed as a subjective activity (Petruccioli, 2007, pp. 46-7) helping to understand the construction processes of type and the broken 'structural bonds' (Ibid, pp. 29-30).

reconstruction of the overall building reality" and utilizes Caniggia's inter-scalar hierarchy definitions on the basis of previously mentioned concepts of 'elements,' 'structures,' 'systems' and 'organisms' (Ibid, p. 31).

Petruccioli propounds to give attention to the concept of 'leading type' which is principally the prominent type derived from the consensus of a context/society, or in his words "the type all members of a society [type family] recognize as optimal." The flexible 'leading type' generates "***synchronic***" (simultaneous) and "***diachronic***" (in different periods of time) ***variations***[20] based on bottom-up processes in the city (Ibid, p. 40), which eventually dissolve into 'new leading type(s).' In Mediterranean basin, the evolution into new leading types is observed to occur through the synthesis of leading types and "imported models" from economically or socially presiding places (Ibid, 47). That "diatopic" (inter-contextual) process is a common phenomenon in today's globalized world, as every 'model' can easily be reached and imported into any context, asserts Petruccioli (Ibid, p. 57).

To illustrate the typological studies that Petruccioli and his students conducted within this scope, the typological analysis of Fez, Mostar, and Aleppo's building types can be addressed. Subscribing to the Italian School of typomorphology, the study: identifies the 'elementary cell' and resolves its growth operation; describes the recent typological operations (such as the fusion of local leading types with Ottoman house type); analyzes the relationship between the enclosed open space and built space as well as between public space and private space; examines the plot subdivision process through the value of street façades and specialization of corners; defines the components of the courtyard; identifies the parts of the house in terms of the main distribution node, the names of rooms and their functions, the hierarchy of the rooms in terms of their function and content. Moreover, the structural characteristic of individual parts of the house are revealed (Ibid, pp. 85-117).

[20] Terms originally defined by Caniggia et al (1979, p. 246).

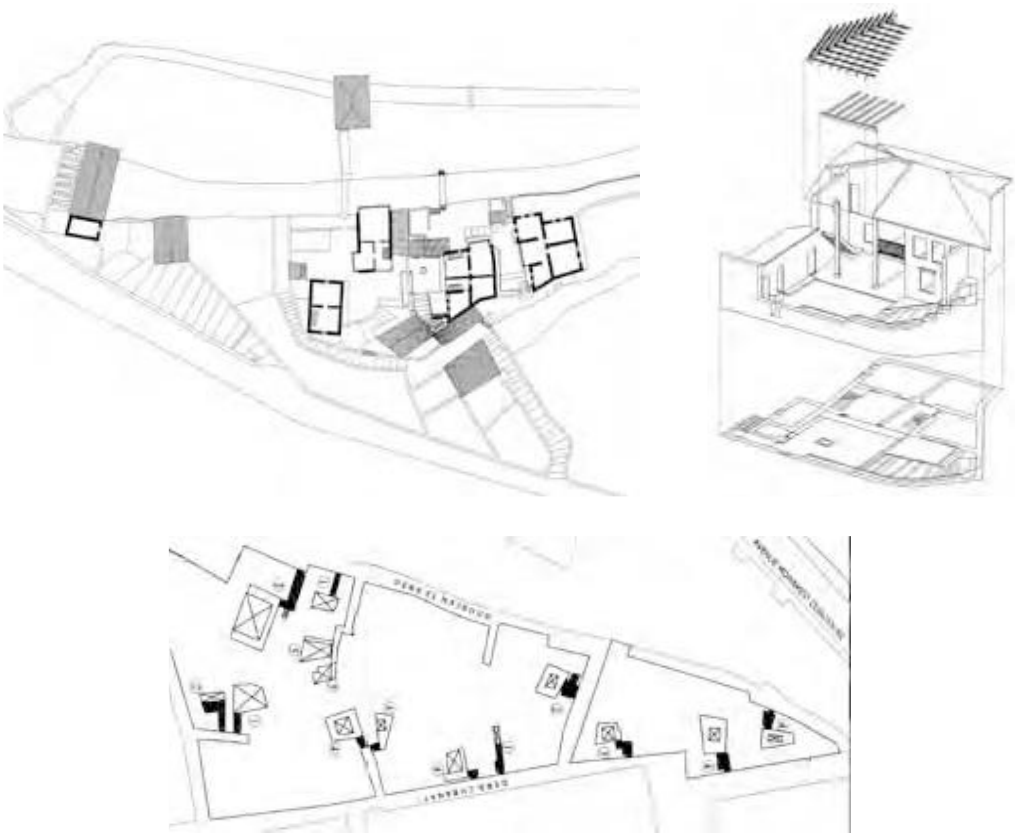

Figure 3.10. Open and closed private spaces in the fabric are addressed (top-left); exploded axonometric drawing of a typical house in Mostar (top-right). Types of courtyard access are analyzed in the urban fabric (below) (Source: Petruccioli, 2007, pp. 93,103).

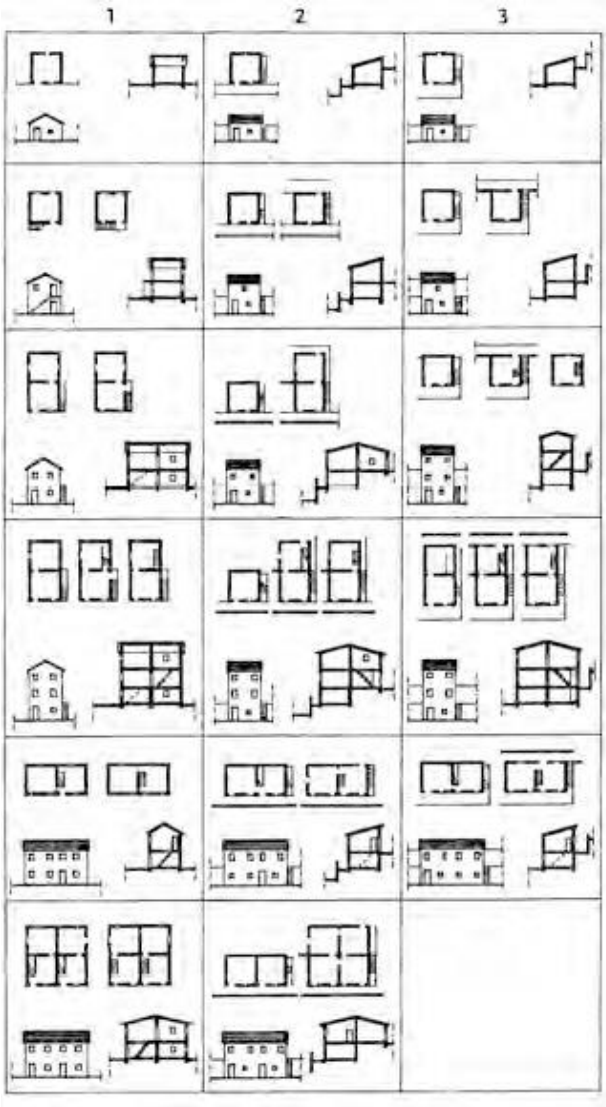

Figure 3.11. The possible evolution of the mono-cellular house ('elementary cell') type into various poly-cellular types. Note that the elementary cell is represented in three variants (1, 2, 3) in terms of its topographic position (Source: Petruccioli, 2007, p. 66)

These studies conducted in the Mediterranean basin concluded into a series of process sets of building types. According to that, there are five significantly prevailing typological processes in the basin, one of which (A) is shown in the Figure 3.12 (Ibid, p. 78). Although these sets are not meant to be typological prescriptions for further designs, they deliver a significant result in terms of understanding the traditional evolution phases and motives of specific contexts, some of which might be relevant in the contemporary city.

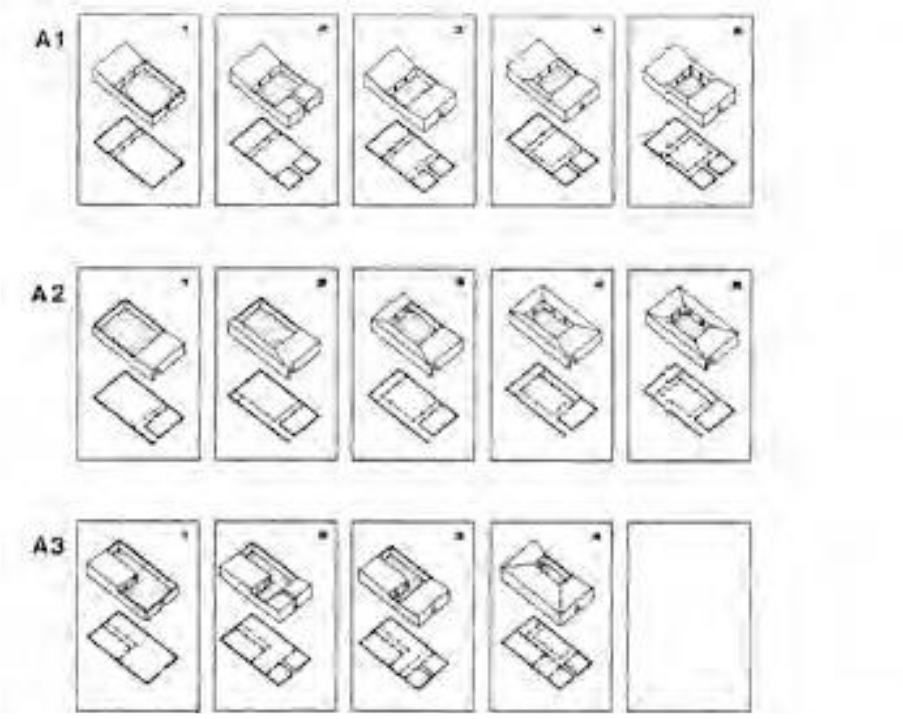

Figure 3.12. One (A) of the five sets of a courtyard house's evolution process into a single-family courtyard house via 'diachronic variations.' In all the sets, the evolution process starts with three options of courtyard access: (1) the building is placed at the opposite end of the plot as per the street, and the courtyard entrance is through the enclosing wall; (2) the built part is adjacent to the street where the entrance is through the building; and (3) similar to the first one, but the building is rotated 90 degrees (Source: Petruccioli, 2007, pp. 78-79).

In addition, single building interpretation procedure goes hand in hand with the large-scale interpretations since their processes overlap (Ibid, p. 162). In this scale, the diachronic and synchronic variations are compared and interpreted concentrating on the geometric operations, and spatial relationships between different elements, relating the results with the former scale. For that purpose, formerly, the plot shapes are analyzed. According to Petruccioli, the plots are initially regular and rectangular in most cases, and then they get broken into trapezoidal or L-T shaped pieces (Ibid, 163). In that sense, the most regular plot shapes are associated with the oldest routes, as the emergence of the younger routes result in a rupture in the plot shapes. Following that, the route hierarchy is examined based on those plot shapes using the Caniggian terms of '***matrix routes***' (primary routes, before settlement), '***planned***

routes' (follows matrix routes, after the settlement is planned), '***connecting routes***' (links the first two), and '***restructuring routes***' (created during the construction of new urban poles, behaves like the matrix routes) (Ibid, pp. 138, 162; Caniggia et al, 1979, pp. 248-249). Then, parallel to that categorization, the urban tissues along each route are analyzed and identified as either matrix, planned, connecting, or restructuring tissues. In this interpretation process, Petruccioli stresses the importance of the position of the matrix route and its tissue for capturing the main structure of the city (p. 162).

Figure 3.13. Examples of routes and their tissues (left to right): **matrix** with rectangular and regular plots along; **planned**; **connecting**; **restructuring** (Source: Petruccioli, 2007, pp. 138-141).

To sum up, within the scope of those contemporary typomorphological studies which subscribes to Muratorian ideals, the idea of type is socially bounded, evolutionary, hence context-based[21] and depends on multiscalar reciprocal relations – instead of being a mere static object or 'model.' In addition, due to the urban rupture after modernist applications, spontaneous consciousness is absent today; thus, the only way to infer types in traditional contexts is *a posteriori* – via critically analyzing the built environment in overlapping hierarchical sets. In that sense, the urban fabric is a source for understanding its types as well as to extract design principles (Ibid, p. 10), despite the lack of a clear framework. According to that***, 'inductive' (or bottom-up) characteristic in typological processes*** is to be highlighted, while mere deductions and descriptions of 'models' are to be refrained (Ibid) – which reveals the type's ability to experiment and evolve.

[21] Context here refers to space and time.

3.2.2 The Fourth Typology and Generative 'Dominant Type'

Christopher C. M. Lee, as one of the proponents of type and typology in architectural and urban design field, remarks the rupture of typological discussions in architectural and urban discourses for three decades, in the post-postmodern period. However, he claims the relevancy of raising the question of type and typology in the contemporary city stemming from the current digital architectural production itself. He explains this in the book "Typological Formations: Renewable Building Types and the City" compiling three years of studio projects conducted in AA School of Architecture under his and Sam Jacoby's supervision:

> "Substitute 'digital production' for 'mechanical production' and it becomes clear that today's global proliferation of complex forms echoes the conditions of the recent past. A timely moment, then, to reinvoke type?" (2007, p. 136).

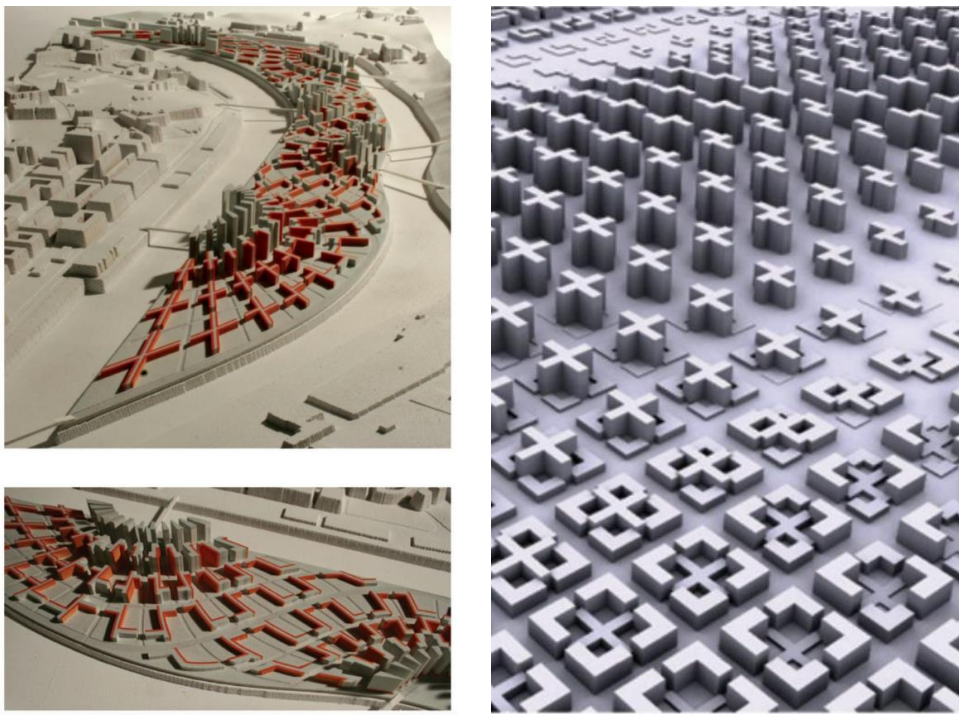

Figure 3.14. Two student projects from the studio of Lee and Jacoby at AA School of Architecture: Transformation of the built environment is controlled by means of typological parameters (Source: Lee et al, 2007).

Lee, then, criticizes the reductive conceptualization of type as for the classification of architectural works by their functions, such as residential building, hospital and commercial center. For him, with this approach, designers limit the spatial potentialities within the concept (Ibid).

As a response to that current state, Lee proposes a renewal in the conception of type and typology in order to unlock the potential of these concepts in architectural and urban design practices. He re-introduces type as “an object or artifact that belongs to a class or group that brings together others with similar attributes,” which is categorized based on “shared attributes that are structural, organizational or formal in nature.” In that sense, typology is “a method of reasoning and experimenting through type – through objects and artifacts considered within a particular group.” That typological method takes ‘precedents’ as a starting point, and then “proceeds via variation and differentiation in response to specific but shared demands and pressures.” For Lee, the objective of that new typological endeavor is a search for “new solutions whilst maintaining shared collective traits that are repeatable and have similar characteristics” (Ibid).

In this conception, Lee attempts to link typological thinking and urban plan. Opposing two conventional attitudes of urban plan, he attempts to make the procedure of city making to incorporate typological thinking. Firstly, he asserts that an urban plan which is responsive to the typological alterations should not be “spatially and architecturally resolved.” Secondly, he argues with the current approach of the terms of policy and land-use which limits “the spatial and architectural richness or allure that is necessary to shore up consensus and galvanise action on the urban plan.” Type, on the other hand, is presented as an alternative regarding those oppositions. Lee asserts that when type is employed as the main constituent of the urban plan, it directs the architectural knowledge into urban plan in a flexible manner. Its "pliability" becomes a feature of the urban environment providing the richness of urban plan (Ibid, p. 140).

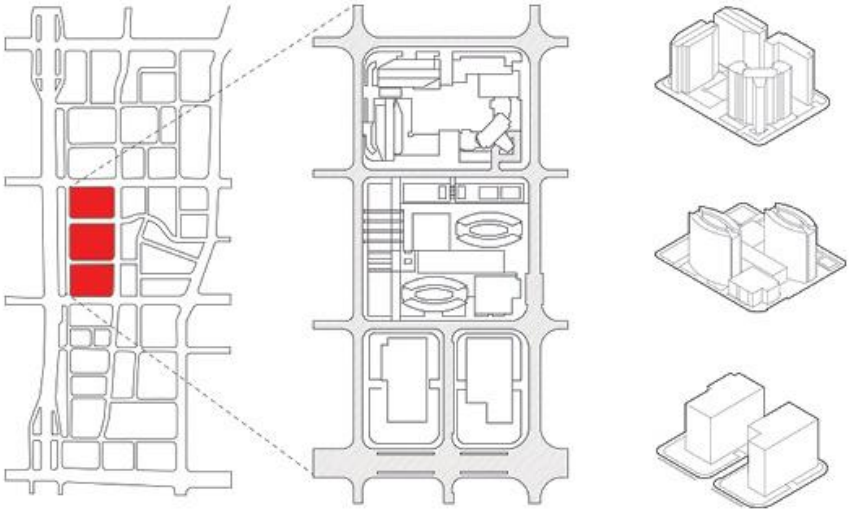

Figure 3.15. A student project supervised by Lee et al.: The multiscalar typological thinking in the context of urban plan (Source: web 16).

The pliability of type and its constant evolution highlights the concept's potential of being a generative agent in urban design process. Before delving into that potential, the generative character of urban context should be addressed first. In that context, it is relevant to refer to Maki's conception of 'collective form' which is defined as "groups of buildings and quasi-buildings - the segment of our cities" which "have reasons to be together." (Maki, 1964, p. 5). Declaring three collective forms, Maki puts the third one – 'group-form' – forward. 'Group-form,' as a reaction to the prescriptive and authoritative figure of modernist planning, propounded as a 'collective form' which is developed/transformed within a sequential operation. That is, the process of 'group-form' is a sequential aggregation of generative elements in a bottom-up manner (Ibid, pp. 14-16).

Figure 3.16. Three 'collective forms' by Fumihiko Maki, left to right: 'compositional form,' 'the mega-structure' and 'group-form' (Retrieved 27/02/2020 from web 17, 2012 June 26).

In this conception, "the group form and its space" are designated as the 'proto-type elements' by which a "system and linkage" is established in the ***unfinished*** whole. It can be inferred that the 'group-form' prioritize its prototypes, their – obvious or covert – links, and the system and linkages arising from those links. Moreover, it is stressed that the ***whole system stems from the very society generating that 'group-form.'*** In that sense, the search for a finished and fixed whole, e.g., modernist mega-structures, is not valid for that process of city making (Ibid, p. 19). Lee (2012) comments that since the 'group-form' originates from a given context and proceeds in an incremental manner, it channelizes the aggregate towards a "more responsive and flexible growth" (p. 351). On this basis, type as a generative element in the incremental growth of urban environment finds its meaning.

In order to make use of the aforementioned prospects of type, a generative typological process is to be organized. For that purpose, Lee (2007) suggests employing the architectural knowledge in type, because to "exploit the potential of an accumulated intelligence" embodied by type is a must for a generative instrumentalization of the concept. In this way, the prospectively abundant – and unpredictable – transformations of type into new types are unlocked. Moreover, "the generative logic of serial production" is pointed as another key aspect. That puts type in an "initial critical position," and then implies a constant questioning on "the idea of type" in order to alter its deep structure accordingly – in a generative manner. At this point, the questions of why and how type should change in a generative operation become significant. Lee connectively answers these questions pointing to the very context of type – the city. He indicates that the urban context, where the type is

evolved, must be the origin of the operation of questioning and altering the idea and deep structure of that type. It is to be used to disclose the urban – "economic, political and social" – forces which are "absorbed, reflected and deflected through the deep structure of the type" (p. 139).

Following that, Lee takes the new conception of type and typology a step further in 2012 by propounding a 'fourth typology'[22] in his PhD dissertation "The Fourth Typology: Dominant Type and the Idea of the City." The fourth typology traces the third one through not only its approach to the city, but also its approach to the disciplinary knowledge of architecture. Embracing the idea of when "architecture is required to offer an alternative, it must return to the question of the city," it fundamentally re-examines "the idea of the city" (2012, p. 2). Departing from the built environment itself, this conception encourages "the possibility of architecture, through its disciplinary knowledge, as a means for emancipation from within" (Ibid, p. 378) referring to the aforementioned disciplinary autonomy.

The fourth typology is formed with the synthesis of Lee's arguments discussed so far, with an emphasis on the ***contemporary city***. Parallel to his previous claims that the 'typicalities,' i.e., "common situations and typical elements," in the contemporary city are to be examined in order to understand the idea of the city (Lee, 2011, webpage), Lee (2012) proposes a type which is governed by the irreducible logic, i.e. deep structure, of "the most typical and common to all" in the contemporary city (p. 3). He names that specific type as 'the dominant type' which is "the typical element that constitutes both the idea of the city and the structure of the city" (Ibid).

To clarify the concept of dominant type, it is necessary to refer to concepts of ***common characteristics, collective meanings, change*** and ***their reification*** in the city. Lee suggests that the city builds particular attributes resulting from its geographical and topographical conditions as well as the need of differentiating itself

[22] He refers to Antony Vidler's "The Third Typology" article.

from other connected cities with which the city communicates. The "collective meaning" is, then, formed out of those attributes to enhance residents' ability of coexistence in the city. However, that meaning evolves in time as per its changing residents as well as the external conditions. That originally-abstract and constantly-changing meaning reifies itself in the built environment, both in mundane buildings and landmarks. For Lee, this approach concludes to the fact that the dominant type within that built environment, i.e. the type of most common and typical to all, reveals the idea of that city. Thus, he states that:

> "From Barcelona with its Cerdá housing blocks, London with its Victorian and Georgian terraces and New York with its Manhattan skyscrapers, cities can be understood, described, conceptualised and theorised through their own particular dominant types" (2011, p. 20).

Besides, concerning the constant evolution in the collective meaning, Lee (2012) positions the 'dominant type' in the place of "a diagnostic and prognostic device for the contemporary city" which is "under construction" (p. 261).

In his dissertation, he studies the city of Singapore which was built from scratch in the previous century. Examining such a city via employing dominant type, he argues that ***dominant type is based on and rooted in the contemporary city***, instead of the 'artifacts' and the traditional city. The departure from the third typology lies in that differentiation of the source from which the typological endeavor is to be conducted (Ibid). Moreover, he asserts that the "generic character" of dominant type(s), which are slab and podium blocks in the contemporary city of Singapore, consolidates the utility as well as adaptability of the concept. The generative potential of dominant type manifests itself in its optimized steadiness, as Lee puts it "specific enough to articulate specific architectural and planning goals and yet general enough for further transformation" (Ibid, p. 334).

Here, it should be noted that Lee does not reject the traditional types and their values for typological processes in traditionally evolved cities. In order to exemplify the use of dominant type for design processes in traditional cities regarding the scope of this

thesis, one of the student projects – "The Chinese Unit" by Yuwei Wang – executed under the supervision of Lee and colleagues in 2012 in AA School of Architecture is discussed below.

3.2.2.1 Generative Dominant Type in Traditional City

Reflecting Lee's abovementioned understanding of type, the project by Yuwei Wang argues that the contemporary dominant type – megablock – lacks layers and meanings to become a 'civic place.' In response to that, he proposes to revisit the preceding (both traditional and modern) urban forms and dominant types to reveal the potential of the contemporary dominant type and enhance its civic quality.

The process of the project is composed of typologically identifying, analyzing and comparing (1) the traditional Chinese courtyard house which is the dominant type of old Chinese cities, (2) the modern implementations of big yard and commune mansion, and (3) contemporary residential and commercial high-rises in chronological order. On that basis, the project proposes an updated dominant mega-block type which is nourished by the traditional types as much as current market orientations.

Figure 3.17. The Chinese traditional courtyard-house type analyses which focuses on the ***structure, porosity, hierarchy*** and ***circulation*** referring to the Vitruvian triad of *firmitas, venustas, utilitas*. (Source: web 18)

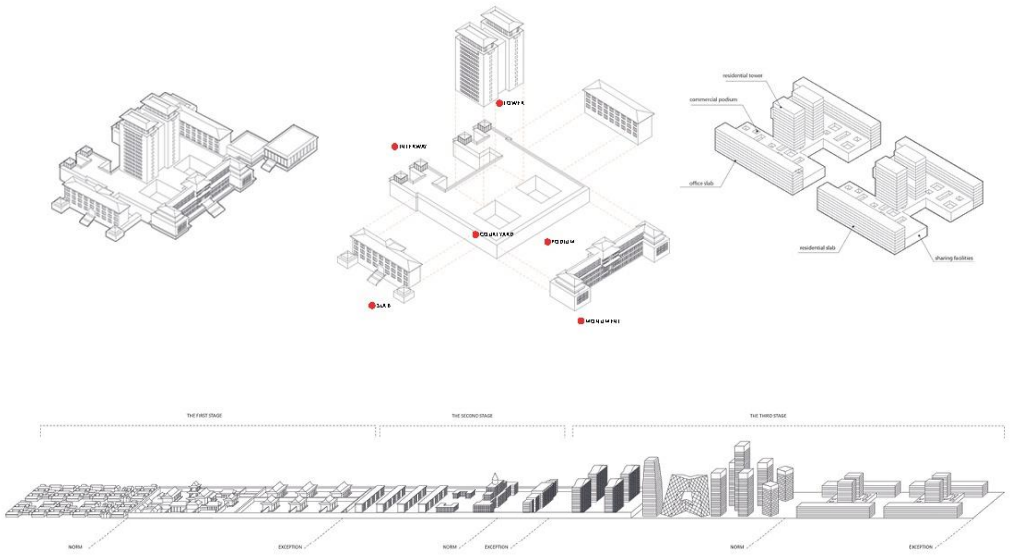

Figure 3.18. The proposed dominant mega-block type (above); overview of the 'norms,' or typicalities, and 'exceptions' during the evolution of the city (below): The proposal is addressed as a typological instance rooted in the dominant type of the contemporary city sustained with traditional dominant types (Source: web 18).

In 2015, Lee conducted another studio at Harvard University at 2014 called “The Countryside as a City” which problematized the contemporary conditions of old traditional settlements where the traditional built environment was completely destroyed and then, ubiquitous modern blocks were erected in lieu of them. The studio sought an alternative urbanism for that place through a generative typological thinking that bases itself in the traditional dominant types and the current life habits of the residents (Lee, 2015).

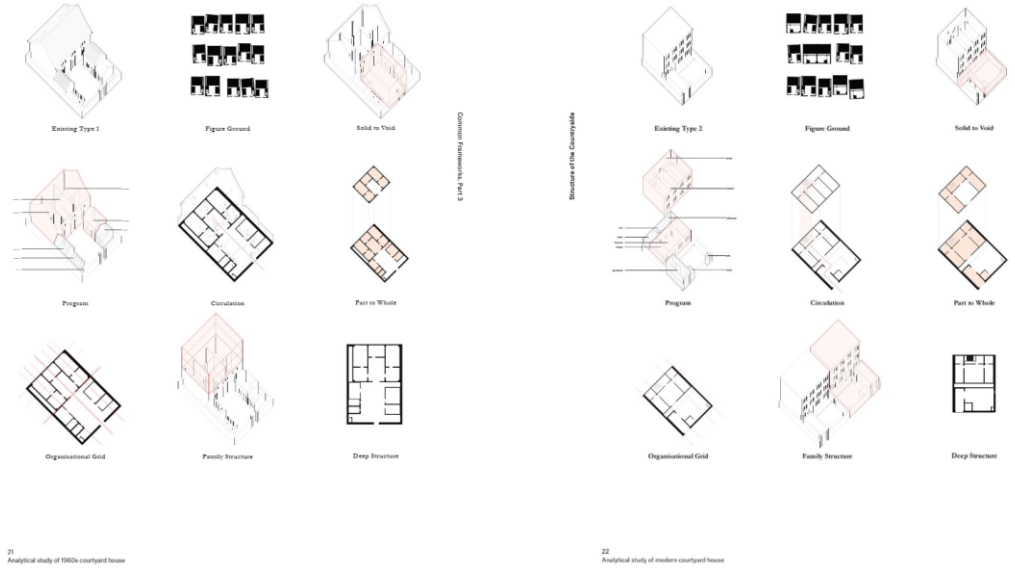

Figure 3.19. The typological analysis of the traditional (left) and modern (right) courtyard house; the former *was* and the latter *is* the dominant type in that context (Source: web 19).

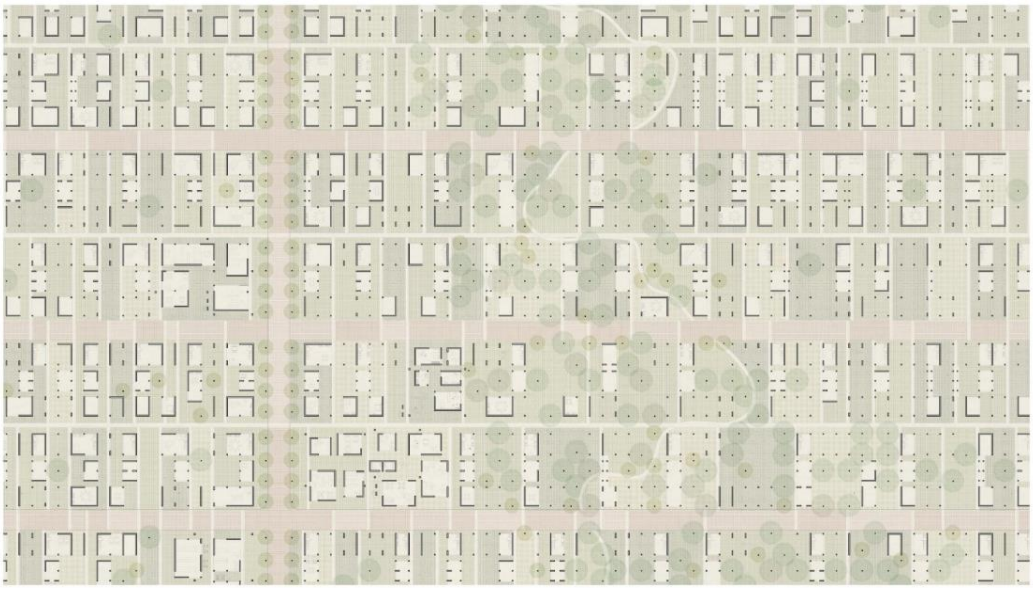

Figure 3.20. The studio project by Feng Shen: Note the emerged variety of the dominant type and public space once applied in context (Source: web 19).

Figure 3.21. The studio project by Dimitris Venizelos: Note the subtle variety on the scale of plots (Source: web 19).

After all, it is obvious that broadly analyzing the traditional processes of the city through typological reasoning is not the main intention of those projects, unlike the conventional use of typology in Italian School and its successors. Instead, within the typological endeavor that Lee pioneers, the contemporary city is targeted to be

examined so that further possibilities within its dominant type(s) and resulting alternative urban environments can be unlocked. To that end, the dominant type and accompanying urban forms of the contemporary city are compared with the preceding ones, and then they are reinterpreted on the basis of the concept of dominant type. In that context, the studies convey the deep structure of common architectural artefacts and incorporate them in a flexible framework fostered by its contextually-relevant past.

The studies supervised by Lee strongly proves a point that typological reasoning can be generative when conception of 'type' is critical and dependent on the inner structure, instead of being dependent on styles and determined by set-pieces (or finished compositions). Moreover, although Lee is methodologically influenced by the prospects of computational tools with the ability of parametrizing the variables of typicalities in typological thinking (Lee, 2007, p. 7), the studio projects by Wang, Shen and Venizelos represent a more 'analog' way of conducting the design process within the basis of the same theorization.

3.2.3 The Contemporary Reflections on Type

Having briefly covered the typological studies from its emergence in the architectural and urban discourse to the recent conceptions and practices, it is important to mention the respective constructive criticism by Grahame Shane who is a respected academic in urban design.

In his article entitled "Transcending Type: Designing for Urban Complexity" (2011), Shane acknowledges certain benefits of the use of type and typology ***in design process*** such as its ability to quickly respond to the design problems with multipliable "standard product" (p. 128). In that respect, his criticism of the use of type and typology in urban design essentially stems from its inflexible and authoritarian characteristic claiming that such "lack of control by the user" and "elimination of variety and choice" unlocks building faster in the cost of urban

complexity. To illustrate, Shane addresses the use of typology in authoritarian governments "as a reductive instrument to try to quickly create cities" (Ibid).

On the other hand, he addresses the European studies that remark "the theoretical instability of the type, as the linear dynamic of industrialisation breaks down and a chaotic disequilibrium invades urban morphologies," where the social actors and contextual circumstances are regarded as determinants of type. According to that understanding, types can be accorded as per its users via designers' control over buildings' codes. Naming several works on emergent systems that enable individual coding of each building such as that of FOA and Reiser + Umemoto, Shane underlines that a generative typological method is possible. However, the question of how to merge these "flexible and emergent design systems" and the existing urban fabric is not well articulated yet (Ibid, p. 133).

Based on that generative framework, he points out the problems related to the built environment in the developing and underdeveloped countries, claiming that an updated and generative typological approach should be established to handle the modern crises related to climate, migration, energy, etc. In that respect, he advocates benefiting from "improvisations" in informal places such as favelas of the North American countries (Ibid). That is, designers are to acknowledge the "hybridity and diversity" in the city that transforms "types to meet new situations when required;" and, parallel to that, the updated approach to type and typology should include this improvisation capacity that reflects "the power of the individual builders to create a vast collective form." To include such a capacity, he addresses the potentiality of the computational tools with which the control over "chaotic variables and value complex urban ecologies," and the ability "to work in diverse, unstable situations and respond in indirect and non-linear ways to urban problems" are possible (Ibid, p. 134):

> "The key to this new opportunity is that the type is unstable, mutating and changing. It is precisely this instability that makes morphogenesis and

hybridised typologies so valuable in the current age of massive urbanisation on an unprecedented global scale" (Ibid).

To conclude, bearing the previous discussions in mind, it can be inferred Shane's criticism of type roots in the definition of type as a standardized model in practice. However, with respect to the idea of improvisation, coding individual buildings according to particular parameters is regarded as a promising approach in which analytic typomorphological methods that analyze the mundane 'buildings' (similar to favelas) can be a starting point to enhance the computational typological design exercises.

3.3 The Prospects of Critical Regionalism with a Generative Typological Thinking in Traditional Context

In a traditional context, the work aims to propose an experimental urban design method that is based on a generative typological approach within Critical Regionalism framework. The conceptual framework is established in the light of the literature revisited in this and previous chapters, and it is rooted in several theoretical pillars argued below. Principally, the aim of critically capturing the vivid vernacular features of the traditional urban context and incorporating them in the design process guides the development of this study's typological methodology. Herein, the subtle continuity of the typomorphological relations is sought while encouraging material and/or stylistic innovation and meeting contemporary needs. That is, not a ***reproduction***, but a ***critical reinterpretation*** of the traditional-vernacular city is objectified.

In that framework, Italian School's approach to the built-environment indicating that it is created via "human action and environmental reaction" (Caniggia et al, 1979, p. 49) is adopted. The flexible and evolutionary – based on human activities – approach to typicalities in the built environment is prioritized while the static description of the architectural object for the sake of defining type is avoided. Therefore, the study

grounds on the idea that the typicalities of the built environment exist because of and for its society. Since the mundane and especially residential buildings "are rooted in place" (Petruccioli, 2007, p. 10) – i.e., they are evolved with the changing society and technology – they represent society's spatial habits. The casualty of residential built environment implies not only the flexible, evolutional characteristic of those places but also the potentiality of them to reflect the vernacular lifestyle and spatial demands. That potentiality is celebrated in this research as the experimented urban fabric is substantially composed of residential buildings. In addition, focusing on the bottom-up processes and the "social body that presides over the examples in the built landscape through history" (Ibid) in the design process is important in that sense so as to refrain from a regionalist approach by means of a rule or an image to be copied from the past. That attitude correlates with the criticisms raised towards the Critical Regionalism's static attitude, and the suggestion of including the evolution and change in the critical regionalist overview – which are addressed in the previous chapter.

A flexible, hence, generative typological mindset is useful for such an objective. Besim Hakim's (2007) praise of "dynamic generative processes," provides a valid discussion concerning the use of a generative type. According to Hakim, the dynamic generative processes of formation and development of the city, which have shaped the traditional cities, result in a well-integrated built environment – unlike their modern counterparts of "static blueprints of 'master plans' that produce fabricated built environments" (p. 87). Such a generative process is identified by the ***incremental application of particular principles***, which does not lead to a certain final product (Ibid). In the light of that, a generative methodological framework to embody the flexibility and adaptability to support the variations and changes in the city is attempted via (1) a typomorphological analysis in the context in question, and then, (2) decoding the existing principles that generate the vernacular types and their multiscalar typicalities in order to pave the way for a generative urban design code.

In that context, it is important to note that the study attempts to propose an analogue methodology in which designer is responsible for interpreting the generative rules

and propose compositions for each individual case, instead of parametrizing and conditioning possible forms digitally. In that endeavor, Christopher Alexander's 'pattern language' conception, provides a practical toolset for capturing typical activity patterns through urban design coding. Elaborated in the book "A Pattern Language: Town, Buildings, Construction" (1977) by Alexander et al., the pattern language is emerged as a critique of the modernism's top-down impositions that disregard the human experience and vitality of a place (p. ix), similar to Frampton and other postmodernist figures. Herein, initially, they lay down the motives for certain spatial configurations based on the statistics and surveys of typical activity or experiences so as to capture the human dimension in built environment. Following that, by describing hundreds of patterns via suggestive diagrams which "describes the core of the solution to the problem, in such a way that you can use this solution a million times over, ***without ever doing it the same way twice***" they propose a generative multiscalar urban design code, or a pattern language (1977, p. x). With this, i.e., by codifying the recurring/typical activities of users reflecting the unconscious behavioral habits of society, they aspire to build a better relationship between user and designer. (Bhatt, 2010, p. 712).

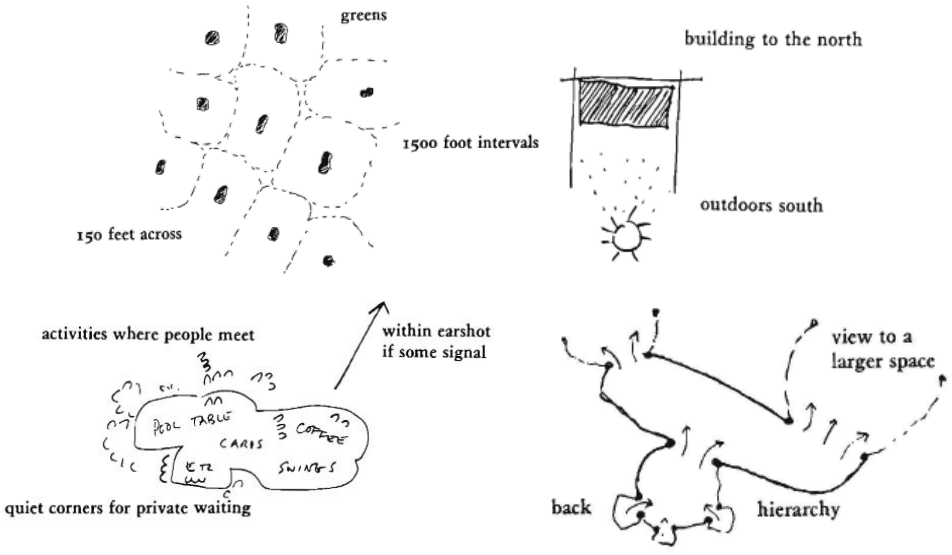

Figure 3.22. Examples of patterns: *"accessible greens"* (top-left); *"south facing outdoors"* (top-left); *"place to wait"* (bottom-left); *"hierarchy of open space"* (bottom-right) (Source: Alexander et al, 1977, pp. 309, 516, 560, 711).

In the scope of this research, we adopt this approach in the way of paying close attention to the users as much as the physical, built reality for creating a generative urban design methodology. In that sense, we underline the potentiality of patterns as a tool in typological thinking as they can capture the local typicalities. Here, generatively decoding the ***typical activity-patterns*** (i.e., the fragmental reflections of recurring spatial forms) accommodated in vernacular settlement is crucial so that those activity-patterns condition the new built environment in a regionalist manner.

In order to fine-tune our methodological framework, Nikos Angelos Salingaros' (2006) conception of adaptive design method that consists of two reciprocal languages, namely ***form language*** and ***pattern language,*** is adapted in the study. According to him, the pattern language which "contains rules for how human beings interact with built forms" should be accompanied with the form language which "consists of geometrical rules for putting matter together" so as to create an adaptive design method (p. 272).

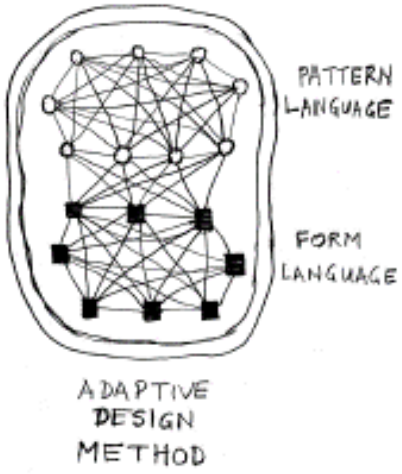

Figure 3.23. Salingaros (2006) claims that *"design in architecture and urbanism is guided by two distinct complementary languages: a pattern language, and a form language;"* and together they create an adaptive design method. When one of them is missing, the result would be *"alien environments"* (pp. 272-275).

On the other hand, Hakim underlines the importance of the way of defining the principles (or the codes) in terms of their generative character. According to him, the principles governing generative process should be rather ***proscriptive*** instead of

prescriptive. In other words, they should ***define the limitations of a design action***, i.e., from what to refrain, by not prescribing final composition. Besides, the 'intentions' of the principles and their performance must be interiorized and comprehendible by the public. In that way, he argues that the principles can be adapted as per each unique site in a region (Ibid, p. 92). In the Anatolian Ottoman context, there is a similar urban condition, as well, since the local builders "were guided by a few simple rules of civility" (Oktay, 2017, pp. 298-299). Owing to that, "every house in the Ottoman city was different" but this bottom-up simple rules still maintained such an "individuality" that resulted in an overall coherence (Eldem, 1987 cited in Ibid).

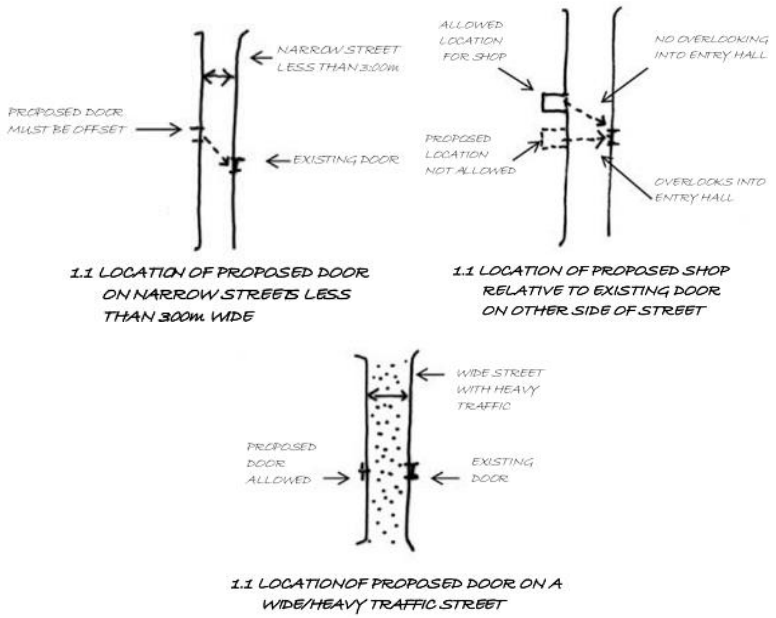

Figure 3.24. The examples of ***proscriptive design principles***. Here, two entrance door should not be directly facing to each other concerning the privacy conditions. Prohibiting a certain urban relationship, the principles are argued to accommodate a wider range of different solutions (Source: Hakim, 2007, p. 95).

To sum up, this study grounds itself on Italian School's human-based – flexible, evolutionary – approach to the built environment as being in a search of an experimental/alternative Critical Regionalist design framework. Having reviewed the criticisms of the Critical Regionalist theory, the study fine-tunes its contextual argumentation for each specific context by prioritizing vernacular typicalities

stemming from local activity patterns. In this regard, it is proposed to employ a generative typological thinking that is enhanced with the inclusion of human dimension in the urban design process. To that end, the typicalities in the vernacular city are to be decoded by employing Alexander's conception of pattern language accompanied by Salingaros' conception of form language. In addition, combining those conceptions with Hakim's proscriptive approach, the codes of the languages are defined in a proscriptive manner as much as possible so as to enhance their flexibility and generativity.

CHAPTER 4

TOWARDS A MODEL APPROACH: THE CASE OF UÇHİSAR, NEVŞEHİR

The main motivation of this research is to address a generative typological approach and propose an experimental methodic framework in a unique and traditional context. In this chapter, a critical common ground for the existing and the new patterns is sought in a way that the new is a subtle yet critical continuation of the existing. In this respect, Ricœur's question of "how to become modern and return the sources" (1961 cited in Frampton 1983a, p. 148; 1983b, p. 22) is once again raised and a methodological response to that question is experimented within a typological framework. To that end, in the light of the previously discussed concepts, an experimental analysis and design framework is defined, applied and discussed in the case of Uçhisar, Nevşehir. Here, criticizing the settlement's existing urban conditions, the study conducts typomorphological analyses on the traditional urban form and activity patterns. By using that analysis, it attempts to decode the existing patterns and to formulate a morphological urban design code accordingly. Then, a design experiment is conducted by using the code in an ensemble within the new settlement area of Uçhisar and its findings are discussed.

4.1 Description of the Context: Uçhisar in Cappadocia

Uçhisar is a traditional settlement within the Cappadocia region's natural and urban heritage site[23] together with Ürgüp, Göreme and Avanos. The settlement is located

[23] Inscribed in UNESCO's World Heritage List in 1985 (UNESCO World Heritage Centre, n.d.).

7 km east of Nevşehir and within the borders of Nevşehir provincial administration with its 3860 habitants (Ömerül Faruk Yolveren Planning Office, 2015).

Figure 4.1. Uçhisar is within the Cappadocia region, i.e., the triangle among Nevşehir, Ürgüp and Avanos (Mapbox, 2019).

Being within the impact area of formerly active volcanos, the Cappadocia region – hence Uçhisar – has a soft soil that give rise to unique topographic characteristics in terms of not only outstanding natural beauties but also built environment. In Uçhisar, the built environment is particularly interesting as it is established on and around a steep hill (about 100 meters high) that ends up being carved out to host the traditional castle of the settlement on one side, and the extensions of the masonry houses on the other side which is a more habitable slope. The hill has a magnificent view towards the Güvercinlik Valley which is located on the southeastern part of the settlement.

Figure 4.2. Traditional fabric in Uçhisar (By courtesy of Argos Yapı, 2011).

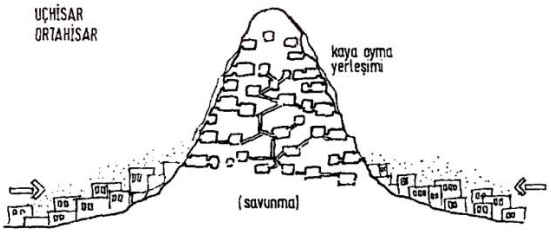

Figure 4.3. The unique settlement principle in Uçhisar: carved out and connected spaces *in* the hill. The soft soil consisting of volcanic tuffs facilitates carved out spaces **(**Binan, 1994, p. 67).

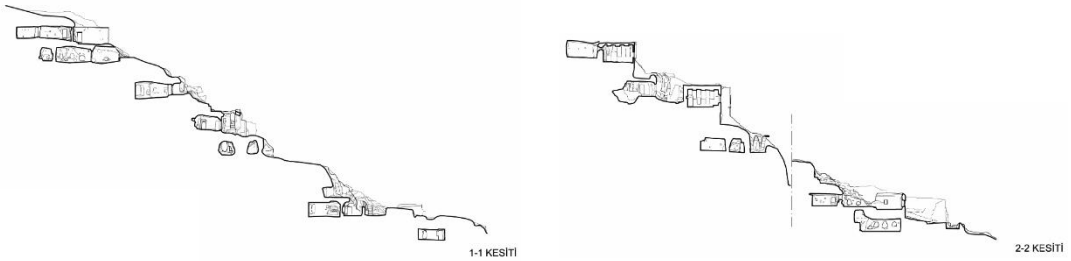

Figure 4.4. Two urban sections drawn during a building survey within Uçhisar's traditional fabric show a number of carved out spaces on the slope. Note that the masonry parts of the houses are destroyed to a large extent, but two instances of such masonry structures can be seen in the section below (By courtesy of DS Mimarlık, 1999).

Similar to other Ottoman cities which experienced a "destruction of the uniqueness of places" following the modernist implications in traditional city, Uçhisar also suffered from such a process. Oktay discusses this for the traditional cities in Turkey indicating that "the characteristic urban house traditions have been replaced by an unfortunate model of housing, …, with little thought given to family structure or neighbourhood organization" (2004, p. 25) which is also the case for Uçhisar. This process has gained speed after the 1960s, when the old settlement area was declared as a 'disaster area' due to the risk of rock falls and cave collapses. Following that call, the residents moved from the traditional fabric to the southwestern part of Uçhisar where the topography is flatter. The government provided the locals with basic 'disaster homes' in the form of detached garden houses which is a foreign building type to the traditional fabric and lack the potentiality to produce the complexity and variety of the existing vernacular city. After moving to the new settlement area, people (who by a majority have the vernacular building know-how) carried the rocks of their previous houses and reused them in their new houses by creating additional spaces in order to compensate their spatial needs.[24] Today, the old settlement around the castle and on the slopes overlooking the surrounding valleys are mostly reserved for tourism enterprises such as hotels and restaurants. Nevertheless, although the dwellings living around the castle and on the slopes are quite rare, it is still possible to read the traces of vernacular spatial and behavioral patterns on the traditional fabric.

From the morphological perspective, the city is composed of two distinct urban fabrics (Figure 4.5.). One of them is the traditional fabric which defines the settlement's core and characterized by the vernacular architecture while the other one is the new settlement which is created on the periphery after the abovementioned move in the 1960s.

[24] Those details regarding the residents' transfer in the 1960s are acquired from the team of Argos Yapı in March 2019. Also, see: Fitnat Cimşit's doctoral dissertation (2007), Aslı Kırbaş's master's thesis (2019) and Pınar Başak Tongal's master's thesis (2014).

Figure 4.5. Old (left) and new (right) settlement areas in Uçhisar (Yandex Maps, 2020).

Parallel to the other Ottoman cities where "the pre-existing topographic character of the site was apparent at the urban scale" (Oktay, 2017, p. 301), in Uçhisar, the traditional fabric is interwoven by its topography. That is, it has a rich internal variety with its rock-carved and masonry architecture located on the slope of an easy-to-carve hill. In this respect, it has a unique morphological character worth examining in terms of the local architecture and the urbanism practice of the region.

Figure 4.6. The collective urban form of the traditional fabric of Uçhisar, note the spatial characteristics being on top of each other as if an urban relief (Source: O. Çalışkan's personal archive, 2021; Personal archive, 2019).

Figure 4.7. Street views within the traditional fabric of Uçhisar, note that the compact, dense urban composition is integrated with the topography and material through a creative three-dimensionality (Source: O. Çalışkan's personal archive, 2021).

On the other hand, the new settlement on the periphery differs from the traditional one owing to its ***top-down plan*** which have conditioned a development based on ***standards*** applied on individual parcels. In fact, this area follows, in a way, the global trend of modernization which, Oktay (2004) suggests, results in neighborhoods without an "identifiable character" as forming a monotonous built environment. Herein, the streets also lack a "spatial definition and public use" as being "vehicular channels" (p. 25), which applies to Uçhisar, as well.

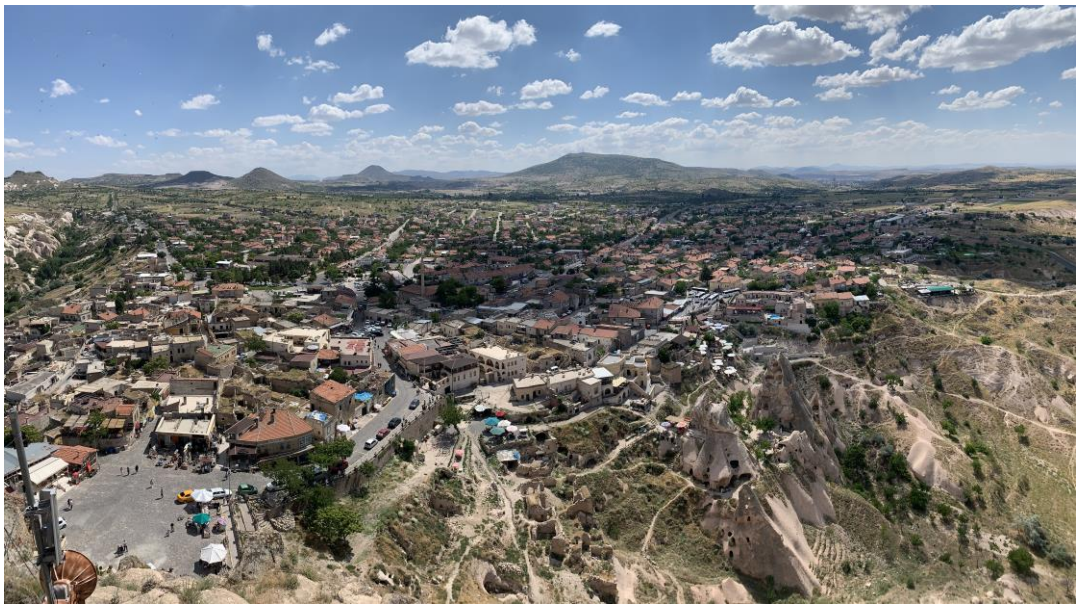

Figure 4.8. New settlement area in Uçhisar (Source: O. Çalışkan's personal archive, 2021).

Figure 4.9. Street views from the new settlement area of Uçhisar (Source: Personal archive, 2019).

Figure 4.10. The trend of the break from the traditional spatial features manifests itself on the layers of development over time, note the low-rise apartment blocks on the fringes (Source: O. Çalışkan's archive, 2021).

It is clear that in the traditional fabric, the spatial formation processes which are accorded to the topographic condition have created a rich and three-dimensional urban composition whereas the standardized planning practices does not offer such a richness and a vivid urban condition. Although this new fabric is shaped by a parcel-based development with an internal coherency in terms of townscape (Figure 4.10) and does not produce a mass housing (e.g., practices of TOKI), it is not morphologically in continuity with the traditional fabric.

From this point of view, this study aims to define an alternative method approach to the development of this unique context, which would be based on the vernacular spatial structure of the context.

4.2 The 'Generative' Analysis: Decoding the Traditional Urban Form

In the scope of the thesis, the new settlement area in Uçhisar is challenged to incorporate the urban morphological features of the old settlement area within its current building-block layout. With the aim of proposing a Critical Regionalist typological framework that captures activity patterns, these patterns are observed in the vernacular fabric by means of typical/generic spatial compositions that they create and they are utilized in the generative urban design process. To that end, firstly a typomorphological analysis is conducted using generic types for understanding the physical context and its social content in terms of its prevailing typomorphological elements; secondly, an index of urban design codes based on form and pattern languages is created in order to set the framework of interventions in the city; then, finally, an urban design exercise is implemented employing the index.

4.2.1 Typomorphological Analysis

As being the first step, the typomorphological analysis that conditions/grounds the urban design codes comprises of multiscalar cartographic documentation and categorization of the prevailing urban forms that stem from typical

activities/experiences of the locals. The typomorphological approach here fundamentally focuses on decoding the elementary relations existing in the traditional urban fabric so as to understand the generative motives that create Uçhisar's unique urban composition. In that regard, we analyzed (1) individual blocks, (2) plot subdivisions, (3) individual plots with building units, and (4) the organization schemas of building complexes – with respect to street sections and building density ratios. The following tables showcase the prevailing ***types*** together with underlying ***elementary relations*** and overall ***configurations*** that, then, lead to ***existing compositions***.

In the light of typomorphological analysis here, several prevailing types of blocks, plot subdivisions, plots, and buildings are observed and examined.

Firstly, the two prevailing block types are linear and close-compact types. For both types, the relevant plot configurations and plot subdivision types are addressed while existing compositional variations are catalogued in the Figure 4.11. According to that, the linear block type is composed of one or two rows of plots. It follows the topographic lines of the steep hill where the traditional fabric is located, on the northeastern part of Uçhisar. Mostly located on the rather flat part of the vernacular fabric, the close-compact block type has generally two layers of plots, namely inner and outer. While the outer plots are on the edge of the block defining its shape, the inner ones are connected to the street via narrow cul-de-sacs. Here, the block dimensions are also analyzed and the possible dimensional interval in the urban code is addressed.

Secondly, the plot subdivision types within the blocks are serial lateral, serial bilateral and embedded as seen in the Figure 4.12. Usually observed on the most inclined surface, the serial lateral type of plot configuration created building-blocks that are composed of single plot rows. The serial bilateral, on the other hand, is created that of two plot rows and located on the flatter parts of the vernacular fabric. It can be indicated that these first two types of plot configurations resulted in the building-block that are within the aforementioned linear block type. The embedded

type is relatively less common compared to the first two despite a number of examples; and, that type of plot configuration generated the building-blocks that are within the close-compact block type with inner and outer circles of plot rows. Here, the plot orientations (as per street) and plot depth are regarded as important parameters that generate compositional variations in the typical configurations and determine the level of vividness on the streets by affecting the building front. In this regard, the observed configurational variations and plot layouts in the vernacular fabric set an example.

Thirdly, the prevailing plot types are categorized as regular-in-shape type and irregular-in-shape type as shown in the Figure 4.13. The former has three prevailing configurational variations of the plot with reference to the street (i.e. orientations toward the street), while the latter represent single typology in itself that could not be categorized further. The regular plot type hosts attached, semi-detached, and detached courtyard house types within its existing samples. Regarding the definition of house types, the placement of the building unit, its relation with the plot boundary and street are important. Besides, the plot and building access, and the number of building units within a single plot are regarded as significant factors that generate configurational and compositional variations in the urban fabric.

Finally, the organization schemas of building complexes, i.e., the organization of the plot, are examined with respect to the main building and plot sections, namely the main unit, depot/stable[25] (if exist), iwan and courtyard.

[25] To be reinterpreted as garage in the new settlement.

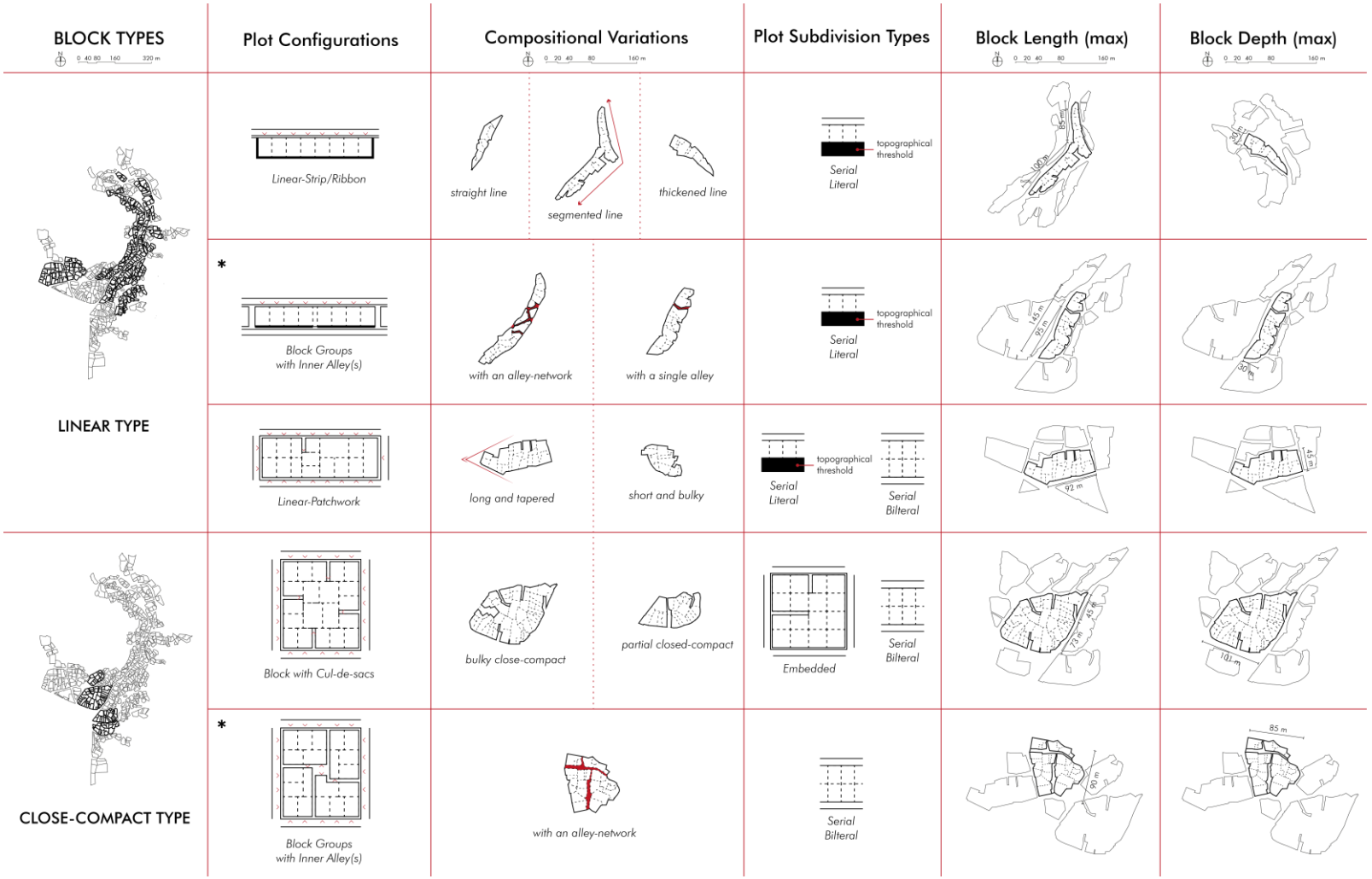

Figure 4.11. Block typology in the traditional fabric of Uçhisar, based on the Base Map of Uçhisar 2015.

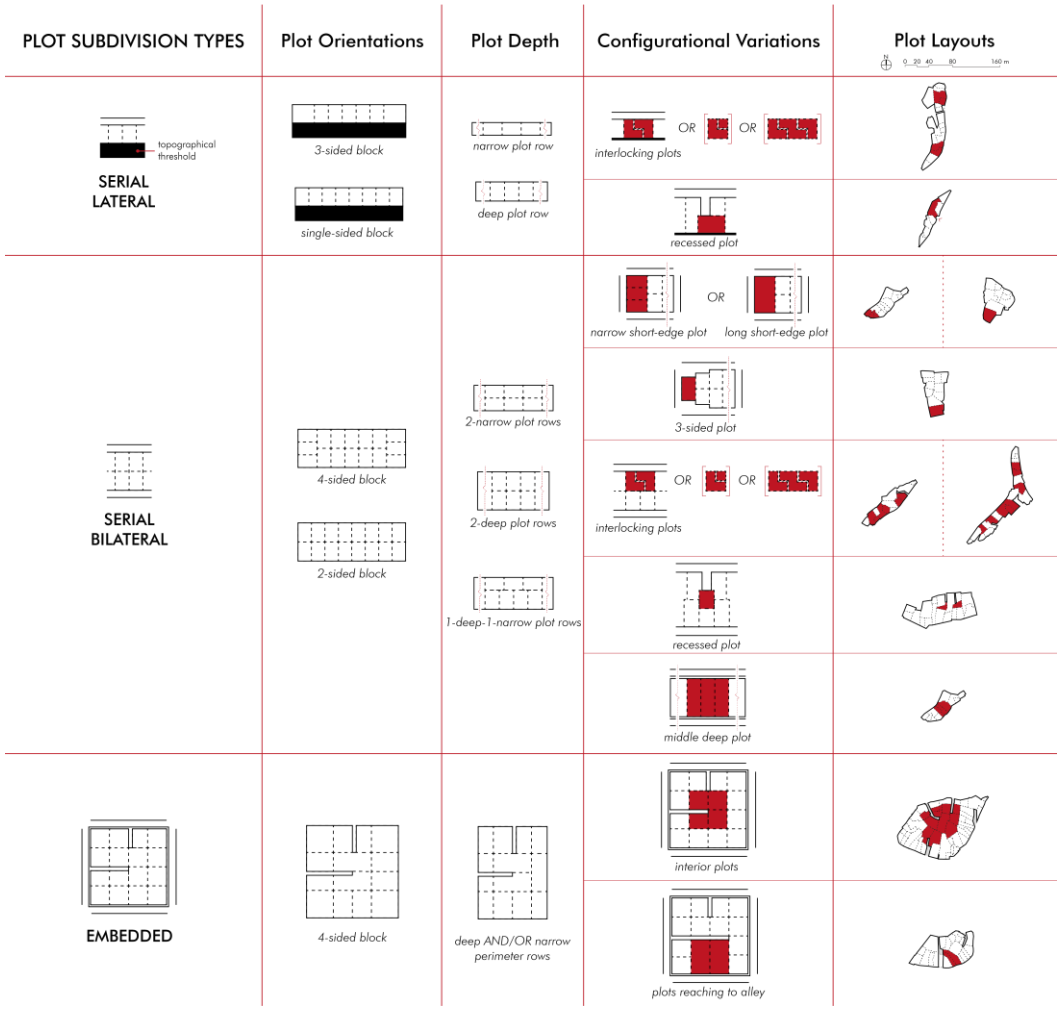

Figure 4.12. Plot subdivision typology in the traditional fabric of Uçhisar, based on the Base Map of Uçhisar 2015.

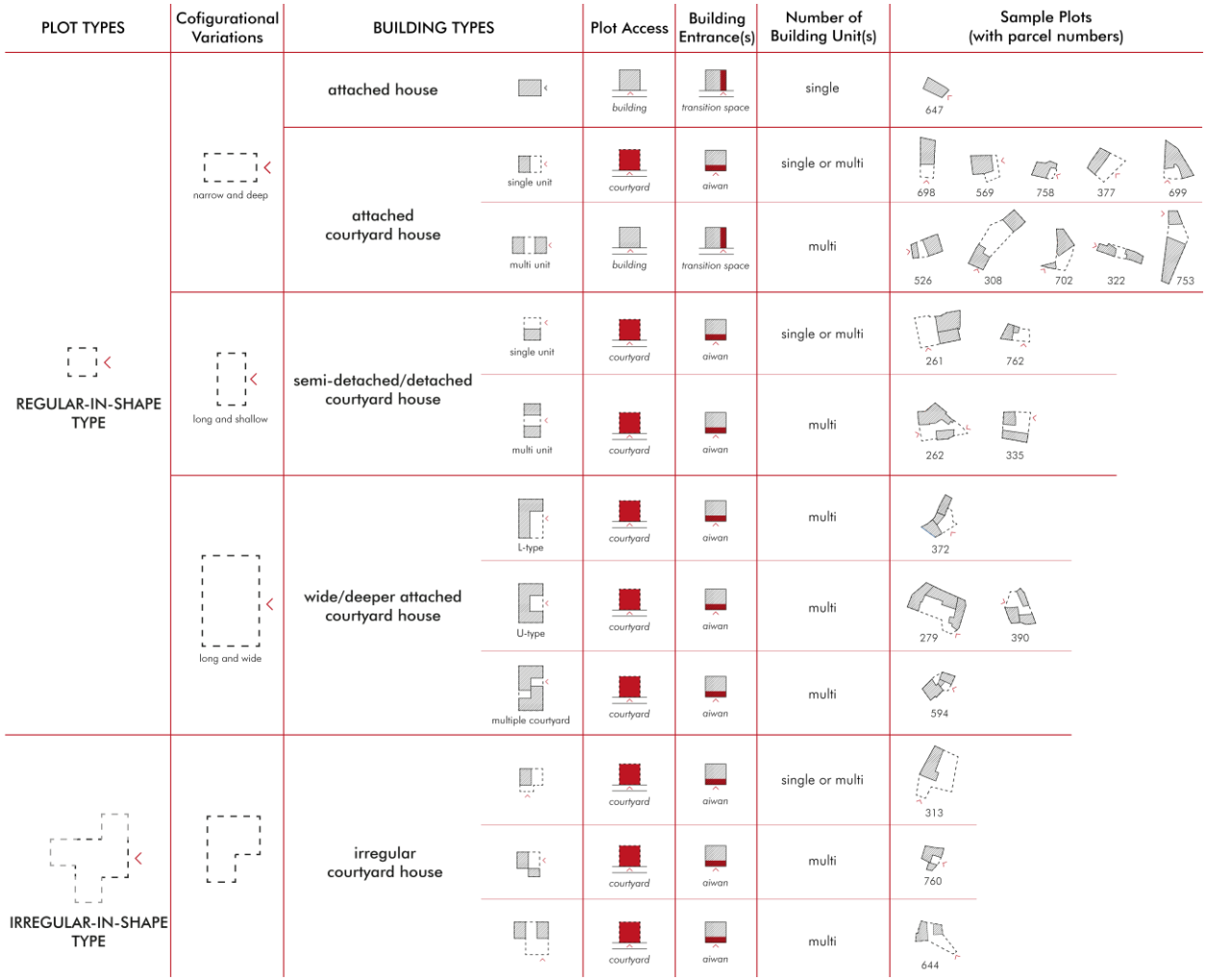

Figure 4.13. Plot and building typology in the traditional fabric of Uçhisar, based on the Base Map of Uçhisar 2015.

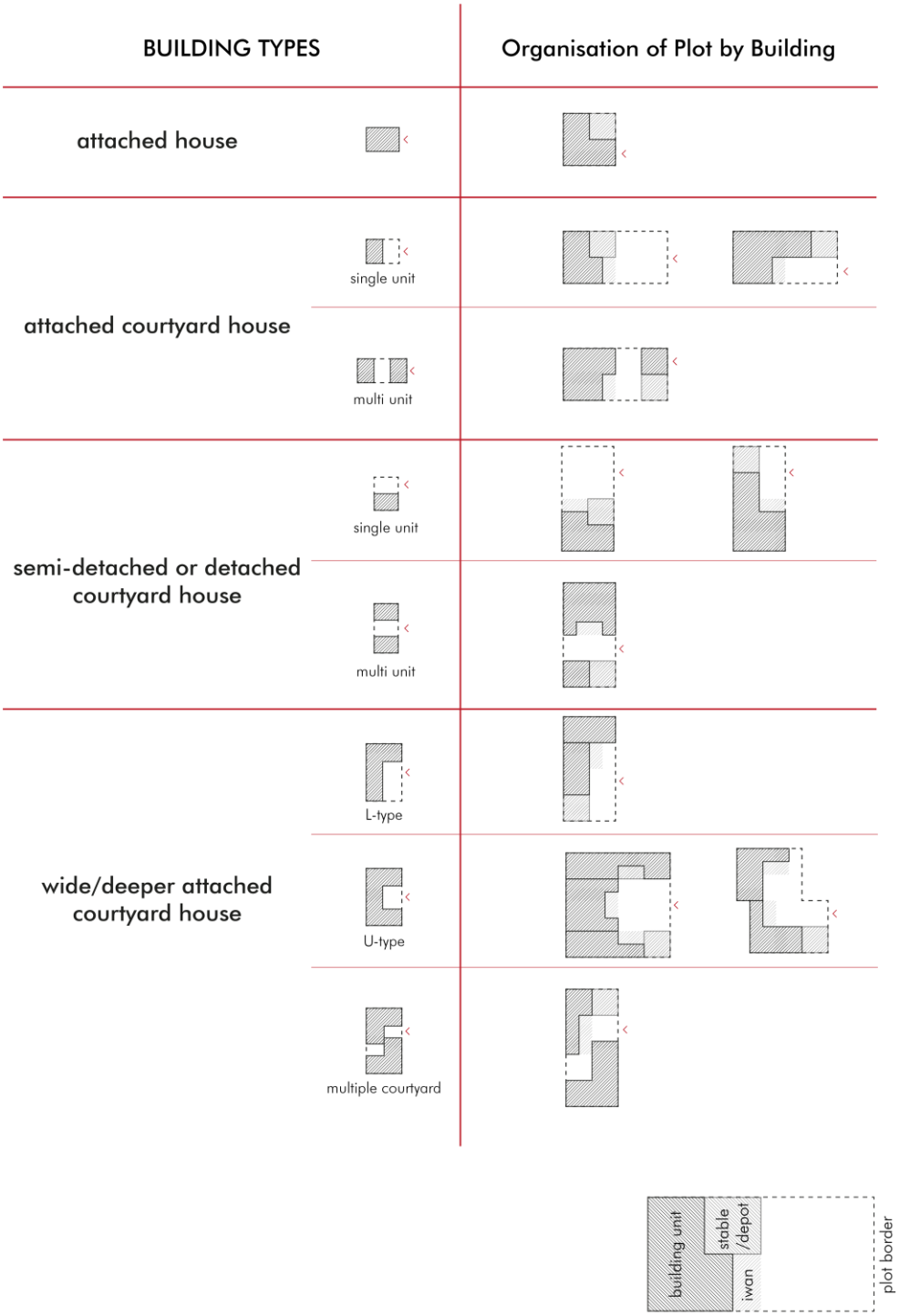

Figure 4.14. Building typology in the traditional fabric of Uçhisar with legend, based on F. Cimşit's organizational studies in the scope of her doctoral dissertation (2007).

Table 4.1 Building coverage ratio of 36 plots within the traditional fabric of Uçhisar. For further details of the calculated plots, see: Appendices B.

	no.	parcel no.	building coverage ratio	plot area (m^2)	building occupancy area (m^2)	courtyard area (m^2)
The plots reviewed with the guide of Cimşit's doctoral dissertation (2007)	1	526	0.8	165	130	35
	2	390	0.6	238	138	100
	3	569	0.8	188	148	40
	4	377	0.4	225	92	133
	5	372	0.6	215	135	80
	6	594	0.8	161	125	36
	7	262	0.5	371	200	171
	8	261	0.5	413	215	198
	9	279	0.6	530	306	224
	10	335	0.5	246	121	125
	11	308	0.5	400	180	220
	12	313	0.8	445	356	89
	13	322	0.7	142	100	42
	14	644	0.4	205	90	115
	15	758	0.8	109	86	23
	16	760	0.8	110	85	25
	17	647	1.0	86	86	0
	18	762	0.5	116	56	60
	19	702	0.6	233	147	86
	20	698	0.7	178	120	58
	21	699	0.7	232	170	62
	22	753	0.7	266	191	75
	23	750	0.2	195	43	152
The plots reviewed by using the documents from Argos Yapı (2020)	1	405	0.9	56	48	-
	2	406	-	56	-	38
	3	407	-	26	-	-
	4	408	0.3	245	85	43
	5	409	0.6	223	123	18
	6	400	0.5	130	68	39
	7	402	0.6	135	79	-
	8	403	0.7	103	72	-
	9	410	-	46	-	10
	10	411	0.6	120	69	40
	11	412	-	48	-	19
	12	413	0.4	195	86	33
	13	418	0.5	166	75	11
	SUM		19.6	7018.0	4025.0	2400
	AVERAGE		**0.6**	194.9	111.8	75
	MIN		**0.2**	26	43	0
	MAX		**1.0**	530	356	224

Table 4.2 Floor area ratio of 13 plots within the traditional fabric of Uçhisar. For further details of the calculated plots, see: Appendices B.

	no.	parcel no.	floor area ratio	plot area (m²)	total floor area (m²)
The plots reviewed by using the documents from Argos Yapı (2020)	1	405	1.5	56	84.5
	2	406	1.2	56	67
	3	407	3.2	26	83.6
	4	408	-	245	-
	5	409	0.9	223	209.1
	6	400	0.9	130	121.6
	7	402	1.0	135	128.5
	8	403	-	103	-
	9	410	1.6	46	72
	10	411	1.5	120	184.7
	11	412	1.1	48	50.5
	12	413	-	195	-
	13	418	0.9	166	151.5
	SUM		13.8	1549	1153
	AVERAGE		**1.4**	154.9	115.3
	MIN		**0.9**	26	50.5
	MAX		**3.2**	245	209.1

Table 4.3 Building coverage ratio of 27 plots within an ensemble (in which the design experience is conducted) in the new settlement area of Uçhisar. The values are acquired from https://parselsorgu.tkgm.gov.tr/ in March 21, 2021.

no.	parcel no.	building coverage ratio	plot area (m^2)	building occupancy area (m^2)	courtyard area (m^2)
1	291/6	0.3	386	109	277
2	289/1	0.2	521	111	410
3	289/2	0.3	460	157	303
4	289/5	0.3	371	114	257
5	289/6	0.3	441	113	328
6	288/2	0.3	339	108	231
7	288/3	0.4	355	133	222
8	288/9	0.3	421	142	279
9	288/11	0.3	684	226	458
10	287/2	0.3	373	127	246
11	287/4	0.3	352	117	235
12	287/10	0.3	390	131	259
13	287/11	0.3	390	136	254
14	287/12	0.3	380	125	255
15	287/17	0.3	385	130	255
16	363/2	0.3	450	121	329
17	363/5	0.3	363	125	238
18	363/6	0.3	365	115	250
19	363/7	0.3	396	120	245
20	363/8	0.4	403	164	232
21	363/10	0.3	365	120	245
22	363/11	0.3	361	125	236
23	363/12	0.3	420	115	305
24	297/1	0.3	427	135	292
25	297/3	0.3	382	103	279
26	297/11	0.2	481	112	369
27	297/18	0.4	376	132	244
SUM		8.6	11037	3466	7533
AVERAGE		**0.3**	408.8	128.4	279.0
MIN		**0.2**	339	103	222
MAX		**0.4**	684	226	458

	Old Settlement	New Settlement
Building Coverage Ratio	Average: 0.6 Min: 0.2 Max: 1	*as per Current Development Plan, 2015* Min: 0.3 Max: 0.4 *Plots in the Studied Ensemble* Average: 0.3 Min: 0.2 Max: 0.4
Floor Area Ratio	Average: 1.4 Min: 0.9 Max: 3.2	*as per Current Development Plan, 2015* Min: 0.6 Max: 0.8 *Plots in the Studied Ensemble* Average: 0.6 Min: 0.4 Max: 0.8

Figure 4.15. Building density in the traditional and new fabric of Uçhisar, based on the Tables 4.1, 4.2 and 4,3. Note that the overall density ratios of the planned new settlement are derived from the current Revision and Addition to Conservation Development Plan of Uçhisar (Ömerül Faruk Yolveren Planning Office, 2015).

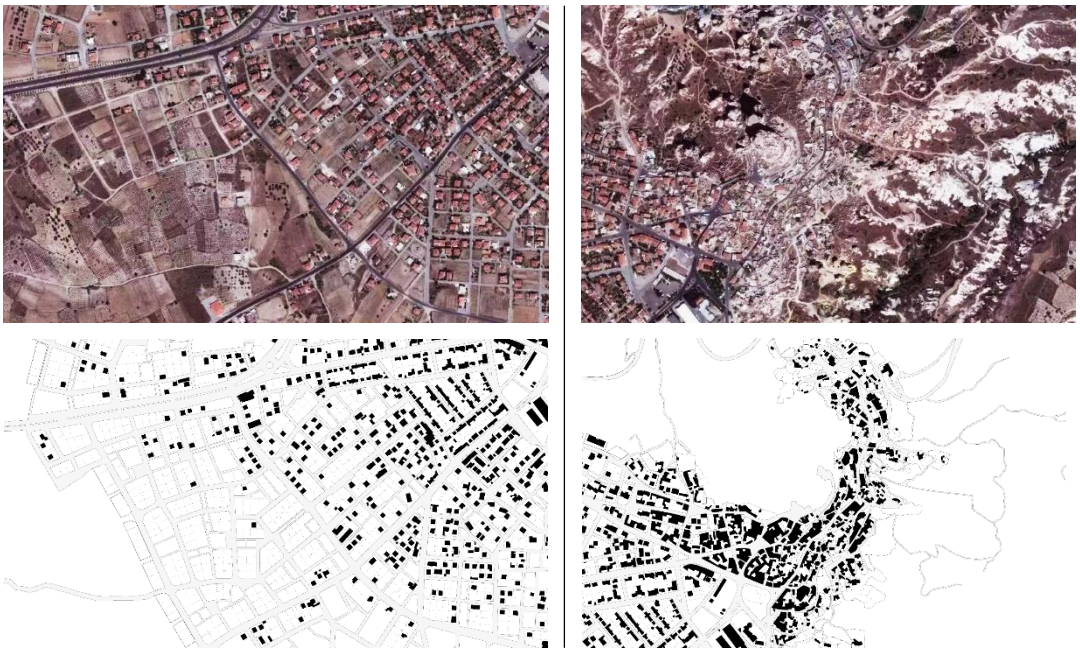

Figure 4.16. Two morphologies in Uçhisar, new (left) and old (right).

In that context, it is important to address the building coverage and floor area ratios for the traditional and new settlement areas in a comparative way. According to the Tables 4.1, 4.2., and 4.3, the new settlement area's building density is less than the traditional one, whose comparison can be seen in the Figure 4.15. Here, it is clear that the plot area is enlarged and the building coverage in the plot area is decreased in the new settlement area while the number of floors are increased in some cases. Moreover, the decline in the building density on larger scale is visible in the comparative street sections by means of the excessive width of urban corridors in the new settlement.

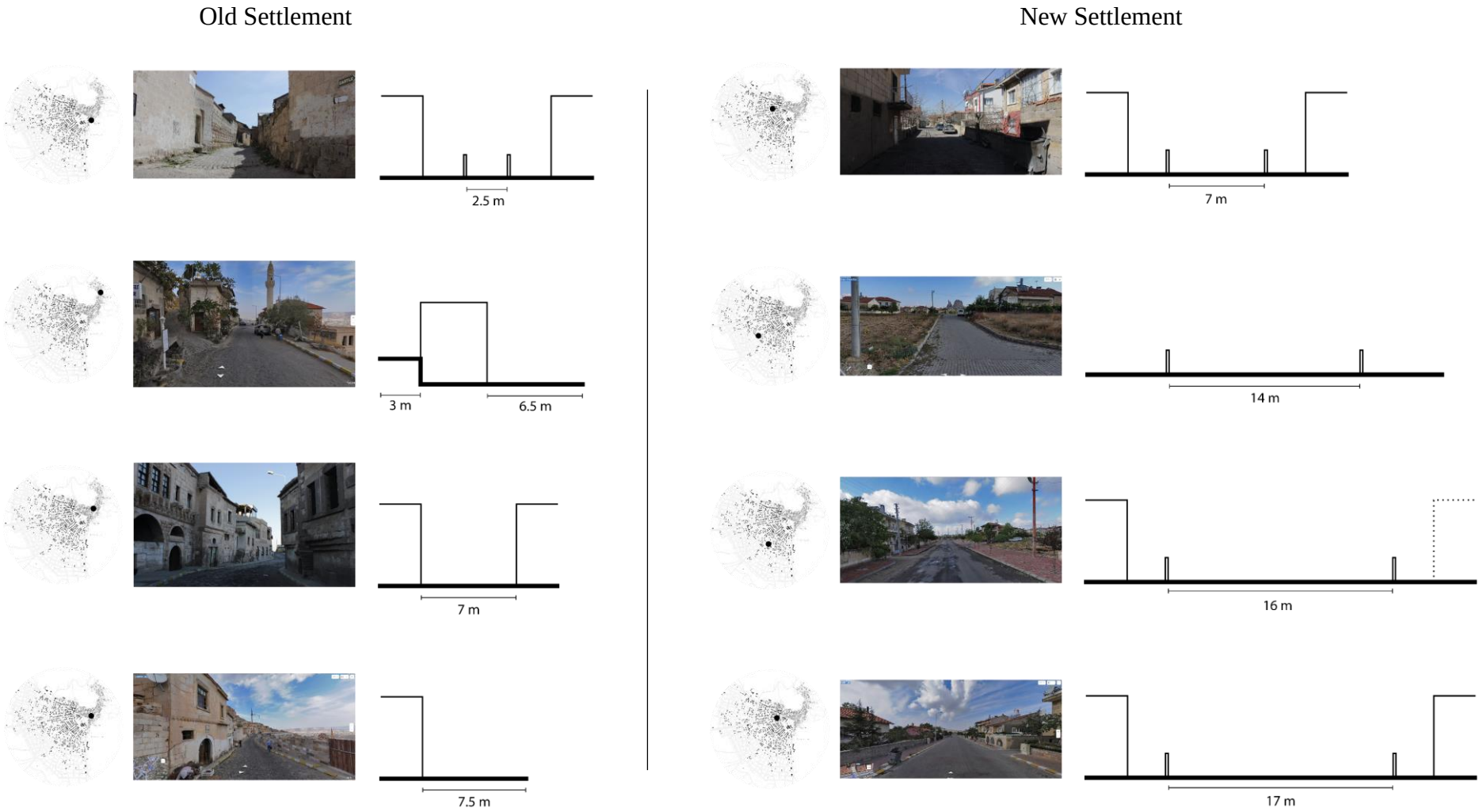

Figure 4.17. Comparative street sections within two morphologies in Uçhisar.

4.2.2 Urban Design Codes: Form and Pattern Languages

These typomorphological analyses address several high-level principles found in the old settlement area that are to be reproduced in the new settlement area. First of all, ***variety/diversity and richness*** are two concepts where generic rules of incremental development were employed in the design process instead of a defined set of completed entities. Learning from that, we attempt to designate a collection of urban codes derived from the former analyses to shape the city. For that matter, types are reviewed to decode elementary relations and configurations and to understand the generic motives. In this way, a built environment flexible to changes and pliable to different needs is aimed. Secondly, the urban spatial ***complexity*** in Uçhisar's old settlement area results from multilayered, traditional, and bottom-up procedures. Besides, those procedures are challenged with the site's steep surface and the malleable soil, which further elevates the complexity. However, without the topographic challenges and traditional articulation, that complexity is lacking in the new settlement area. To mitigate this, we search for a spatial complexity in building-plot level and attempt to define multiscalar and multiple elementary relations between spaces, i.e., addressing multi-relations of courtyards, iwans, interior spaces, etc. Here, we aim to bring a complex spatial – and then social – network to the city. Another one is ***permeability/connectivity*** which exists in the traditional settlement despite the harsh topographic condition. In order to recycle that principle in the new settlement, several morphological proscriptions are introduced by the urban design code. For example, the code restricts block dimensions that implies new introductions of alleys within an alley network. Besides, the conditions of the existing roads are proposed to be enhanced in order to enhance pedestrian circulation. Then, a similar ***compactness*** found in the old settlement area is attempted in the new one by canceling out or reducing the established setbacks and applying higher building occupancy ratios with fewer stories. In that way, the proximity of open, semi-closed, and closed spaces would allow an additional amount of complex relations. That is argued to bring a more vivid life similar to the old settlement.

Moreover, "***intimacy gradient***" is regarded as an important value to maintain, which is defined by Alexander as the gradual change of privacy while entering or leaving a private building (1977, pp. 610-613). This change in degrees of privateness is observed in Uçhisar's old settlement area. It is also possible to enlarge that concept into the relationship between plot and street, referring to "***the hierarchy of open space***" (Ibid, pp. 557-560). Although Alexander defined those two as 'patterns,' here they are conceptualized in a broader sense – not implying a specific code but an umbrella term. Finally, in Uçhisar, the private houses are not entirely isolated from the street. The private and public spaces interact with each other via intermediary semi-private spaces or surfaces. Thus, the principle of "***eyes on the street"*** is valid in the old settlement area without overlooking residents' privacy. In that regard, spatial interpretations were freed by restricting bold interactions with public space.

Those high-level principles show a particular direction so that a collection of urban codes would be developed to simulate an urban condition that is in a subtle yet critical continuity with the traditional fabric. Here, it is significant to call attention to the fact that the urban codes are not necessarily meant to copy the traditional forms/compositions of the traditional city as they exist. Instead, as mentioned above, the typomorphologic configurations within those forms are primarily studied through a critical filter in the scope of the thesis. Thus, the aim is not to copy the existing ***image*** of the historic area, but to critically review and maintain local ***spatial relations***. In that sense, the codes can be interpreted within different architectural styles and with different materials, which brings the flexible and generative characteristic of the proposed urban design codes.

For that purpose, an urban language is developed based on the typomorphological analyses above. The structure of the code is derived from Christopher Alexander's (1977; 1979) conception of pattern and pattern language; and, it is buttressed with Nikos Angelos Salingaros' (2006) addition to the pattern language, namely form language. Within this framework, this study proposes an urban design code which embodies a ***form language*** that ***"consists of geometrical rules for putting matter***

together" and ***a pattern language*** that ***"contains rules for how human beings interact with built forms"*** (Salingaros, 2006, p. 272).

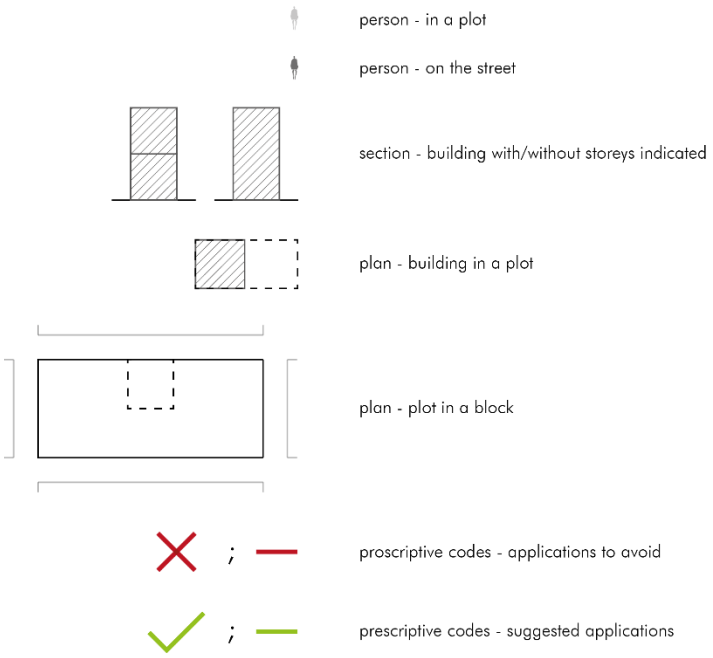

Figure 4.18. The legend of the design codes.

4.2.2.1 Form Language

This language consists of urban design rules to determine the geometrical conditions in block, plot and building.

4.2.2.1.1 Block

4.2.2.1.1.1 Block dimensions

Block dimensions can be seen as one of the key factors when it comes to connectivity in the city. In Uçhisar, length and depth of the blocks are evolved in a way to allow an interconnected street network enhancing the walkability. Thus, it is suggested to learn from the old settlement in that matter.

Hereunder, if the block dimensions exceed the limitations below, which are derived from the traditional block sizes, then an alley will be introduced to meet the requirement. While doing so, it is important to mind the surrounding pedestrian route(s) and define that new alley as a continuation of the existing network.

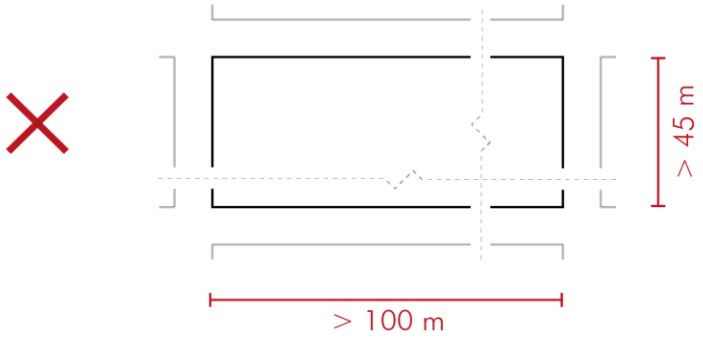

Figure 4.19. Block dimension code.

4.2.2.1.1.2 Alley network and defining new alley(s)

As widely observed in the traditional fabric, it is suggested that there exists an alley network in the city. It would consist of (1) pedestrianized existing-roads which are narrower than 7 meters and (2) newly-introduced alleys that pass through the blocks.

While determining the alley-network, it is important to note that if a building-block blocks a (potential) continuous pedestrian route, an alley can be introduced there.

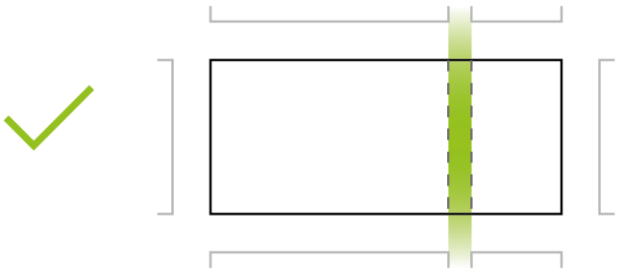

Figure 4.20. Code of potential pedestrian route passing through the block.

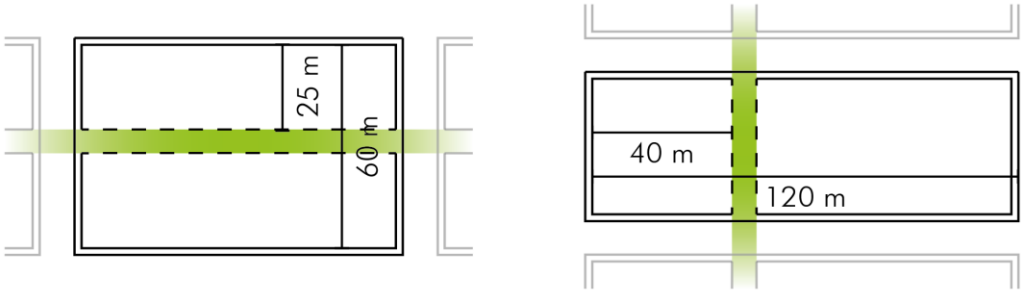

Figure 4.21. Possible application of the block dimension code.

Therefore, it is recommended to introduce new alleys to the already existing block-street layout of the new settlement area, yet, as critically considering the contemporary needs in the new settlement, the following codes are to be applied:

- If there exist a dead-end street connecting the plot to the street, it should contribute to the public space, i.e., long and narrow ones are to be refrained from.

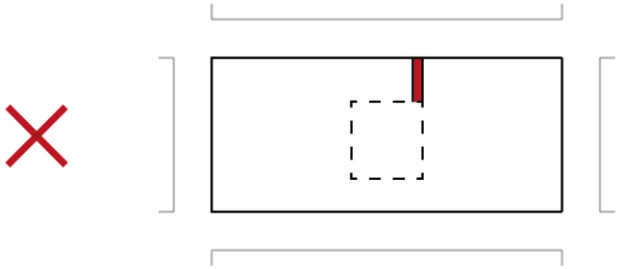

Figure 4.22. Dead-end code.

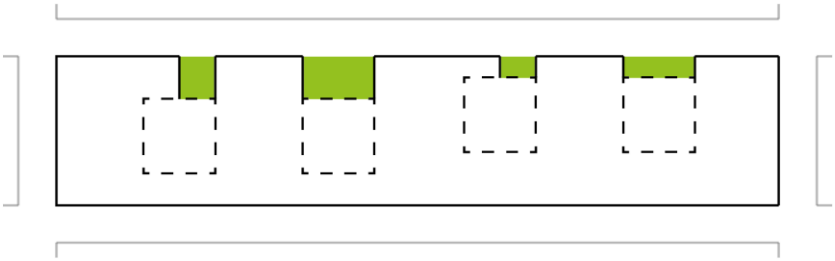

Figure 4.23. Possible application of the dead-end code.

- If a topographic condition does not force, excessive undulations on the alley path should be avoided.

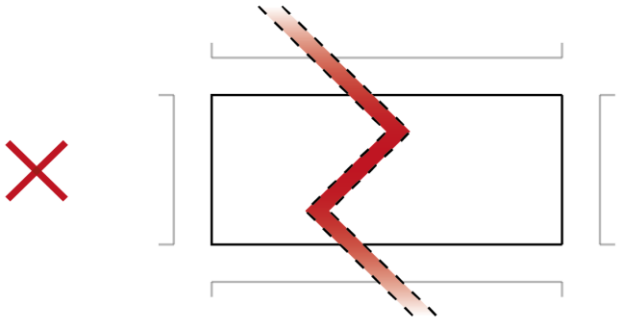

Figure 4.24. New alley definition code.

- The new established alley route should not create left-over and unbuildable space within the block.

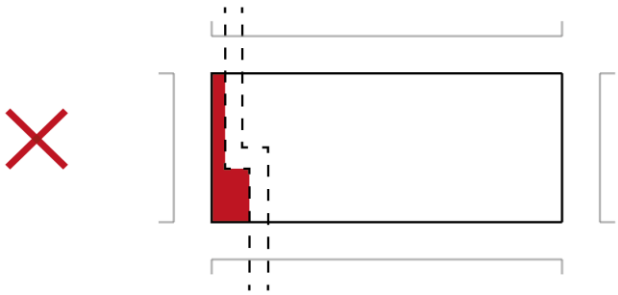

Figure 4.25. Code against left-over and unbuildable space in the block.

4.2.2.1.1.3 Alley dimensions

In the old settlement area, pedestrians can circulate through every passage way, while vehicles cannot use all of those routes due to its dimensions – and steepness for some cases. This feature contributes to the connectivity of the area as it prioritizes the pedestrians over cars. Learning from that, alleys are recommended to be explicitly for pedestrian use so as to facilitate pedestrian movement in the new settlement area, provided that street widths allow vehicular access in case of a service need such as an ambulance – as a contemporary need.

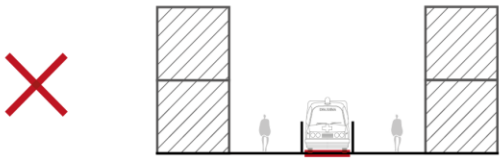

Figure 4.26. Alley dimension code.

4.2.2.1.1.4 Plot subdivision

In the old town plot subdivisions were developed over a long time. Although they can be read in different ways, in the scope of this thesis, their relation with street (by means of street-front) is underlined here. Hereunder, all plots are suggested to be subdivided so that they have a street-front as much (long) as possible, provided that:

- Orientation of the plots towards the street should not be unified within a single block. Instead, the plot orientations are accorded with the surrounding streets providing every plot as much street-front as possible, which contributes to produce vivid streets on all sides of the block.

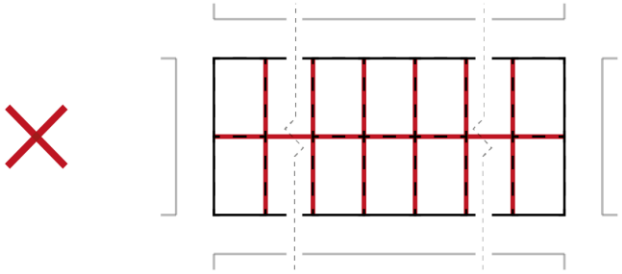

Figure 4.27. Code against unified plot subdivision.

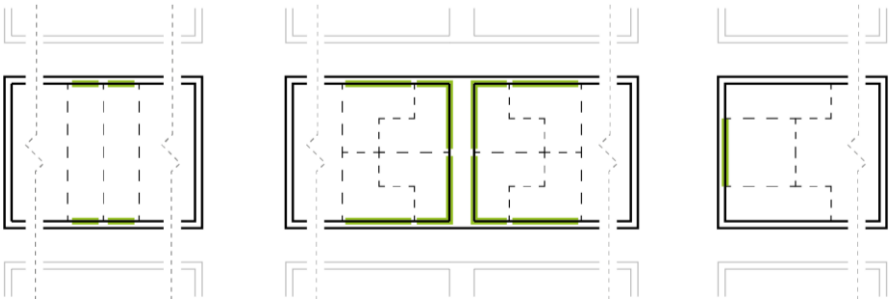

Figure 4.28. Possible application of code against unified plot subdivision.

- There is no undefined space inside the block or common open space disconnected from the street.

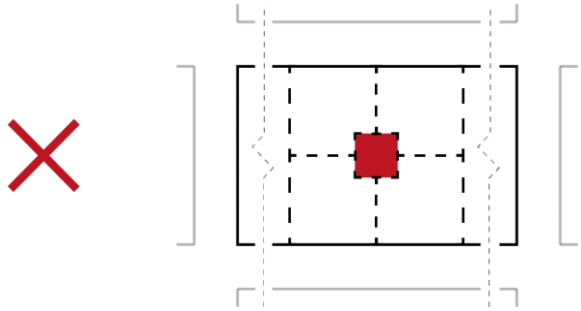

Figure 4.29. Code against undefined space inside the block.

4.2.2.1.2 Plot

4.2.2.1.2.1 Plot size

Similar to the plot shape, the plot dimensions also vary in Uçhisar's traditional fabric which restrains from unification and forces to find different solutions for each plot – i.e., each family. Considering the possible urban variety blooming from such a feature, the plot dimensions are suggested to vary together with plot shape, as far as the plot sizes do not exceed the below dimensions.

Figure 4.30. Plot size code.

4.2.2.1.2.2 Plot shape

In Uçhisar, it is observed that the plot shapes geometrically vary. Based on this and with concerns similar to the previous code, it is suggested to allow a range of geometric variations on plots, provided that:

- There is no ***excessive*** recession, projection and/or change of orientation on plot borders except due to geographical reasons or concerns of street-front length.

Figure 4.31. Plot shape code.

- Plot surfaces always have enough space and a legible shape to accommodate either building unit(s) or a courtyard, e.g., no plot has a non-walkable or non-buildable area.

Figure 4.32. Plot shape code.

- Plot frontage can accommodate at least the passage of one vehicle when necessary.

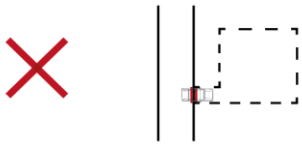

Figure 4.33. Plot front code.

4.2.2.1.2.3 Plot orientation

In the traditional built environment, the plots are oriented as per the closest and busiest street in three main ways, as shown below. However, concerning the fact that the 1st alternative is more frequently used in the traditional fabric and it allows a better street-front condition for "intimacy gradient," it is recommended to be used more.

Figure 4.34. Plot orientation code.

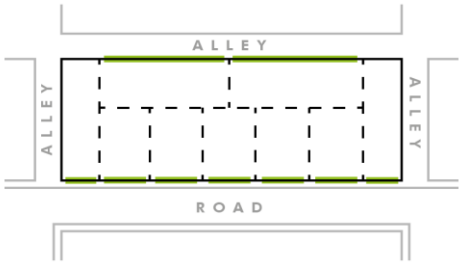

Figure 4.35. Possible application of plot orientation code.

4.2.2.1.3 Building

4.2.2.1.3.1 Setback

Building setbacks are one of the main elements determining the urban character of an area. They take part to determine the ratio and placement of urban realm's solid part, hence the proximity of closed and open spaces. Here, it is argued that depending on setbacks, the relationship between private and public spaces are adjusted. In the traditional fabric, that relationship is rather interwoven, i.e., buildings are not far from plot borders – hence either street and/or other buildings. That leads to a compact

urban environment and contributes to complex interactions. In parallel with that, the principles of eyes on the street and intimacy gradient are employed.

In order to maintain that condition, it is suggested to limit and decrease the setbacks in the city. Hereunder, every building should be placed adjacent to at least two borders of its plot.

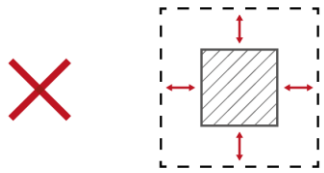

Figure 4.36. Building setback code.

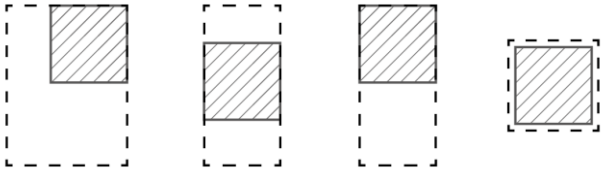

Figure 4.37. Possible application of building setback code.

4.2.2.1.3.2 Number of building units

In Uçhisar's old settlement area, buildings are generated by means of aggregation in time. Differentiated building units stand out in the building's overall form, which can be a room for each couple in the grand family or another use that can work in a quasi-isolation from rest of the building. In that case, it is important to address meaningful relations within plot. Referring to that characteristics in the area, there can be several building units facing to a single courtyard in a single plot, provided that:

- None of the units are disconnected from courtyard.

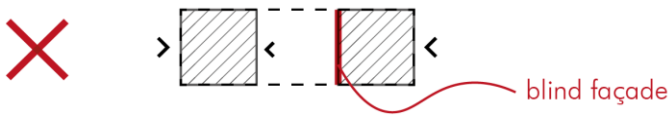

Figure 4.38. Code of blind façade on courtyard.

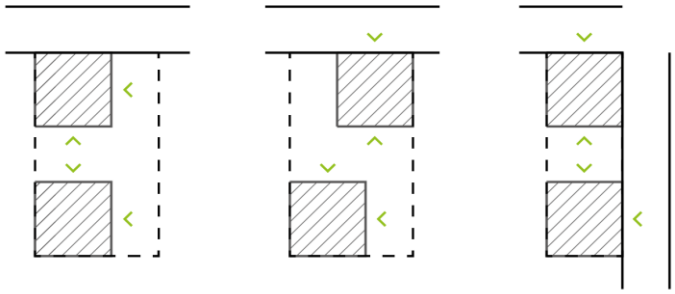

Figure 4.39. Possible application of code of blind façade on courtyard.

- There can be an enclosed transition space between different building units.

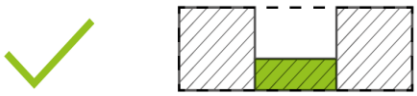

Figure 4.40. Code of connection of different units.

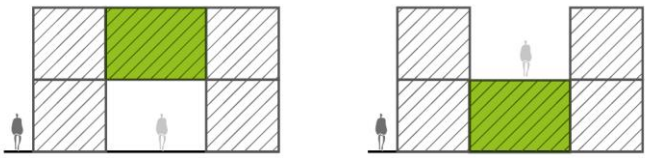

Figure 4.41. Possible application of code of connection of different units.

4.2.2.1.3.3 Building height

Buildings have generally maximum two floors in the traditional area. Following that, the buildings in the new settlement area should not exceed two-floors.

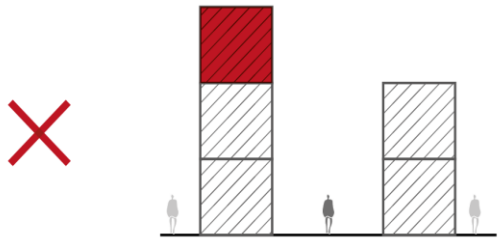

Figure 4.42. Building height code.

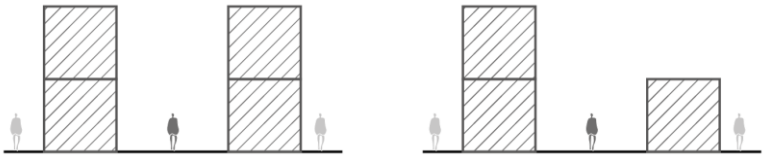

Figure 4.43. Possible applications of building height code.

4.2.2.1.3.4 Building coverage and minimum building dimensions

By taking into consideration the solid-void ratios of the plots, it is recommended that building coverage ratio should be between 1 to 0.6 as far as the building units abide by the minimum dimensions as shown below.

The width of each building unit should be longer than 8 m (adapted from existing building dimensions of the new settlement).

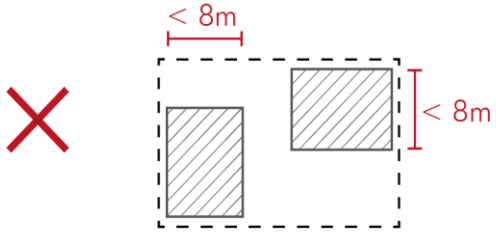

Figure 4.44. Code of building coverage and minimum building dimensions.

4.2.2.2 Pattern Language

As discussed in the previous chapter, the Critical Regionalist approach should point to the locals' use of the built environment. Therefore, in this part of the urban design code, the typicalities based on activities and experiences in the old settlement area of Uçhisar are reviewed and included under the name of "Pattern Language." Unlike the geometric definitions of the code's former part, pattern language codes address local's use of public and private space, referring to the reasoning behind certain spatial relations. Since we switch here to a less mechanical perspective – that of humans than that of geometry – we choose to define codes in a way to incorporate the activities and experiences (mostly) at the interfaces, e.g., within alley, and between plot and street.

4.2.2.2.1 Alley

4.2.2.2.1.1 Expanding alleys

As mentioned in the Form Language, alleys are determined as spaces uniquely for pedestrian circulation, similar to the interwoven and pedestrian-friendly condition of the old settlement. Their uneven paths accommodate urban niches and pockets which allows urban interactions on the street. This characteristic is recommended to maintain in the new settlement area considering the hierarchy of open space and urban complexity. People can place sitting arrangements and other urban elements there and engage in the activities such as resting, people-watching, gathering, etc.

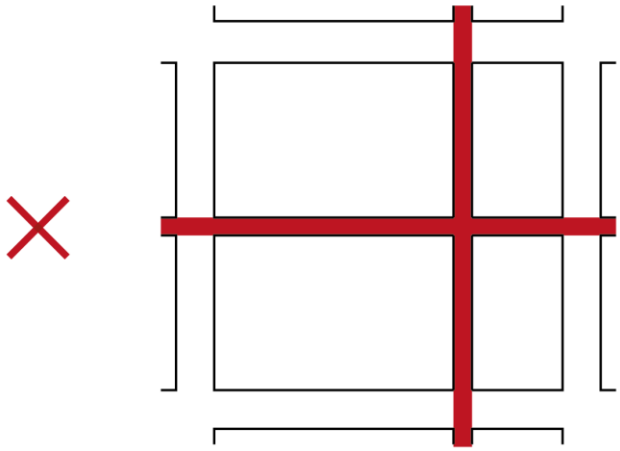

Figure 4.45. Pattern of alley width.

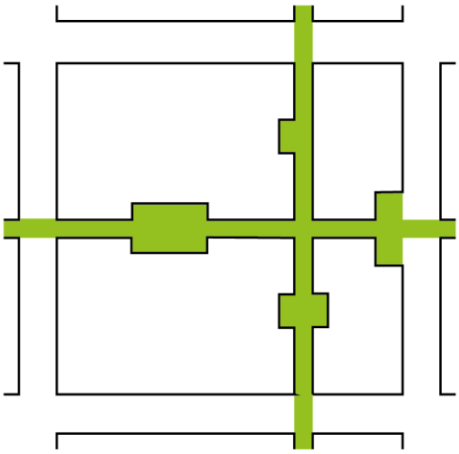

Figure 4.46. Possible application of pattern of alley width.

4.2.2.2.1.2 Car usage on alleys

In the traditional fabric, the street width is rather narrow – unlike the new settlement area –which does not allow a heavy traffic within city. Critically evaluating the contemporary needs and the traditional morphology, it is suggested that along the alleys, people should be able to walk easily with a light or no traffic, besides being able to park their cars, provided that:

- Car usage in the alleys is to be limited to a certain period of time of the day and to emergencies with a strict speed control.

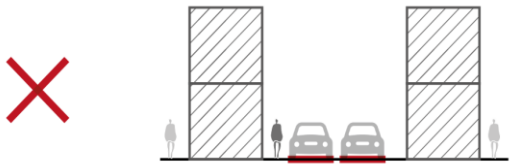

Figure 4.47. Pattern of light car usage on alleys.

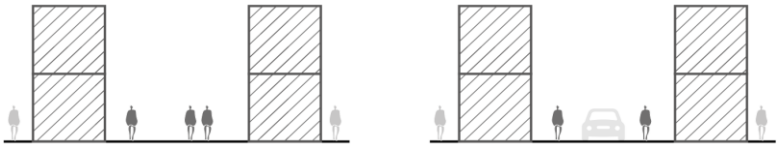

Figure 4.48. Possible application of pattern of light car usage on alleys.

- The alleys should not be filled with parked cars so that people can enjoy the urban spaces. Residents should have garages to park their vehicles within their plots whereas the alleys can provide only a couple of parking spaces.

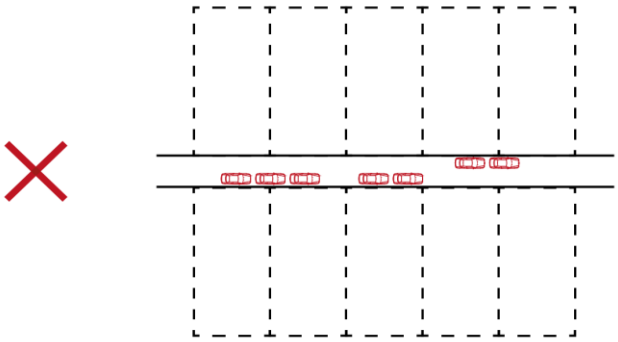

Figure 4.49. Pattern of parking on alleys.

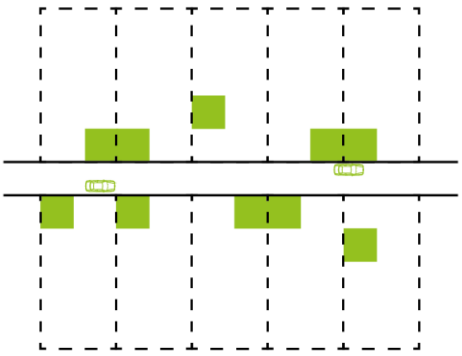

Figure 4.50. Possible application of pattern of parking on alleys, note the garages within plots.

4.2.2.2.2 Plot-Plot

4.2.2.2.2.1 Visibility between plots

As widely observed in the traditional fabric, people prefer a range of privacy in their courtyards while living in proximity to other plots. Even though he courtyards are not completely isolated from the street, there exist an "intimacy gradient" via sequential spaces or spatial organization. According to that, the buildings should be placed in the plots by considering the privacy conditions in others' courtyards in a way that ***no one's courtyard can be seen entirely*** from neighboring plots.

In that context, the façades looking towards another plot's courtyard should not have fenestration, unless both parties have consent. Thus, it is important to pay attention to the luminosity of the rooms and the building width.

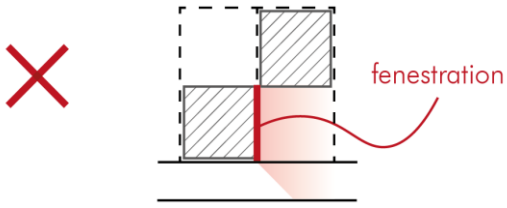

Figure 4.51. Pattern of fenestration towards neighboring plot.

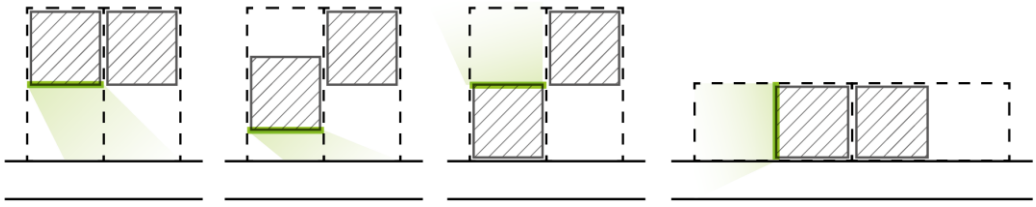

Figure 4.52. Possible applications of pattern of fenestration towards neighboring plot.

Similarly, the shared courtyard wall between neighboring plots should limit direct contact unless there is a reciprocal consent.

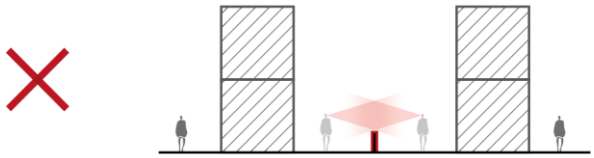

Figure 4.53. Pattern of visibility condition between neighboring plots.

4.2.2.2.2.2 Building distance

As argued previously, the buildings should either be placed adjacent to one another or with a distance. If they are to be distanced, their placement should be in a way to offer ***private interiors*** while permitting ***sufficient sunlight*** to be received. In that sense, buildings can be in proximity as far as they do not interrupt each other's privacy and block other's sunlight.

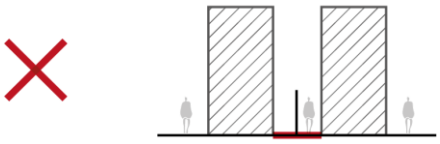

Figure 4.54. Pattern of neighboring building distance.

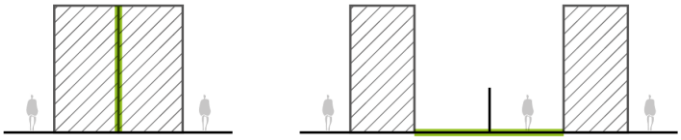

Figure 4.55. Possible applications of pattern of neighboring building distance.

4.2.2.2.2.3 Second-floor projection and gallery

In Uçhisar, the enclosed or open elevated spaces in the form of projection and gallery are considerably utilized. While maintaining that feature, it is suggested to mind the privacy conditions of the buildings as well as the lighting conditions of the street and ground floors. According to that, the second-floor galleries and projections can be

built provided that, if the buildings are on an alley (the width of which is narrower than 7 m), the projections are not facing to each other.

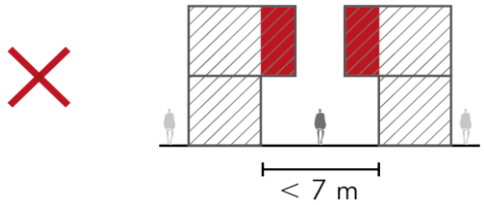

Figure 4.56. Pattern of second-floor projection and gallery.

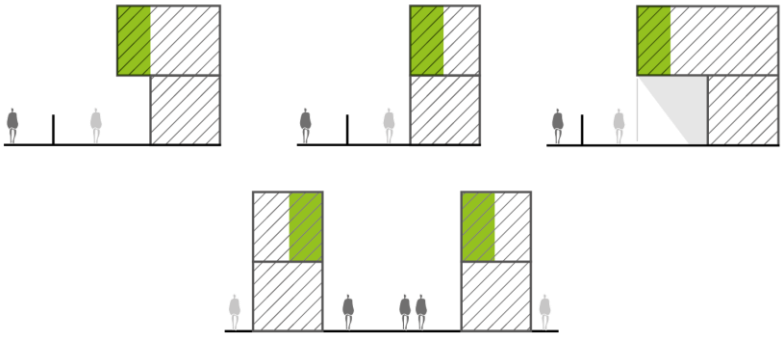

Figure 4.57. Possible application of pattern of second-floor projection and gallery.

4.2.2.2.3 Plot-Street

4.2.2.2.3.1 Courtyard wall height

It is observed in the vernacular fabric of Uçhisar that the courtyards are generally in a particular connection with the street. In fact, the courtyards (where residents spend a significant amount of time by cooking, eating, welcoming guests, watching the street - and sometimes greeting people on the street) offer a range of privacy creating a connected neighborhood. In this regard, a semi-private condition should be provided in courtyards as far as the residents are ***not entirely isolated*** from the street. Note that if the street is below or above the courtyard level, then the courtyard wall can be shorter.

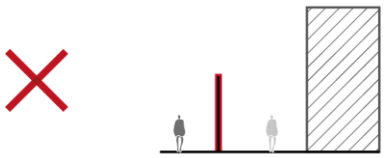

Figure 4.58. Pattern of courtyard wall height on street.

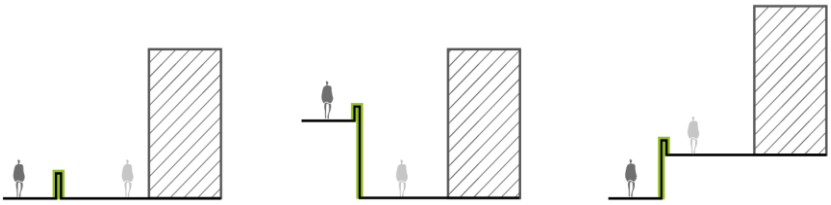

Figure 4.59. Possible application of pattern of courtyard wall height on street.

4.2.2.2.3.2 Plot access

In the traditional fabric, the several intermediary spaces exist while switching from public space to private environments. People use such spaces so as to enter the building in a controlled manner and limit visual contacts. Under the principle of "intimacy gradient," this feature is valued and a similar sequential entrance is suggested either through a courtyard, a passage or a building.

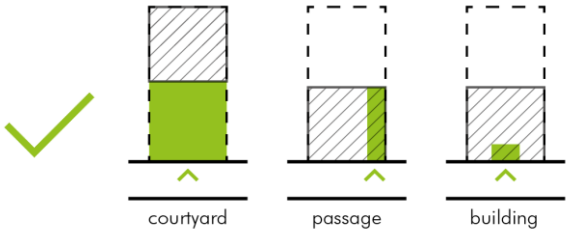

Figure 4.60. Plot access pattern.

This pattern is further elaborated under the upcoming title of Plot-Building Patterns / Building Entrance.

4.2.2.2.4 Plot-Building

4.2.2.2.4.1 Building entrance

In the traditional settlement, entrance to a building follows a sequence of spaces. Regarding the access to private spaces, the high-level principle of "intimacy gradient" can be observed again. Thus, it is recommended not to place rooms or common family spaces on the building entrance. Instead, there should be an ***entrance space*** before the private areas, provided that:

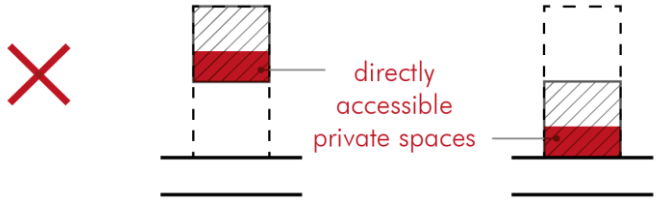

Figure 4.61. Pattern of building entrance.

Besides, the private spaces are not directly reached from the street and the courtyard. In the traditional fabric, it is widely observed that (1) if the plot is accessed through a courtyard, there is an iwan to allow the entrance to the building; (2) if the plot is accessed through a passage, the passage leads to the courtyard where one enters the building again through an iwan; (3) if the plot is accessed directly from the building itself, then the entrance is spatially differentiated from the street and there exists a sofa before more private zones.

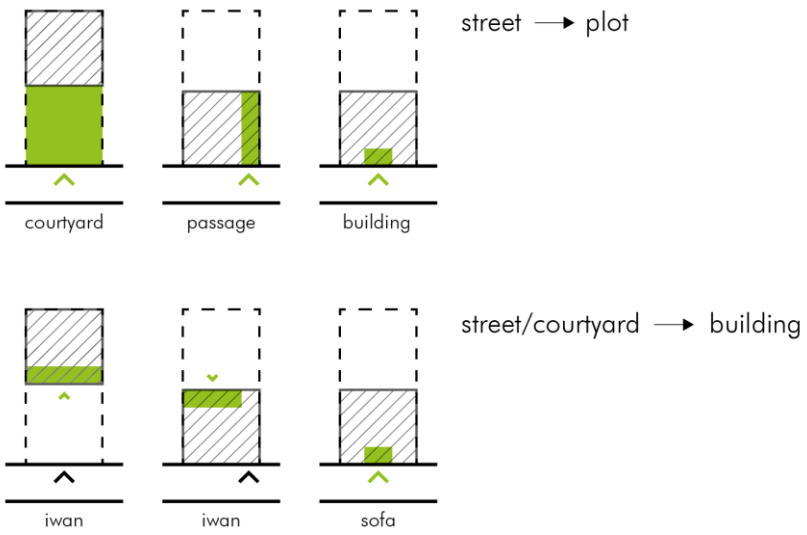

Figure 4.62. Possible application of building entrance pattern.

Based on that observation, it is suggested that the building entrances are differentiated from the street and the courtyard to create an intermediary space, provided that:

- If the building is accessed through a courtyard, the transition should not be direct from open space to closed space.

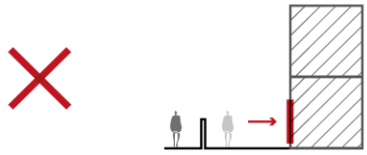

Figure 4.63. Pattern of building entrance from courtyard.

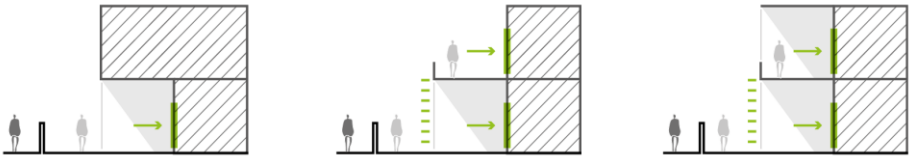

Figure 4.64. Possible application of pattern of building entrance.

- If a plot is accessed through a passage (passing beneath the building without directly entering into interior spaces), then the passage should not be completely open to street, e.g., it can be controlled with a door.

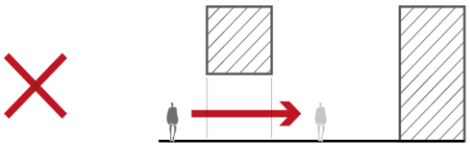

Figure 4.65. Pattern of plot access through a passage.

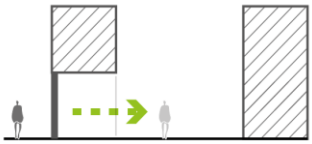

Figure 4.66. Possible application of plot access pattern trough a passage.

- If the building is directly reached from the street, there should be an intermediary space between street and interiors, e.g., a niche on the street.

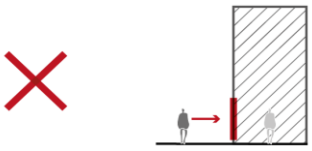

Figure 4.67. Pattern of building entrance from street.

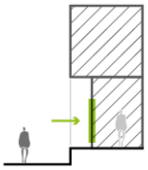

Figure 4.68. Possible application of pattern of plot access through a building.

4.2.2.2.4.2 Building formation based on its structure

As widely observed in the traditional fabric, it is suggested that the building unit is not created as a single mass of block, but as a modular building. That is, different pieces of the house come together to determine its final form reflecting the programmatic structure of the house. The final form can be “one building with identifiable parts” *or* “a collection of buildings” (Alexander et al, 1977, p. 472).

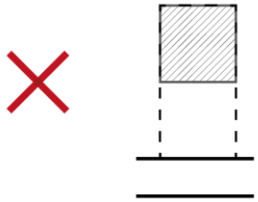

Figure 4.69. Pattern of building mass.

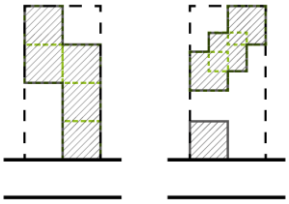

Figure 4.70. Possible applications of pattern of building mass.

4.2.2.2.4.3 Terrace and roof

In the vernacular settlement of Uçhisar, the buildings have flat terraces that are utilized for several purposes such as drying foods and hanging out. Therefore, roofs should not be all pitched, instead at least one roof of the building should be flat.

Figure 4.71. Pattern of used terraces.

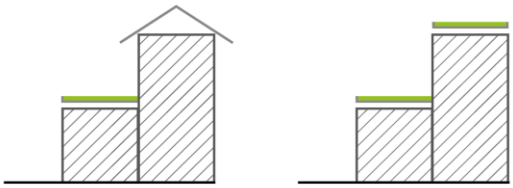

Figure 4.72. Possible application of pattern of used terraces.

4.2.2.2.4.4 Separate places for each couple in grand family

In the old settlement, it is observed that plots are occupied by the grand family where each couple has its own private space and there are common spaces for all. Considering the contemporary needs, the new settlement is also observed in that matter, and it is seen that the grand family who lives in a single plot is even more separated into nuclear families – by not only their private entrances but also separated houses equipped with all service spaces. This pattern is particularly clear in the apartment blocks at the fringes of the settlement where elderly and their children with their spouses live in the same plot (same apartment) but share only the courtyard/garden.

In the light of these, it is suggested that the grand family should not be forced to live altogether within a single building, instead separate entrances and separate service spaces should be provided. These entrances can be either within the building or in the courtyard, where, preferably, the elderly would be placed on the ground floor to avoid climbing stairs and to be close to the main living areas.

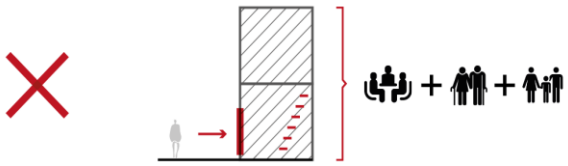

Figure 4.73. Pattern of separate places for each couple in grand family.

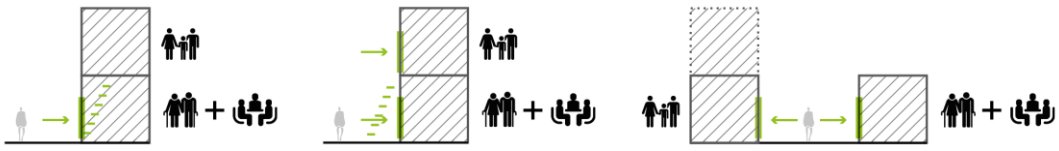

Figure 4.74. Possible application of pattern of separate places for each couple in grand family.

4.2.2.2.4.5 Interior light

In the traditional fabric, the lighting conditions are generally poor, especially in the carved out spaces which are purposed accordingly such as depots and sleeping rooms. On the other hand, the kitchen and living areas are provided with as much light as possible. Considering the contemporary needs and capabilities, it is suggested to provide well-lit interior spaces for every ***room***. Here, it is important to mind the placement of the building together with the blind facades, both of which determine the final form of the building unit(s).

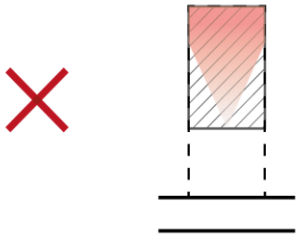

Figure 4.75. Pattern of interior light.

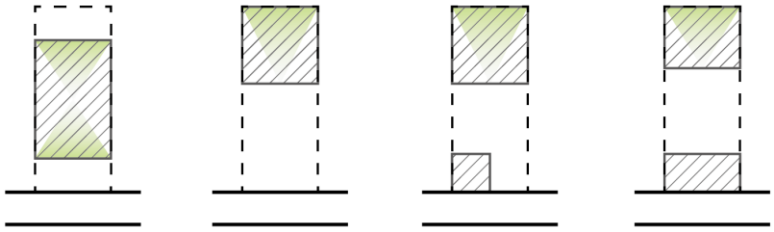

Figure 4.76. Possible application of pattern of interior light.

4.2.2.2.4.6 The privacy of ground floor on the street

In the old settlement area, the building facades facing to street are not quite transparent on the ground floor. Instead the windows are small and elevated, where less private building programs are placed such as stable, depot and sofa, or the ground floor is elevated from the street level. Respecting such a concern, it is suggested that the building form and its internal structure should not allow strangers to monitor the interiors.

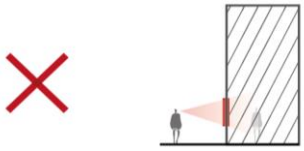

Figure 4.77. Pattern of privacy of ground floor on the street.

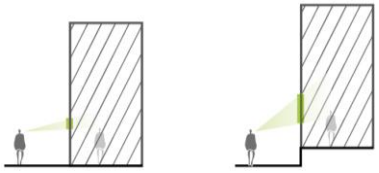

Figure 4.78. Possible application of pattern of privacy of ground floor on the street.

4.2.2.2.4.7 Particular spaces in the house: atelier, guest/rentable room and garage

In the traditional fabric, there are some independent spaces with its own entrance such as most stables, and sometimes main guestrooms and atelier spaces. Taking the today's life habits into consideration, it is proposed to offer an atelier, a guest room or a rentable room for tourists (as per residents' demand) in the form of an independent room or unit well-lit room facing the courtyard with a distinct wet space, provided that such rooms are not far from the street, and the atelier space is not on the second floor.

Figure 4.79. Pattern of atelier and guest/rentable room.

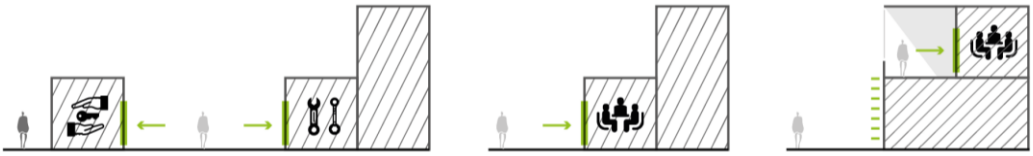

Figure 4.80. Possible application of pattern of atelier and guestroom.

Besides, since every plot should have its own garage (see pattern Alley / Car Usage on Alleys), establishing a space for the cars that is connected to the street and leads to the interior spaces is recommended, provided that the garage is not far from the street and it is not a disintegrated unit blocking the view between building and street.

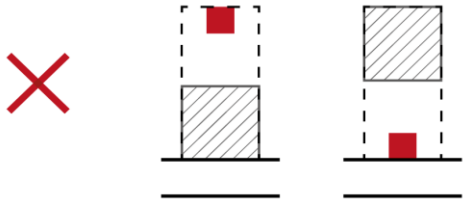

Figure 4.81. Pattern of garage.

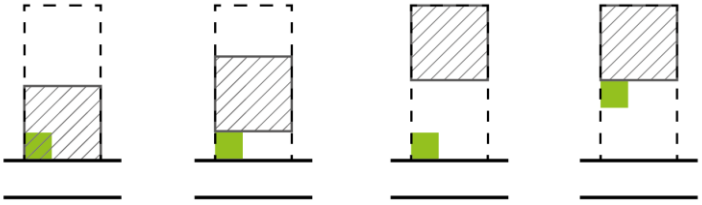

Figure 4.82. Possible application of pattern of garage.

4.2.2.2.4.8 Courtyard placement

In Uçhisar, courtyards act as an extension of the house where most of the living activities take place as soon as the weather permits. In that sense, it is important to integrate the courtyards into rest of the house in a way that they are not isolated from the street or pushed back to the rear side of the plot. Besides, due to the formation of the building and plot dimensions, inner courtyards are not recommended.

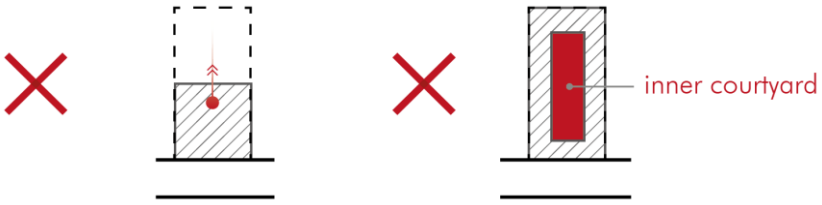

Figure 4.83. Courtyard placement pattern.

Instead, similar to Alexander et al.'s pattern of "courtyards which live" (561-564), courtyards can be placed in-between two places as a means to connect them.

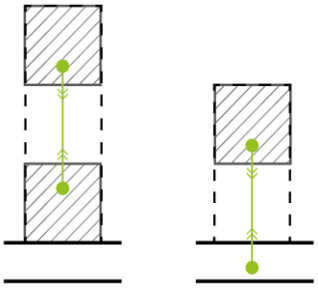

Figure 4.84. Possible application of courtyard placement pattern.

4.2.2.2.4.9 Spatial variety in courtyards

In the vernacular settlement, the courtyards are not uniform voids. Instead, they consist of small defined voids that host different kinds of activities such as cooking, sitting and doing housework etc. Therefore, it is proposed to refrain from monotonous courtyards, instead to provide different open spaces and various privacy conditions within each open space.

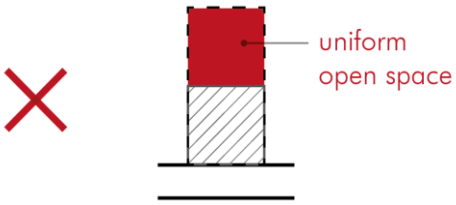

Figure 4.85. Pattern of spatial variety in courtyards.

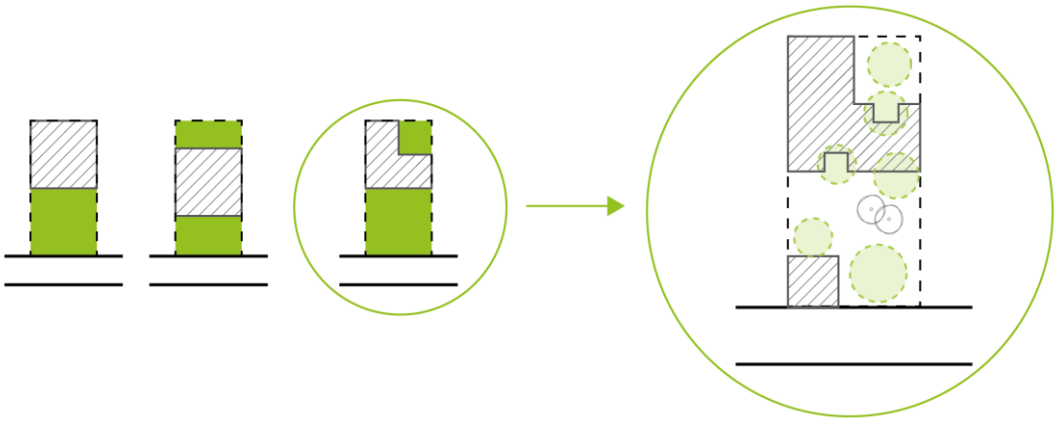

Figure 4.86. Possible application of pattern of spatial variety in courtyards.

4.3 A Design Experiment of Generative Typology for Uçhisar

The Critical Regionalist methodological framework for urban design within the scope of the thesis is set with the generic typomorphological urban design codes that consists of form and pattern languages. In this section, this design approach is tested via an experimental design exercise within an ensemble in Uçhisar's planned development zone located on the settlement's southern and southwestern periphery.

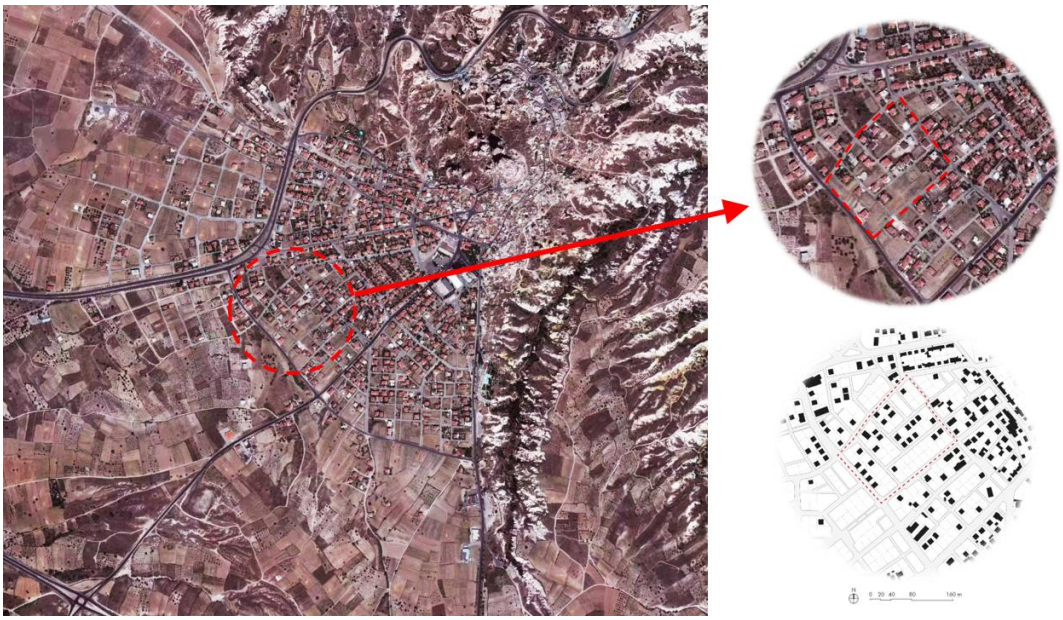

Figure 4.87. The chosen ensemble as the site for the design experiment. The site is chosen because it contains plots without building formation and provides a proper base for the design interventions in all relevant scales.

In the scope of the study, the existing building-block layout and the existing structures are maintained. However, an alley network is established in the city by, first, re-categorizing the existing streets that are narrower than 7 meters[26] as ***alleys***, and then by integrating new alleys passing through the existing building-blocks in continuity with the courses of the existing streets (see: the street section analysis and the block dimension and new alley definition codes). Thereby, the chosen existing building-blocks are made more permeable and connected similar to the traditional fabric.

[26] This is the widest street width in the historical settlement (see: the street section analysis and the block dimension and new alley definition codes).

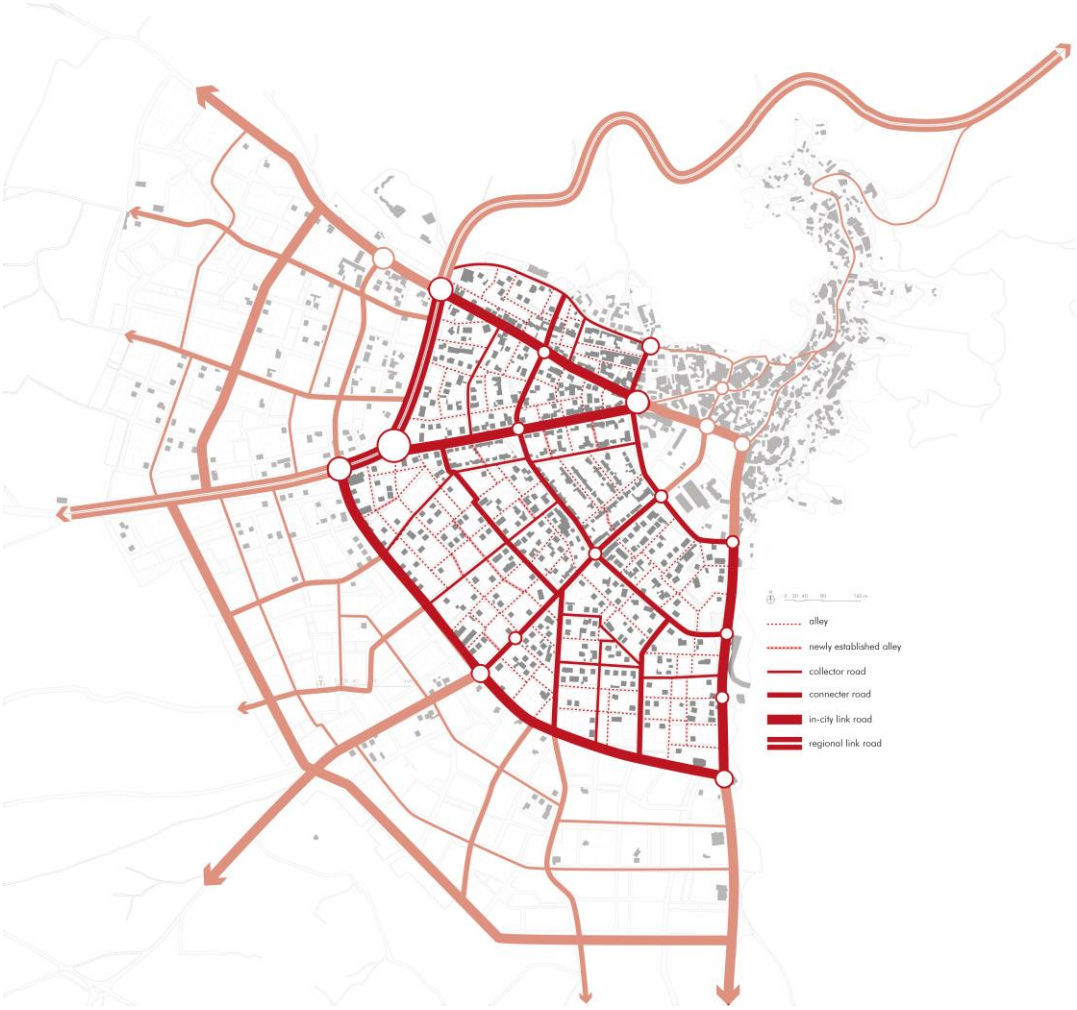

Figure 4.88. The proposed street network in the new settlement area. The existing street layout is not changed except several alleys passing through existing building-blocks. Note that in the scope of this study, only the area reaching up to the in-city and regional link road (the bright colored area) is studied in terms of alleys.

According to the suggested street network, the planned development zone is divided into ensembles via collector and connecter roads, in which pedestrians can also circulate through alleys. Moreover, those alleys would be used as ***access roads*** for accessing the individual plots during a certain period of time of the day and in the cases of emergency.

4.3.1 Operations within the Ensemble

On the basis of the new street pattern enhanced with the new alleys, the new plot subdivision and the alternative building formation is created by following proscriptive framework of the form and pattern languages. In the following figures, the process can be observed in four main stages: ***the existing situation, introducing alleys, plot subdivision,*** and ***building infill***. Besides, the urban design codes that are employed in each stage are briefly indicated before relevant stages. In the course of those stages, the building-blocks are accorded with the traditional building formation rules through plot subdivision and building formation, despite the topographical difference between old and new settlement areas.

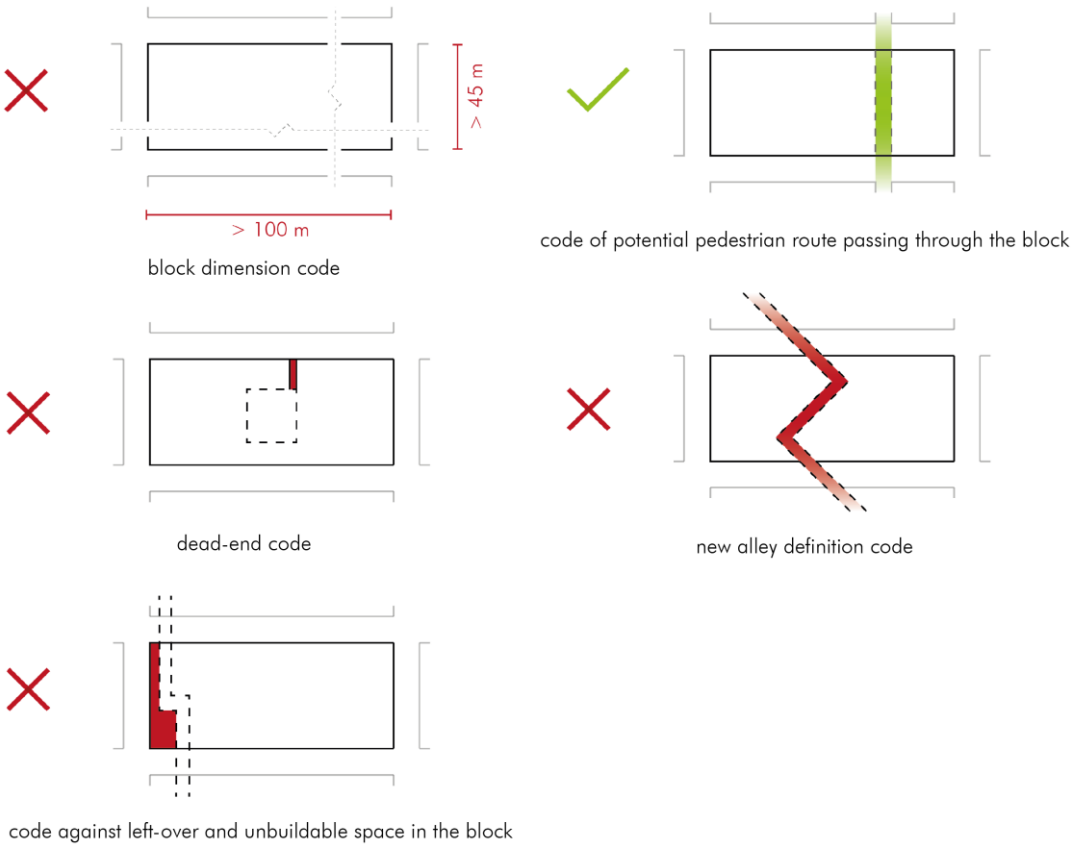

Figure 4.89. The set of design operations defined by the design codes in the Stage 2.

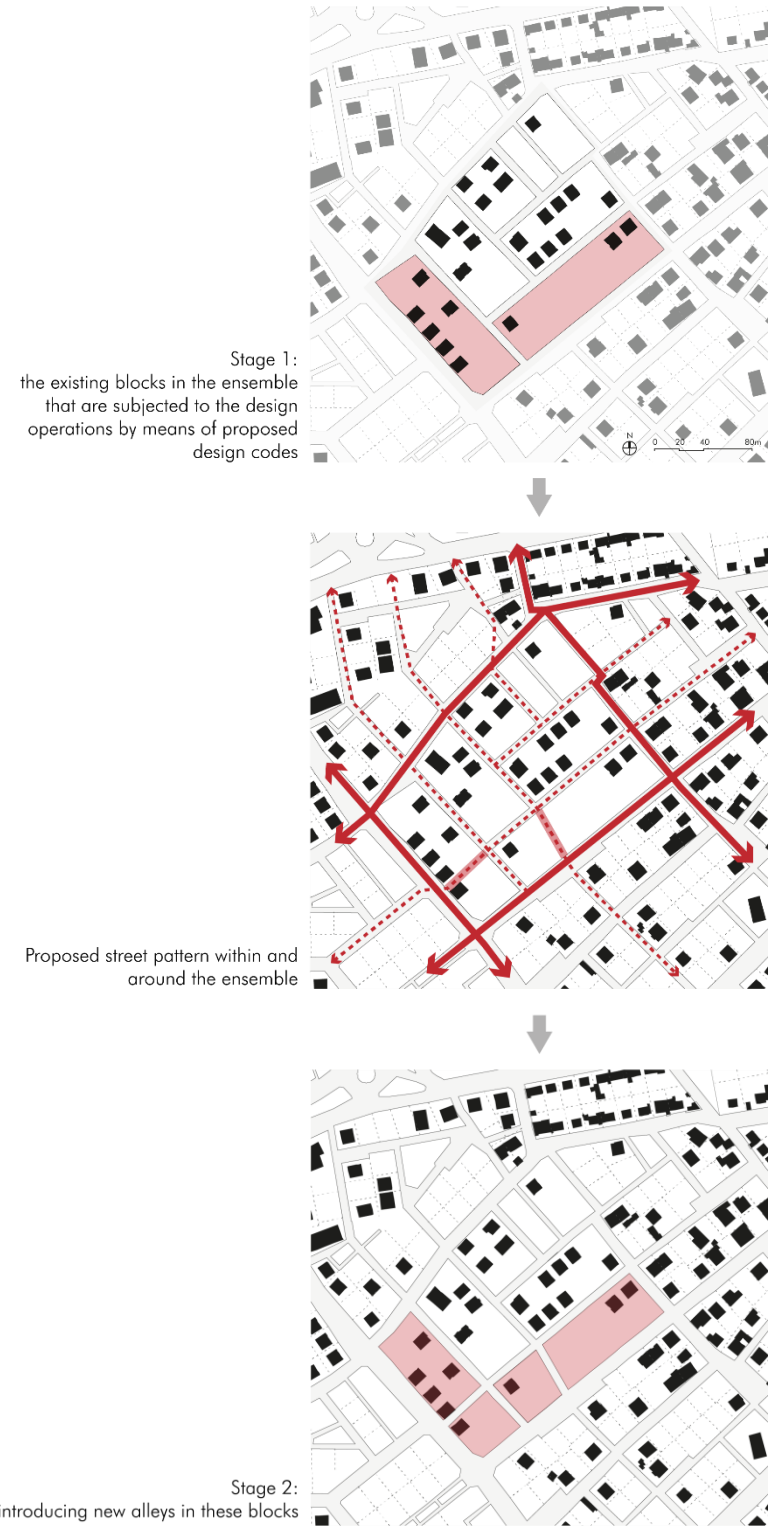

Figure 4.90. Stages 1 & 2: introducing alleys into the existing blocks by employing above-mentioned relevant codes.

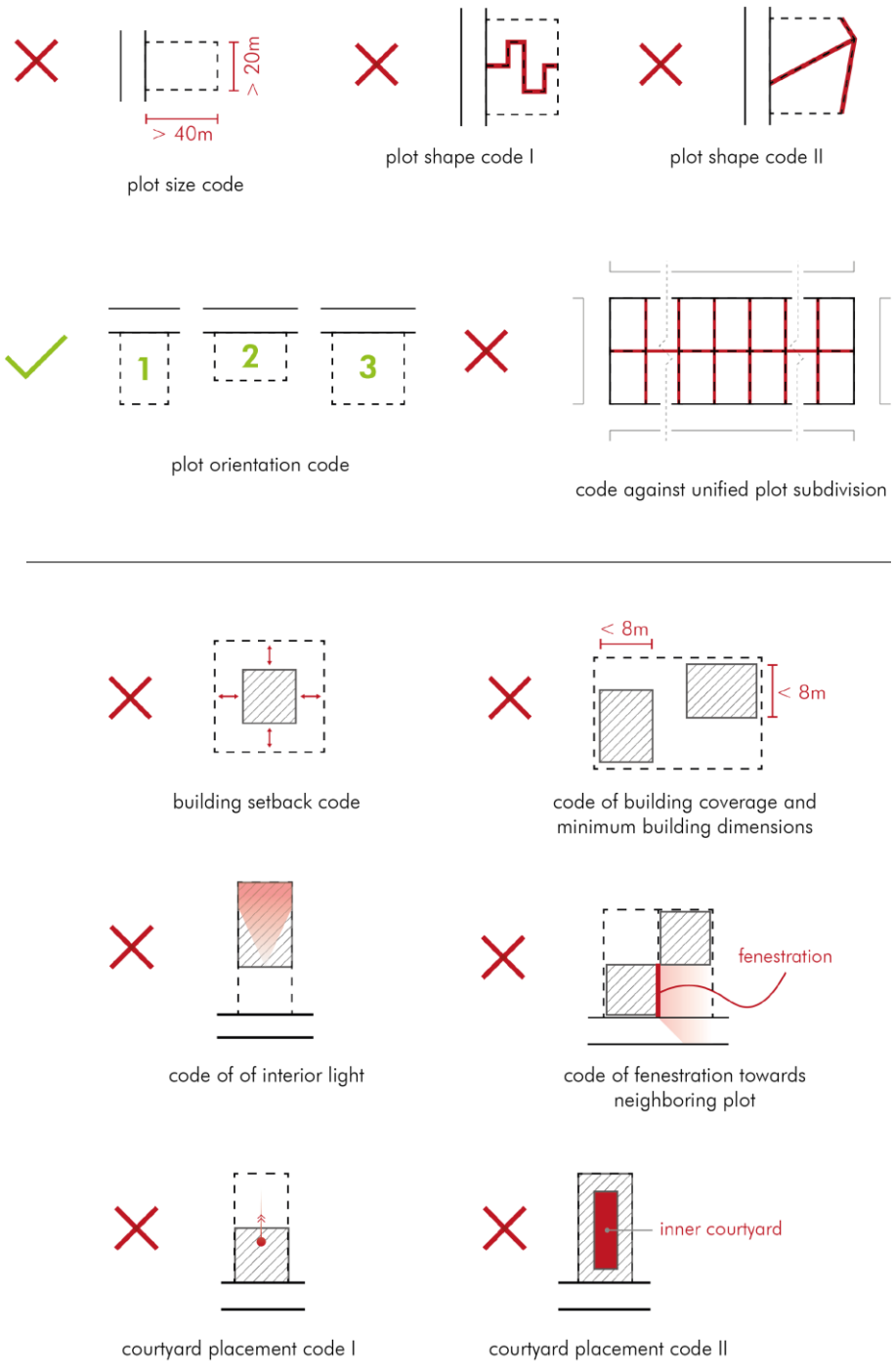

Figure 4.91. The set of design operations defined by the design codes in the Stages 3 and 4.

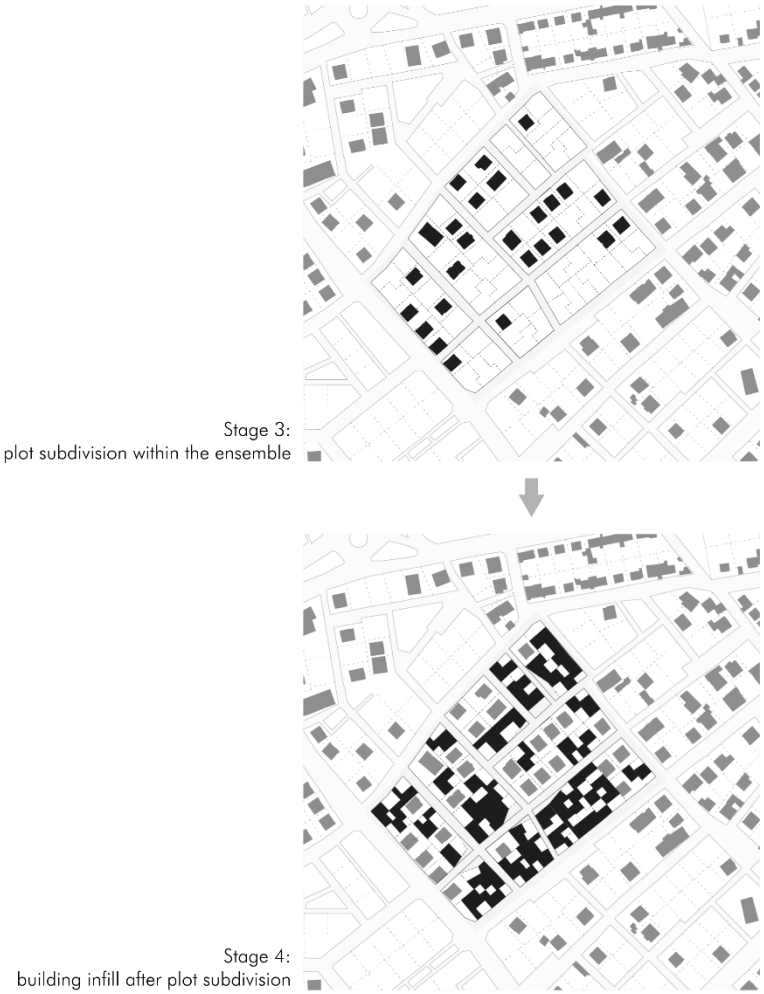

Figure 4.92. Stages 3 & 4: plot subdivision and building infill.

4.3.2 Evaluation of the Morphological Characteristics of the Emerging Form Composition

After the morphological formation of blocks, plots, and buildings by employing the codes, a part of a building-block within the ensemble is further articulated to observe possible urban composition with the use of proposed codes and to discuss the potential qualities in this emerged collective form.

Figure 4.93. A possible urban composition based on generative typomorphological urban design code: the plan of the ensemble within the proposed street layout (above) and a close-up plan within the ensemble (below). Note that different shades of color indicate different plots.

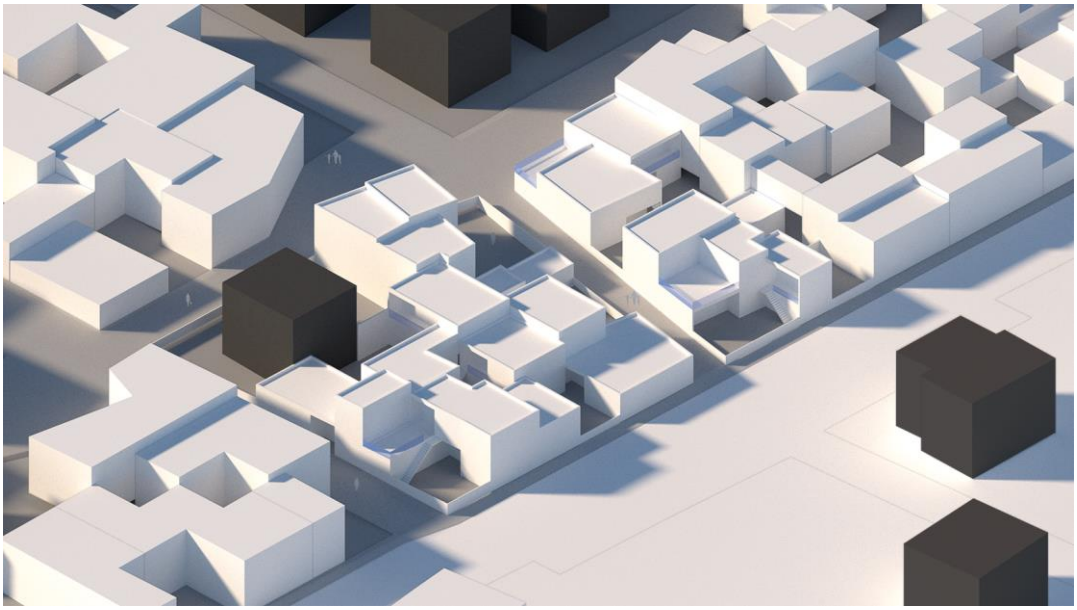

Figure 4.94. A possible urban composition based on generative typomorphological urban design code: partial mass articulation within the ensemble.

Figure 4.95. A possible urban composition based on generative typomorphological urban design code: sections within the ensemble. Note that different sections in the emerged collective form reflects and exemplifies the rich variety of spatial relationships inside and in-between plots.

It is clear that the generated urban fabric incorporates and recreates the aforementioned three-dimensional urban composition principles that characterize the traditional fabric. The proposed sections create variety and diversity as the codes do not force a certain composition for each plot and instead draws a proscriptive and

generative framework. The complexity by means of various elementary relations is reached to a more intricate level, similar to the traditional fabric. Besides, closer relationships between different plots and between building and street are created. With the addition of new alleys and the establishment of the new alley network, the modern fabric is converged to a more permeable and connected built environment. Reintroduction of the intermediary spaces such as iwans and entrance niches buttresses the conception of intimacy gradient and hierarchy of open space. Similarly, those semi-private spaces allow an integrated public-private relationship while the interiors are not fully isolated from the street.

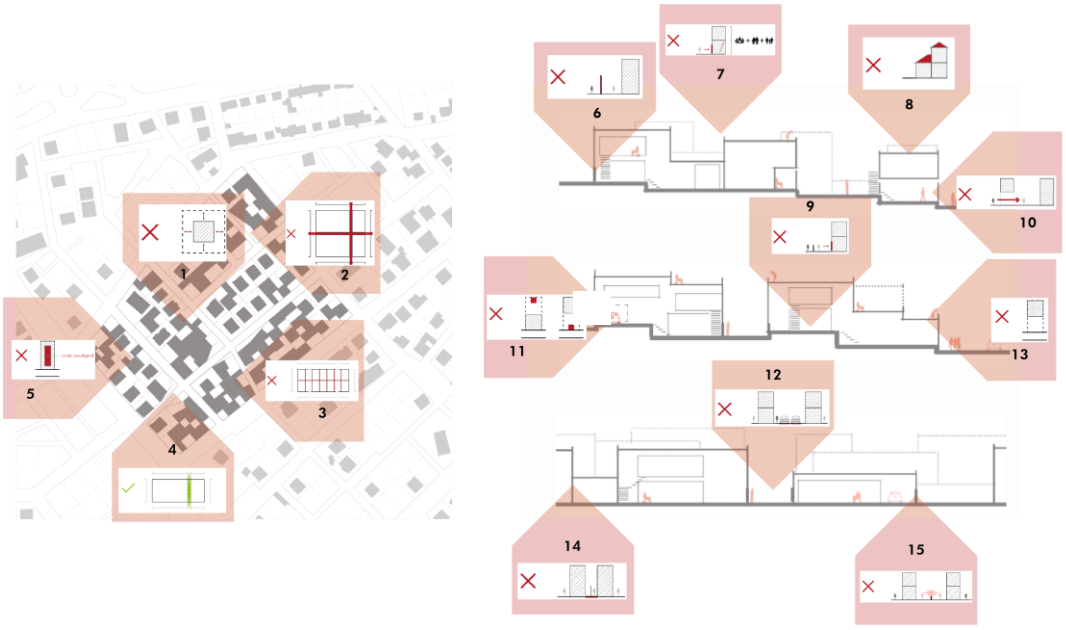

Figure 4.96. Several codes in the proposed ensemble plan and sections: (1) building setback code, (2) code of alley width, (3) code against unified plot subdivision, (4) code of potential pedestrian route passing through the block, (5) courtyard placement code; (6) code of courtyard wall height on street, (7) code of separate places for each couple in grand family, (8) code of used terraces, (9) code of building entrance from courtyard, (10) code of plot access through a passage, (11) code of garage, (12) code of car-usage on alleys, (13) code of building mass, (14) code of neighboring building distance, (15) code of visibility condition between neighboring plots.

In light of such an alternative design, it is important to compare the current practices and the proposed model approach. If the ensemble in which the design simulation is conducted continues to develop in the manner of the existing development practices, an urban fabric based on standard iterations in the street and building patterns is foreseen to be produced. In this case, it is clear that the morphological coherency between different form elements is weak as seen in the following figures. Nevertheless, as a result of the design control approach we propose, it is seen that an alternative urban pattern can be generated that offers ***the same development rights and better morphological coherency*** based on typical vernacular configurations.

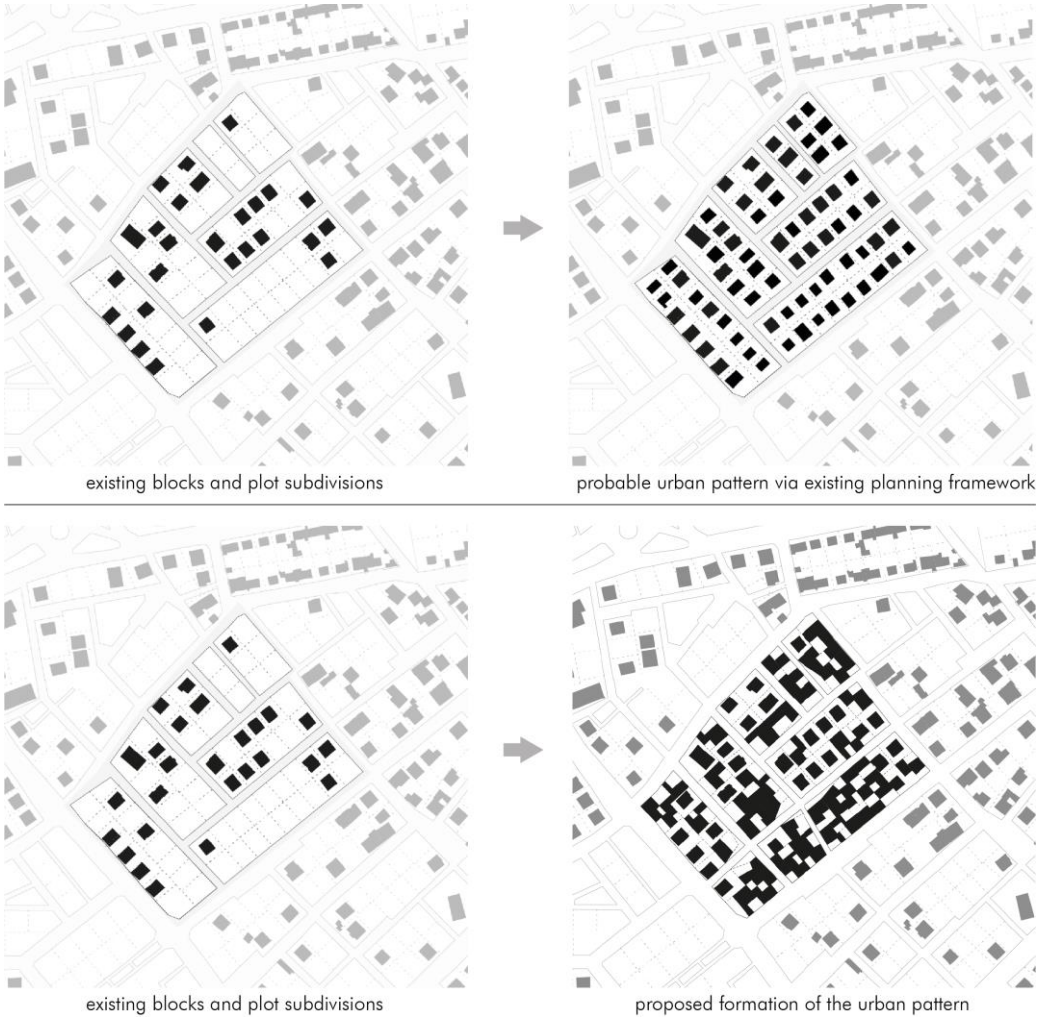

Figure 4.97. Urban fabric generation via existing planning framework (above) is compared to that of via generative typomorphological urban design codes (below).

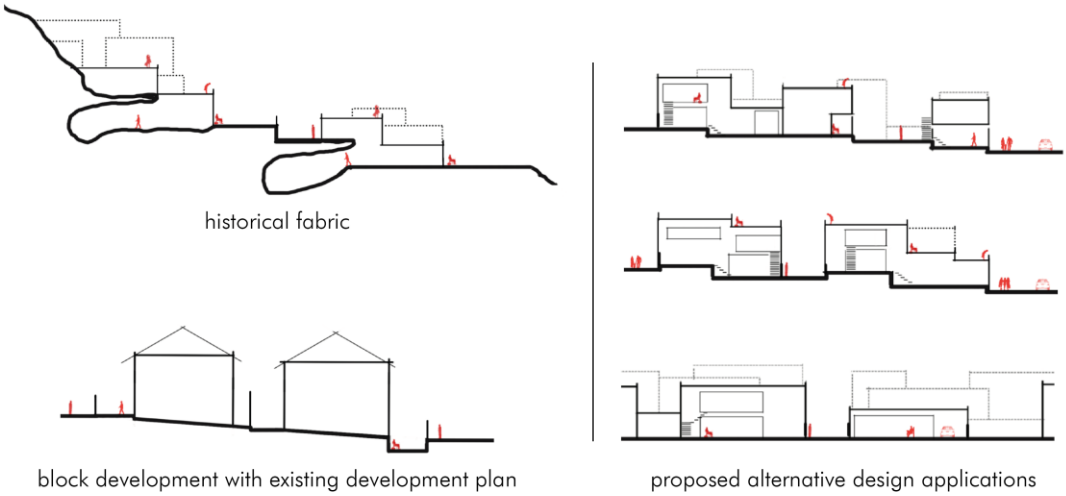

Figure 4.98. The comparison between generic traditional (top-left), new (bottom-left) and proposed (right) street sections.

From this point of view, it is revealed that the rich three-dimensional spatial formation that is shaped with the unique natural character of the soil and the steep topographic conditions in the traditional urban fabric can be reproduced even in the relatively flat new development area.

To conclude, in the design experiment, it is seen that an urban fabric morphology in which the street-plot and plot-plot relationships to be prioritized and the buildings to be placed minding the street conditions is emerged on the basis of the proposed urban design codes.

4.4 Findings of the Design Experiment

The study and the proposed model reinterpret the generative alternative of the typomorphological approach within the framework of form language and pattern language. It can be argued that this methodological approach will pave the way for a Critical Regionalist urbanism practice, which is an alternative to today's development planning approach that ignores the morphological characteristics of the traditional urban context. In this way, it will be possible to transfer the ancient urban culture of the past to the future with an innovative and creative perspective.

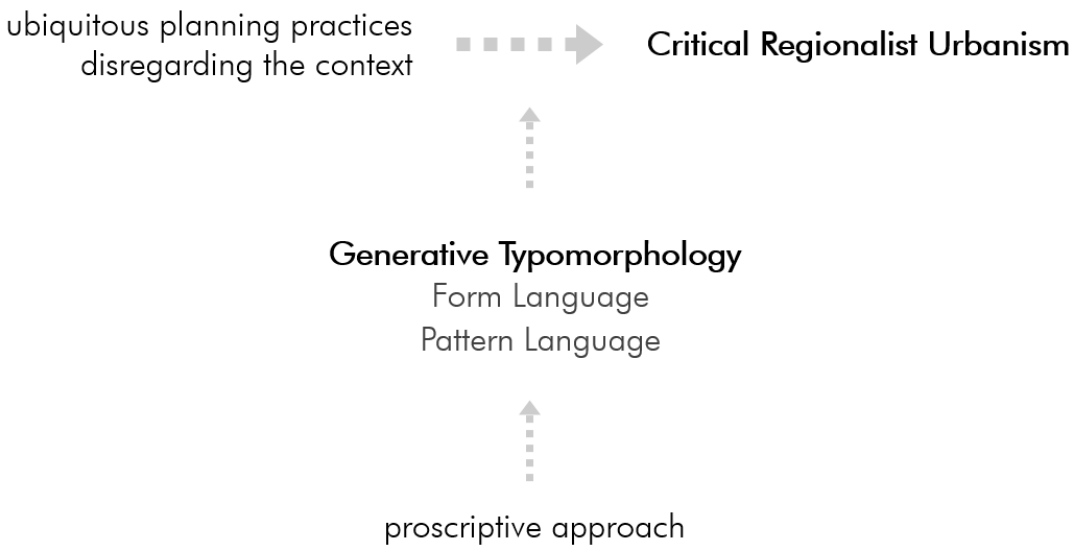

Figure 4.99. Theoretical framework of the study in a nutshell.

The outcomes of the methodological model have revealed that it is possible to reformulate the developmental conventions and generate an alternative urban fabric based on vernacular patterns by employing a (critically) regional and generative typomorphological urban design mindset, which is discussed in the traditional and unique context of Uçhisar. Offering a flexible and generative framework rooting in the vernacular urban design principles that characterizes the traditional fabric, the model brings forward the Critical Regionalist approaches on the basis of typomorphological analysis once more. In this context, it would be possible to argue that employing the form and pattern language concepts together with the abstract and proscriptive codes provide an experimental manual argumentation. Having the capability to generate urban fabrics by reviewing the prevailing morphologies and the activity patterns of the locals, it is shown that the model has the potentiality to connect well to its not only physical but also human context. Moreover, being a manual design method, generating the urban fabric following form and pattern languages provides a basis for the incremental design. In fact, the urban design code can be reinterpreted by different urban designers and architect within different building techniques, materials, styles, etc. On the other hand, despite its comprehensive analysis and design method considering the residential buildings, the

model is not capable of generating different urban activities other than housing in the built environment. In this context, one could argue that additional codes for the form and pattern languages can be developed; and thus, the insertion of various land uses in the city would further improve the model to be more complete to create a vivid urban condition.

After all, this experimental design study has shown that the proposed methodological model is qualified enough to formulate an alternative design framework that aims to encourage vernacular generative design processes instead of the existing ubiquitous planning practices disregarding the vernacular contexts as seen in most cities in Turkey.

CHAPTER 5

CONCLUSION

The research proposes a critical perspective to the conventional urbanism practices based on master plans and standards in traditional contexts by revisiting the theories of context and contextualism, then Critical Regionalism in detail, and type and typology. By doing so, the thesis seeks to develop a contextual framework for a generative design process that critically incorporates vernacular features within the design process, hence the end product.

Based on this framework, the research problematizes the current design practice in the traditional urban contexts in the way of disregarding the unique features of the traditional city fabrics in Turkey. Such practice along with the inefficacy of static masterplans and ubiquitous standards ends up with certain ruptures and dissonant implementations within the incrementally developed traditional fabrics which convey certain morphological coherence. The ubiquitous and standardized urban environments within or around the traditional city lacks complexity and variety despite the unique spatial richness of the nearby traditional forms. Moreover, as such practices are not accorded with the residents cultural/habitual patterns, they produce urban spaces that does not meet with the activity patterns of the local communities.

As a response to that, the thesis suggests an alternative methodical framework to include those features in the design process in a generative manner. In search of such a method, the research propounds to employ an urban design coding that is buttressed and accorded to its context by means of typological analyses. In order to refrain from the limiting and static conception of ‘the type as model’ in the way of pure replication of the traditional architectural and urban elements for the new design solutions, the study underlines the possibility of focusing on the generative

elementary relations in the form of generic rules that define types and re-concretize instants of type for each context, each setting.

By controlling three main elements of urban morphology, namely building, plot and block, the study acknowledges the multiscalar reciprocal relations between those elements in a way that the bottom-up procedures focusing on the parts necessarily affect the larger whole. In that sense, the main motivation of the research is to develop an alternative methodical framework that is buttressed and accorded to its context by means of the typomorphological perspective to urban design.

5.1 Evaluation of the Method

In the scope of the research, the urban design codes based on typomorphological analyses of the traditional fabric are employed to conduct a design experiment within the context of urban ensemble in the new (planned) extension of Uçhisar.

Criticizing the current understanding of the context as the mere material reality of the design setting as 'site', the study treats context as a multilayered concept in which the human dimension is also regarded as an important factor. Parallel to A. Petruccioli and H. Shadar's early arguments, it is argued that a proposed built environment was more bounded to its 'region' if its users agree with the activity patterns that the built environment encourages and facilitates – and vice versa. Therefore, by prioritizing the human dimension, the study focuses on the experiences and activities within local volumetric characteristics instead of local architectural styles. In that sense, when reading the context, the analysis on the volumetric relations in the built environment has enabled us to acquire a rather ***spatial*** understanding of the typical compositions of places. In the light of this spatial understanding, a generative type of design coding has been created. By doing so, it can be argued that the proposed methodical approach paves the way for the social extent of the context to subtly govern the contextual debate on the urban scale.

As an alternative attitude of capturing the generally disregarded dimension of the dwellers and their spatial instruments in the production of space within Critical

Regionalism, we use activity-based formal relations employed by the locals. Revisiting C. Alexander's and N. Salingaros' arguments, those generic rules are described under form and pattern languages that reveal the typical form-based and activity-based relationships, respectively. Moreover, in order to augment the generative potentiality of those rules, they are defined in a proscriptive manner in the way of determining what to avoid – instead of meticulously prescribing the final forms – following B. Hakim's early writings on traditional urbanism. With the local generic rules providing abstract relations instead of prescriptions of the end-result, it is attempted to obtain a less static and precise, but more generative and evolutionary urban design framework within the discourse of Critical Regionalism. This is argued to buttress the critical characteristic of the proposed framework allowing new/innovative possibilities according to contemporary needs.

From this perspective, the traditional fabric in Uçhisar is typologically analyzed by focusing on the elements of block, plot, and building and the reciprocal relations among them. The extent of the design codes is determined with regard to the prominent typological features widely observed in the fabric such as iwans and front courtyards. The codes are defined as being derived from either the form or the activity patterns in the fabric ***by proscriptively conditioning the formation of the built environment***. Following that, the specified codes are applied on a block-group (urban ensemble) located in the planned extension of the town. Since the building development within chosen ensemble is not completed, the unbuilt plots are developed by means of the proposed urban design codes while maintaining the existing street layout. Then, the proposed development of the ensemble is compared with the intrinsic quality of the existing development trends and tendencies via the actual planning mechanisms.

In this context, it is observed that the morphological quality of the proposal corresponds to that of the local traditional urban forms and spaces even though the ensemble is located on a much flatter topography. The proposed urban fabric also verifies the potentiality of the ***proscriptive design codes grounded on the vernacular forms and patterns*** applied on three elements of urban form to generate complexity

and variety similar to the traditional urban fabric. The comparison between the design proposal and the probable development following the existing planning conventions shows that a generative urban code growing from the traditional typicalities can generate an urban pattern ***that offers the same development rights, a better morphological coherency within higher spatial diversity as aimed for***. Endorsing the basic premises of the research, the outcome of the design experiment shows that the suggested methodological approach can be utilized to improve the relation between the old and the new, and to encourage vernacular cities to reveal their existing potentiality to create richer ***contemporary*** fabrics than the existing ones by means of critical typological reasoning.

5.2 Implications for Urban Design in Traditional Context

The primary potential of this methodological approach is to reverse the ignorance about the context by employing typological space and forms, and activity patterns, and to unlock the vernacular potentiality to generate an urban fabric in subtle yet critical continuity with the traditional city. This approach offers important improvements in the built environment where the ubiquitous, standardized planning prevails. To begin with, the method advocates a generative typological understanding on a critical basis to decode the existing typical rules. It does not simply revive the existing architectural 'set-pieces' and complete urban compositions of the traditional fabric as 'models', instead the method suggests to concentrate on the bottom-up elementary relations shaped by the experiences and activities of the locals, which enable the method to define spatial urban forms that does not force any sort of style. Moreover, enforced by the proscriptive manner of describing the codes, the method has the capability of generating numerous compositions by setting the limits of certain elementary relations. In fact, the proposed proscriptive codes permit a flexible understanding of urbanism as opposed to blueprint planning and building standards. Herein, different designers can produce different design solutions within the given context through certain limitations defined by the codes. Another important point is that since the urban codes are

derived from typological analysis within the context concerning the activity patterns of the dwellers in the area, the codes are capable of capturing the underlying characteristics of the context, which affects and is shaped by the users. As the socio-spatial features are transferred to the new design practices by means of typological rules, the method has a potential to profoundly ground the new design practices to their material and social context.

After all, this methodical framework offers an effective tool to ensure the contemporary urban forms to be in continuity with the traditional forms and patterns still keeping the possibility of change. It can also contribute to the future planning decisions within the traditional settlements by offering the same development rights within a high morphological coherency as in the case of traditional fabric.

5.3 Limitations and Further Studies

The methodological framework has significant potentials to generate a contemporary urban fabric in a subtle yet critical continuity between the new and the old within the traditional contexts. Nevertheless, it has certain limitations that might require further studies.

First of all, the basis of the analyses for understanding the context would be reinforced with additional sources. The method is developed primarily on the basis of the typological analysis using the base map of Uçhisar and the drawings that were provided by a leading developer and design group in the town. In addition, the observations of the author during the site visit, and the previous theses conducted on the context of Cappadocia and Uçhisar has been made use of in the analysis. In that sense, the inclusion of the residents in the process of analyzing the vernacular city and the contemporary activity patterns and needs would improve/legitimize the validity and adoptability of the codes.

Moreover, the database on which the analyses are grounded would be enlarged. With a greater number of samples, the typicalities in the plots and buildings would get more precise, which would concretize the aim as well as the definition of the

proscriptive codes. By doing so, the inter-scalar relations would be much clearer, as well.

Secondly, the generative capacity of the codes is to be elaborated. In the scope of the thesis, the proposed codes are applied in an ensemble by a single designer, the author. However, in order to test the potentiality, deficiency as well as the shortcomings of the proscriptive codes, a different set of designers could be assigned to design different parts of the new settlement area using those codes. Such a design experiment on a single ensemble would also be conducted to see the capacity of flexibility of the codes in the way of generating a variety of urban design solutions by different designers via using the same codes on the same setting.

Another important point to be further discussed and elaborated is the inclusion of different land uses other than housing in the analysis and codes, hence design. Since the traditional fabric in Uçhisar is mostly composed of housing likely to the new settlement area, the study dealt only with a single use, namely housing. However, in order to create a realistic vivid urban condition by using the codes in the same manner, complementary codes would be developed by analyzing the emergence of new types and different uses from the elementary cell in the region. Such a study might not be limited to Uçhisar but would cover the Cappadocia region in which the typological processes are similar, in order to extend the sampling of this evolution.

Last but not least, the legal and procedural dimension of the issue is yet to be defined. Although the design process is articulated in the scope of this research, the responsibilities of its application within the existing planning mechanisms/routines in Turkey are not discussed.

In brief, in order to improve the method, its participators, database and extent can be widened to include as much contextual information as possible, and its integration to the existing planning regulations can be studied. In this way, a contextualist perspective to urban design would be much more crystallized and the possibility of applying this alternative method upon the local architectural knowledge would be realized on an operational basis.

REFERENCES

Alarcón, J. (2013, September 7). Friendship Centre / Kashef Chowdhury - URBANA. ArchDaily. Retrieved October 15, 2020, from https://www.archdaily.com/423706/friendship-centre-kashef-mahboob-chowdhury-urbana?ad_medium=office_landing&ad_name=article

Alexander, C. (1979). *The timeless way of building*. New York: Oxford University Press.

Alexander, C., Ishikawa, S., Silverstein, M., Jacobson, M., Fiksdahl-King, I., & Angel, S. (1977). *A pattern language: Towns, buildings, construction*. New York: Oxford University Press.

Aureli, P. V. (2007). The Difficult Whole. *Log, 9*, 39–61.

Avermaete, T., Patteeuw, V., Szacka, L.-C., & Teerds, H. (2019). Revisiting Critical Regionalism. *OASE Journal for Architecture, 103*, 1–10.

Aymonino, C. (1976). *Il significato della città*. Bari: Laterza.

Bandini, M. (1984). Typology as a Form of Convention. *AA Files, 6*, 65–75.

Berque, A. (1987). Milieu et motivation paysagère. *Espace Géographique, 16* (4), pp. 241–250. https://doi.org/10.3406/spgeo.1987.4266

Bertini, V. (2020, February 14). Hassan Fathy (1900-1989). Retrieved from https://www.architectural-review.com/essays/reputations/hassan-fathy-1900-1989

Bhatt, R. (2010). Christopher Alexander's Pattern Language: An Alternative Exploration of Space-Making Practices. *The Journal of Architecture, 15* (6), 711-729.

Binan, D. U. (1994). Güzelyurt örneğinde, Kapadokya bölgesi yığma taş konut mimarisinin korunması için bir yöntem araştırması. (Doctoral dissertation, Yıldız Technical University, İstanbul, Turkey).

Caniggia, G. & Maffei, G. L. (1979 [2001]). *Architectural composition and building typology interpreting: Basic buildings*. Florence: Alinea Editrice.

Carmona, M., Heath, T., Oc, T., & Tiesdell, S. (2010). *Public places, urban spaces: the dimensions of urban design*. Routledge.

Cimşit, F. (2007). Tepe kent yerleşmelerinde psiko-sosyal alan olgusunun konut örüntüleri ile ilişkisi; Uçhisar örneği. (Doctoral dissertation, İstanbul Technical University, İstanbul, Turkey).

Congress for the New Urbanism & US Department of Housing and Urban Development. (1999). *Principles for Inner City Neighborhood Design*. San Francisco: Congress for the New Urbanism.

Dar Lamane Housing (2020). Retrieved from https://www.akdn.org/architecture/project/dar-lamane-housing

Davidovici, I. (2019). Constructing the Site: The Ticino and Critical Regionalism (1978-1987). *OASE Journal for Architecture, 103*, 92-104.

Duany Plater-Zyberk & CO. (2003). *The Lexicon of New Urbanism*. Ithaca: New Urban News Publications Inc.

Duany, A., Plater-Zyberk, E. & Speck, J. (2000). *Suburban nation: the rise of sprawl and the decline of the American dream*. North Point Press: New York.

Duany, A., Sorlien, S., & Wright, W. (2009). *SmartCode Version 9.2*. Ithaca: New Urban News Publications Inc.

Edelson, Z. (2018, March 2). Kenneth Frampton isn't done changing architecture. Retrieved from https://www.metropolismag.com/architecture/kenneth-frampton-interview/

Eggener, K. L. (2002). Placing resistance: A critique of Critical Regionalism. *Journal of Architectural Education, 55* (4), 228–237.

Eisenman, P. (1982). Introduction: The Houses of Memory: The Texts of Analogy. In *The Architecture of the City* (pp. 3–11). New York: The MIT Press.

Eisenman, P. (1984). The End of the Classical: The End of the Beginning, the End of the End. *Perspecta, 21,* 154–173. https://doi.org/10.2307/1567087

Eldem S. H. (1987). Turkish Houses, *Ottoman Period, 3*. T.A.C.: Istanbul.

Ellis, C. (2002). The New Urbanism: Critiques and Rebuttals. *Journal of Urban Design, 7* (3), 261–291.

Ellis, W. (1979). Type and Context in Urbanism: Colin Rowe's Contextualism. *Oppositions, 18*, 2-27.

Falconer Al-Hindi, K., & Staddon, C. (1997). The Hidden Histories and Geographies of Neotraditional Town Planning: The case of Seaside, Florida. *Environment and Planning D: Society and Space, 15* (3), 349–372.

Frampton, K. (1983a). Prospects for a Critical Regionalism. *Perspecta, 20*, 147–162.

Frampton, K. (1983b). Towards a Critical Regionalism: Six points for an architecture of resistance. In H. Foster (Ed.), *The Anti-aesthetic essays on postmodern culture* (16-30). Bay Press.

Frampton, K. (1992). Critical Regionalism: Modern Architecture and Cultural Identity. In *Modern architecture: A critical history* (3rd ed., 314-327). London: Thames and Hudson.

Frampton, K. (2004). Some Reflections on Postmodernism and Architecture. In C. Jenks (Ed.), *Urban culture: critical concepts in literary and cultural studies* (211-223). New York: Routledge.

Griffiths, A. (2017, March 5). Daylight filters in through the roof and walls of Bangladeshi mosque by Marina Tabassum. Retrieved from https://www.dezeen.com/2017/03/05/bait-ur-rouf-mosque-dhaka-bangladesh-marina-tabassum-brick-aga-khan-award/

Hakim, B. S. (2007). Generative processes for revitalizing historic towns or heritage districts. *Urban Design International, 12* (2-3), 87-99.

Hays, K. M. (1984). Critical Architecture: Between Culture and Form. *Perspecta, 21*, 14–29. http://www.jstor.com/stable/1567078%0

Heidegger, M. (1997). Building, Dwelling, Thinking. In N. Leach (Ed.), *Rethinking architecture: A Reader in cultural theory* (pp. 94–119). Routledge. https://doi.org/10.1111/1467-8365.00143

Ickx, W. (2019). On Topography. *OASE Journal for Architecture, 103*, 121-124.

Jacobs, J. (1961). *The Death and Life of Great American Cities*. New York: Random House.

Kelbaugh, D. (1997). The New Urbanism. *Journal of Architectural Education, 51* (2), 142–144.

Kelbaugh, D. (2002). *Repairing the American metropolis: Common place revisited*. Seattle: University of Washington Press.

King, A. D. (1996). Vernacular, transnational, post-colonial. *Casabella, (630-631)*, 63–71.

Kırbaş, A. (2019). Kaya oyma mekanlarin turizm amaçli yeniden kullanimi:Argos in Cappadocia örneği. (Master's Thesis, İstanbul Technical University, İstanbul, Turkey).

Koetter, F. & Rowe, C., (1980). The Crisis of the Object: The Predicament of Texture. *Perspecta, 16*, 108-141.

Kömez-Dağlıoğlu, E. (2017). Reclaiming context: Architectural theory, pedagogy and practice since 1950 (Doctoral dissertation, Delft University of Technology, Delft, Netherlands). Retrieved from https://doi.org/10.4233/uuid:1c3c71ac-5748-4c1b-b671-02cd302e4147

Kömez-Dağlıoğlu, E. (2019). On the Paradoxical Nature of Frampton's Critical Regionalism. *OASE Journal for Architecture, 103*, 58-67.

Krier, L. (1978). The Reconstruction of the City. In *Rational architecture: reconstruction of the European city* (38-74). Brussels: Archives of Modern Architecture Editions.

Krier, L. (1984). Urban components. *Architectural Design, 54* (7/8), 43-48.

Krier, R. (1991). *Urban Space* (Fifth). London: Academy Editions.

Lee, C. C. M. (2011). The City as a Project: Type. Retrieved January 10, 2020, from http://thecityasaproject.org/2011/08/type/

Lee, C. C. M. (2012). The fourth typology: dominant type and the idea of the city (Doctoral dissertation, Delft University of Technology, Delft, Netherlands). Retrieved from https://doi.org/10.4233/uuid:b73c9070-de3b-4752-bbf1-b301e5b71ad0

Lee, C. C. M. (2015). Taiqian: The countryside as a city. Harvard University Graduate School of Design. https://issuu.com/gsdharvard/docs/commonframeworks3

Lee, C. C. M., & Jacoby, S. (2011). Typological urbanism and the idea of the city. *Architectural Design, 81* (1), 14-23.

Lee, C. C. M., & Jacoby, S. (Eds.). (2007). *Typological formations: Renewable building types and the city*. Architectural Association.

Luscombe, D. (2014). Architectural Concepts in Peter Eisenman's Axonometric Drawings of House VI. *Journal of Architecture, 19* (4), 560–611. https://doi.org/10.1080/13602365.2014.951064

Madrazo, L. (1994). Durand and the Science of Architecture. *Journal of Architectural Education, 48* (1), 12-24.

Madrazo, L. (1995). The concept of type in architecture: An inquiry into the nature of architectural form (Doctoral dissertation, ETH, Zurich, Switzerland). Retrieved from https://doi.org/10.3929/ethz-a-001503629

Makbule İ. & Utta. (2011). Uçhisar (Nevşehir) Kentsel Sit Alanı Koruma Amaçlı İmar Planı Açıklama Raporu.

Middleton, D. B. (1982). The Combining of the Traditional City and the Modern City. *Lotus International, 27*, 47-62.

Mississippi Renewal Forum. (2005). *A pattern book for Gulf Coast neighborhoods*. Pittsburgh, PA: Urban Design Associates.

Moudon, A. V. (1994). Getting to Know the Built Landscape: Typomorphology. In K. A. Franck & L. H. Schneekloth (Eds.), *Ordering space: types in architecture and design.* (289-311). New York: Van Nostrand Reinhold.

Muratori, S., 1959, Studi Per Una Operante Storia Urbana di Venezia, Rome: Instituto Poligraphico dello Stato.

Nesbitt, K. (1996). Introduction. In K. Nesbitt (Ed.). *Theorizing a new agenda for architecture: an anthology of architectural theory 1965-1995*, (16-71). New York: Princeton Architectural Press.

Norberg-Schulz, C. (1980). *Genius loci: Towards a phenomenology of architecture*. London: Academy Editions.

Oktay, D. (2004). Urban Design for Sustainability: A Study on the Turkish City. *International Journal of Sustainable Development & World Ecology, 11* (1), 24-35.

Oktay, D. (2012). Human Sustainable Urbanism: In Pursuit of Ecological and Social-Cultural Sustainability. *Procedia - Social and Behavioral Sciences, 36*, 16-27.

Oktay, D. (2017). A Critical Approach to Sustainable Urbanism: Lessons from Traditional and Contemporary Paradigms. In E. Hepperle et al (Eds.), *Land Ownership and Land Use Development: The Integration of Past, Present, and Future in Spatial Planning and Land Management Policies.* (295-306). ETH Zürich: Hochschulverlag AG.

Ömerül Faruk Yolveren Planning Office. (2015). Uçhisar (Nevşehir) Koruma Amaçlı Revizyon ve İlave İmar Planı.

Özbay, H. (1989). Günümüz Türk kentlerindeki kaybolan birliktelik: Kent ve mimar. *Mimarlık, 27* (5), 44–47.

Petruccioli, A. (2007). *After amnesia: learning from the Islamic Mediterranean urban fabric*. Altamura: Politecnico di Bari.

Ray, K. (1980). *Contextual architecture: Responding to existing style*. New York: McGraw Hill.

Ricœur, P. (1961). Universal Civilization and National Cultures. In *History and truth*, (276-283). Illinois: Northwestern University Press.

Rossi, A. (1982). *The Architecture of the city*. New York: The MIT Press.

Rowe, C., & Koetter, F. (1988). *Collage city*. Cambridge: The MIT Press.

Rowe, C., & Slutzky, R. (1963). Transparency: Literal and Phenomenal. *Perspecta, 8*, 45-54.

Rowe, C., & Slutzky, R. (1971). Transparency: Literal and Phenomenal Part II. *Perspecta, 13* (14), 287-301.

Salingaros, N. A. (2006). *A theory of architecture*. Umbau-Verlag.

Scheer, B. C. (2010). *The evolution of urban life*. New York: Routledge

Schumacher, T. (1996). Contextualism: Urban Ideals and Deformation. In K. Nesbitt (Ed.). *Theorizing a new agenda for architecture: An anthology of architectural theory 1965-1995*, (16-71). New York: Princeton Architectural Press.

Shadar, H. (2010). Evolution and Critical Regionalism. *Journal of Urban Design, 15* (2), 227–242. https://doi.org/10.1080/13574801003638137

Shane, D. G. (2011). Transcending type: Designing for urban complexity. *Architectural Design, 81* (1), 128–134.

Shane, G. (1976). Contextualism. *Architectural Design, 46* (11), 676-679.

Shushtar New Town (2017, September 10). Retrieved from http://hiddenarchitecture.net/shushtar-new-town/

Talen, E. (2000). New Urbanism and the Culture of Criticism. *Urban Geography, 21* (4), 318–341.

Tongal, P. B. (2014). Construction techniques of traditional Uçhisar houses. (Master's Thesis, Middle East Technical University, Ankara, Turkey).

Turan, B. (1998). Is 'Rational' Knowledge of Architecture Possible? Science and Poiêsis in L'architettura Della Città. *Journal of Architectural Education, 51* (3), 158-165.

Tzonis, A., & Lefaivre, L. (2017). The Grid and The Pathway. In *Times of creative destruction: Shaping buildings and cities in the late c20th* (1st ed., pp. 123–130). New York: Routledge.

UNESCO World Heritage Centre. (n.d.). Göreme National Park and the Rock Sites of Cappadocia. Retrieved June 15, 2021, from http://whc.unesco.org/en/list/357/

Upton, D. (1984). Pattern Books and Professionalism: Aspects of the Transformation of Domestic Architecture in America, 18oo-186o. *Winterthur Portfolio, 19* (2/3), 107–150.

Urbain, M. (2019). The Critical Construction of Critical Regionalism (1971-1983). *OASE Journal for Architecture, 103*, 41–48.

Urban Design Associates. (2010). UDA pattern books and form-based codes. Retrieved Nov 25, 2019, from https://issuu.com/urbandesignassociates/docs/new_pbandfbc.pdf

van Eig, M. (2019). Building Culture and Exposed Aggregate Concrete Columns. *OASE Journal for Architecture, 103*, 129-132.

Venturi, R. (1968). A Bill-Ding-Board Involving Movies, Relics and Space. *Architectural Forum, 128* (3), 74-79.

Venturi, R. (1977). *Complexity and contradiction in architecture*. New York: The Museum of Modern Art.

Venturi, R., Scott Brown, D., & Izenour, S. (1988). *Learning from Las Vegas*. Massachusetts: The MIT Press.

Vidler, A. (1998). The Third Typology. In K. M. Hays (Eds.), *Architecture Theory Since 1968*. (284-294). New York: The MIT Press.

Wang, Y. (2012). Architectural Association School of Architecture. Retrieved February 10, 2020, from http://pr2012.aaschool.ac.uk/students/Yuwei_Wang

Yıldırım, Z. Ö. (2003). Sinasos yöresel mimarisi ve 19. yy batılılaşma hareketlerinin konut mimarisine etkileri. (Master's Thesis, İstanbul Technical University, İstanbul, Turkey).

Zaera A. (1997). Eisenman's Machine of Infinite Resistance. *El Croquis, 83*, pp. 50-63.

Internet Sources:

web 1. https://www.pinterest.ch/pin/405746247674928842/

web 2. https://www.dezeen.com/2015/08/12/postmodernism-architecture-vanna-venturi-house-philadelphia-robert-venturi-denise-scott-brown/

web 3. http://socks-studio.com/2016/11/17/national-collegiate-football-hall-of-fame-in-new-brunswick-nj-by-venturi-scott-brown-and-associates-inc-1967/

web 4. https://www.teggelaar.com/en/tivoli-day1/

web 5. https://eisenmanarchitects.com/House-VI-1975

web 6. http://www.botta.ch/en/SPAZI%20DELL-ABITARE?idx=19

web 7. https://www.flickr.com/photos/ofhouses/17931949994/in/photostream/

web 8. https://www.archdaily.com/161522/ad-classics-koshino-house-tadao-ando

web 9. https://www.behance.net/gallery/32367469/Koshino-House-Tadao-Ando

web 10. https://www.dezeen.com/2017/03/05/bait-ur-rouf-mosque-dhaka-bangladesh-marina-tabassum-brick-aga-khan-award/

web 11. https://www.akdn.org/architecture/project/friendship-centre

web 12. http://hiddenarchitecture.net/new-barrid-village/

web 13. https://archnet.org/sites/493/media_contents/26961

web 14. http://hiddenarchitecture.net/shushtar-new-town/

web 15. https://d2wbjlwxq1xj1e.cloudfront.net/site/Urban-Code-2014.pdf?mtime=20180628140346

web 16. http://pr2012.aaschool.ac.uk/students/Yuwei_Wang

web 17. https://vuotoattivo.tumblr.com/post/25918492335/fumihiko-maki-compositional-form-megaform-group

web 18. http://pr2012.aaschool.ac.uk/students/Yuwei_Wang

web 19. https://issuu.com/gsdharvard/docs/commonframeworks3

APPENDICES

A. Building Organization Types

In Cappadocia, house forms and their organization schemas were derived from a generic house-unit comprised of two rooms and a semi-closed space in-between. It is regarded as a continuation of traditional house-making in northern Mesopotamia. Even though its primary origin is not the question of this thesis, that generic unit type served well and was continuously recycled in the region (Yıldırım, 2003, pp. 19-20).

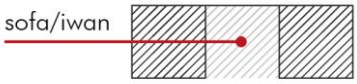

Figure A.1 Generic house unit, mostly used in northern Mesopotamia (adapted from Akın, 1984 cited in Yıldırım, 2003, p.20).

Therefore, the house plans in Uçhisar are reviewed by acknowledging that unit. However, due to the scale of interest, the interior spaces are not thoroughly analyzed. To note, the in-between semi-closed space, whose three sides are (generally) covered, is iwan (*eyvan*).

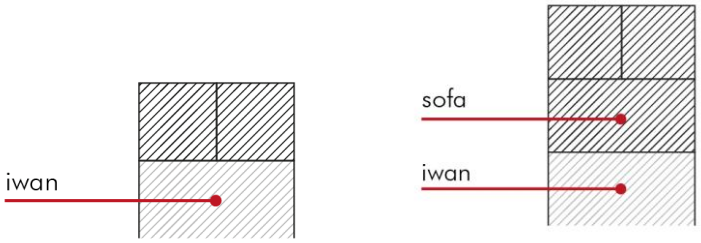

Figure A.2 Two generic house units that generate the complex built environment in Uçhisar. Adapted from the brief analysis on the fabric.

B. Plots Examined in the Traditional Settlement of Uçhisar

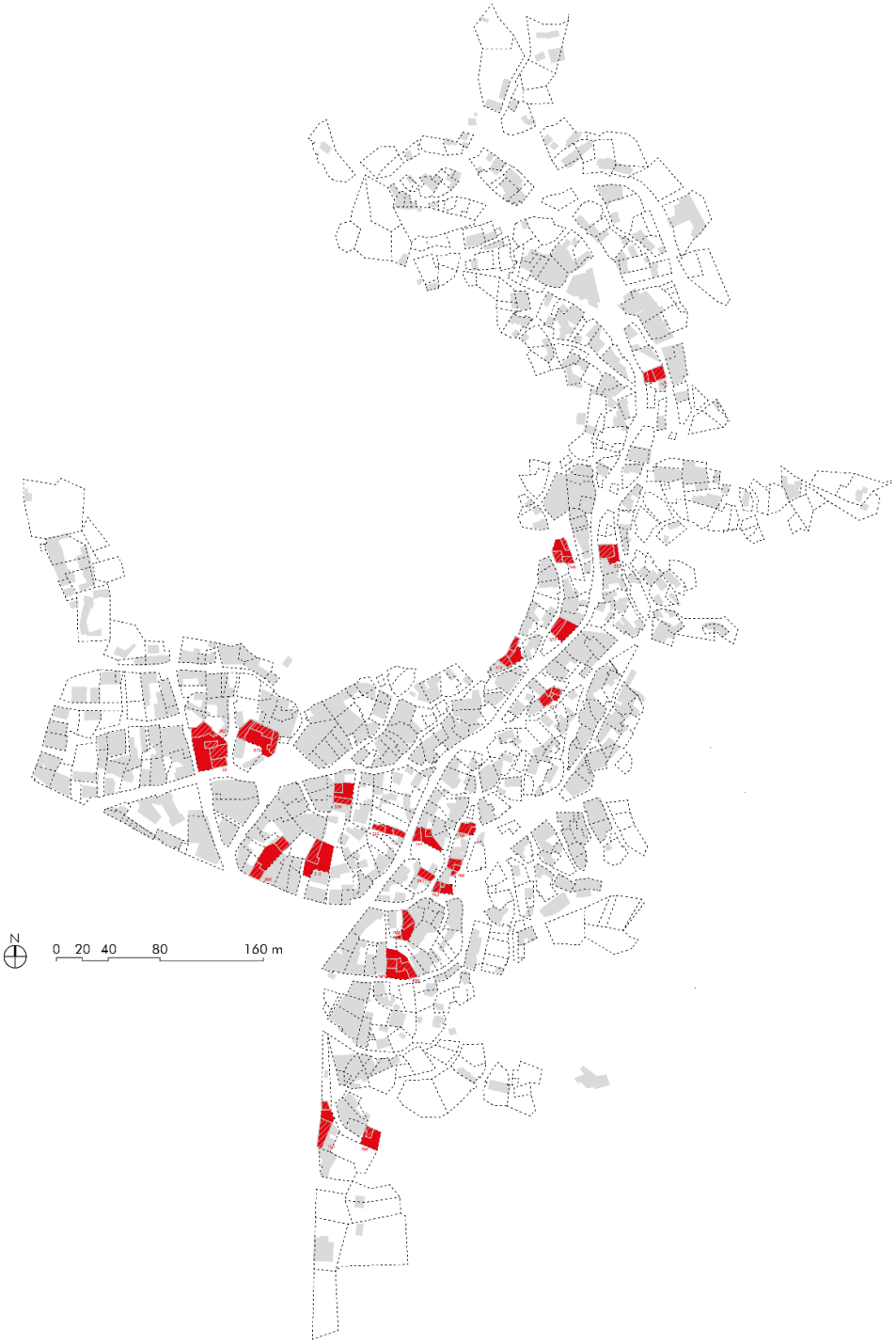

Figure B.1 The plots whose interior organizations are studied by F. Cimşit (2007). Cimşit's studies on the building organizations are utilized to define patterns, especially in the scale of building-plot.

Figure B.2 The plots that are surveyed by Ayşe Orbay, Tezyin and DS Mimarlık (1999). Those surveys are utilized to understand the spatial building-plot relations that are highly three dimensional in the traditional fabric.

Figure B.3 The urban sections and the elevation photo of the surveyed urban fabric **(**By courtesy of DS Mimarlık, 1999).

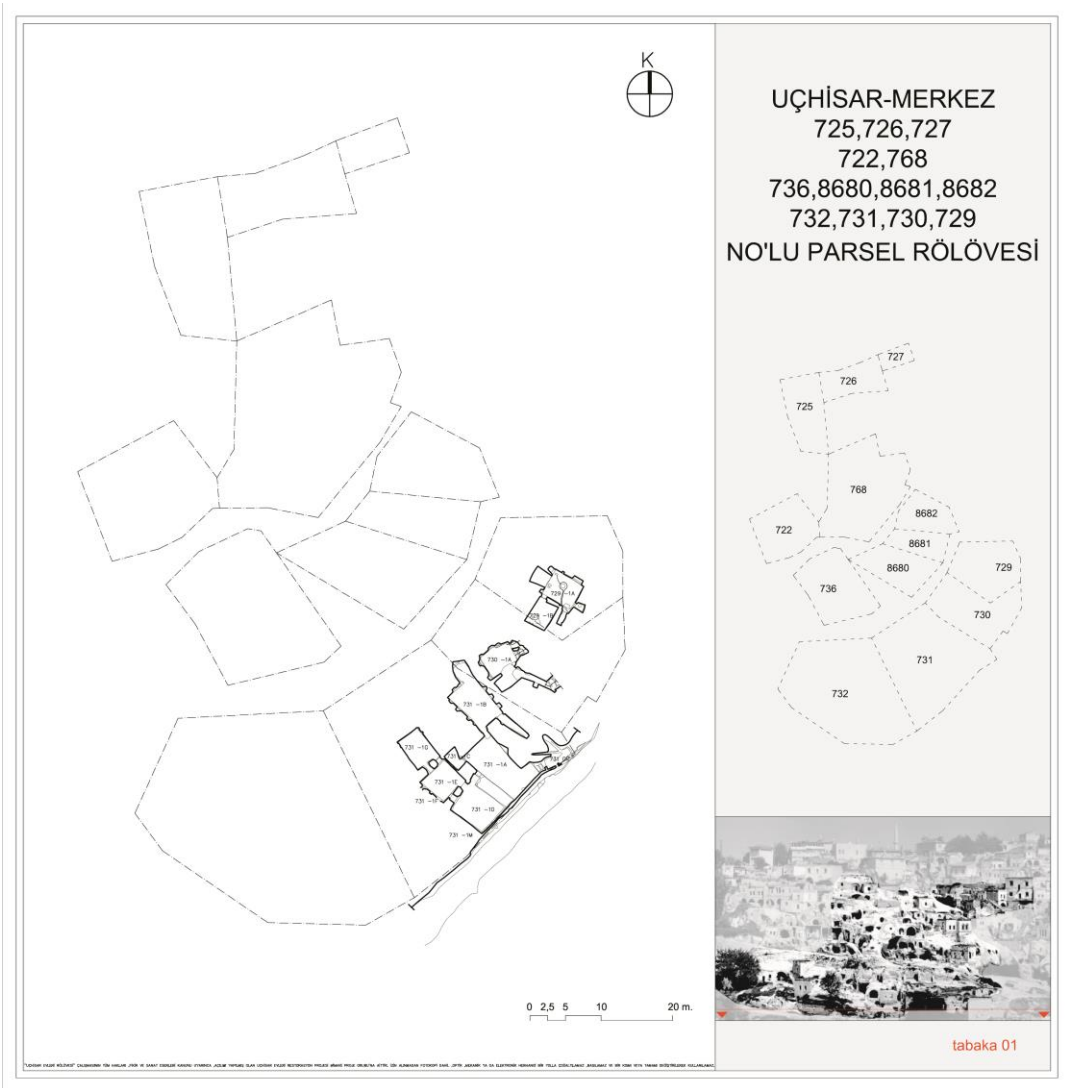

Figure B.4 The layer-1 plan of the surveyed plots. Levels are indicated on the elevation **(**By courtesy of DS Mimarlık, 1999).

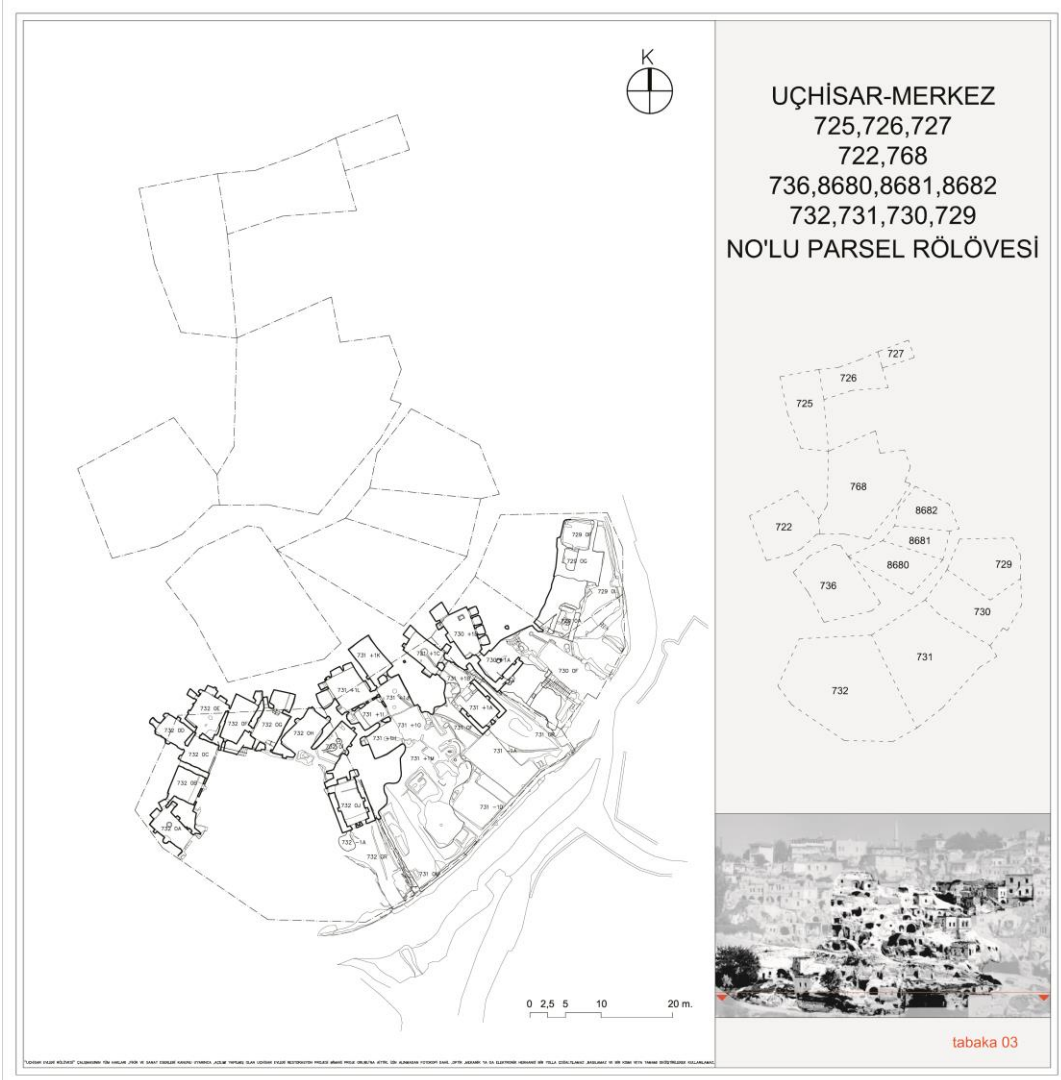

Figure B.5 The layer-3 plan of the surveyed plots. Levels are indicated on the elevation **(**By courtesy of DS Mimarlık, 1999).

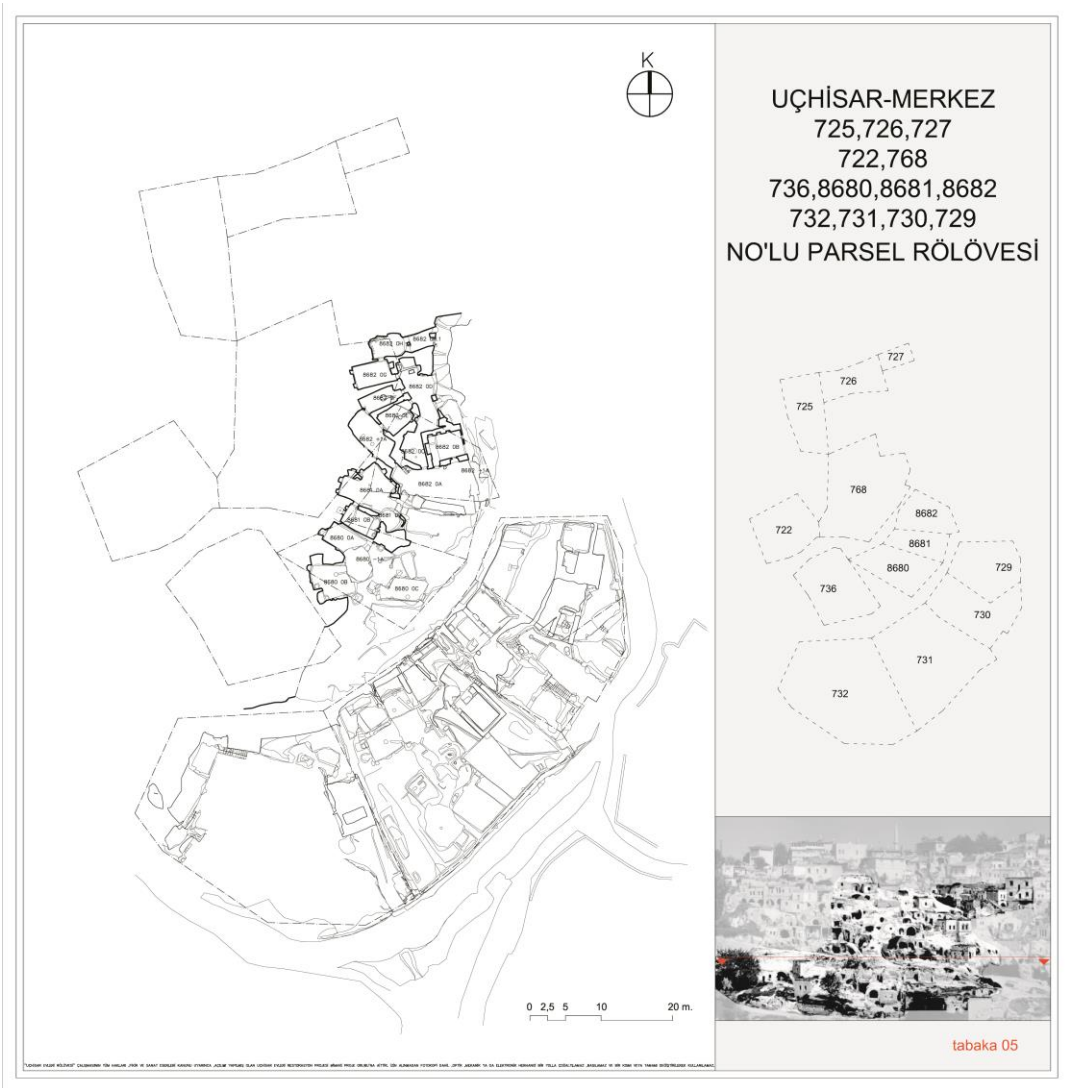

Figure B.6 The layer-5 plan of the surveyed plots. Levels are indicated on the elevation **(**By courtesy of DS Mimarlık, 1999).

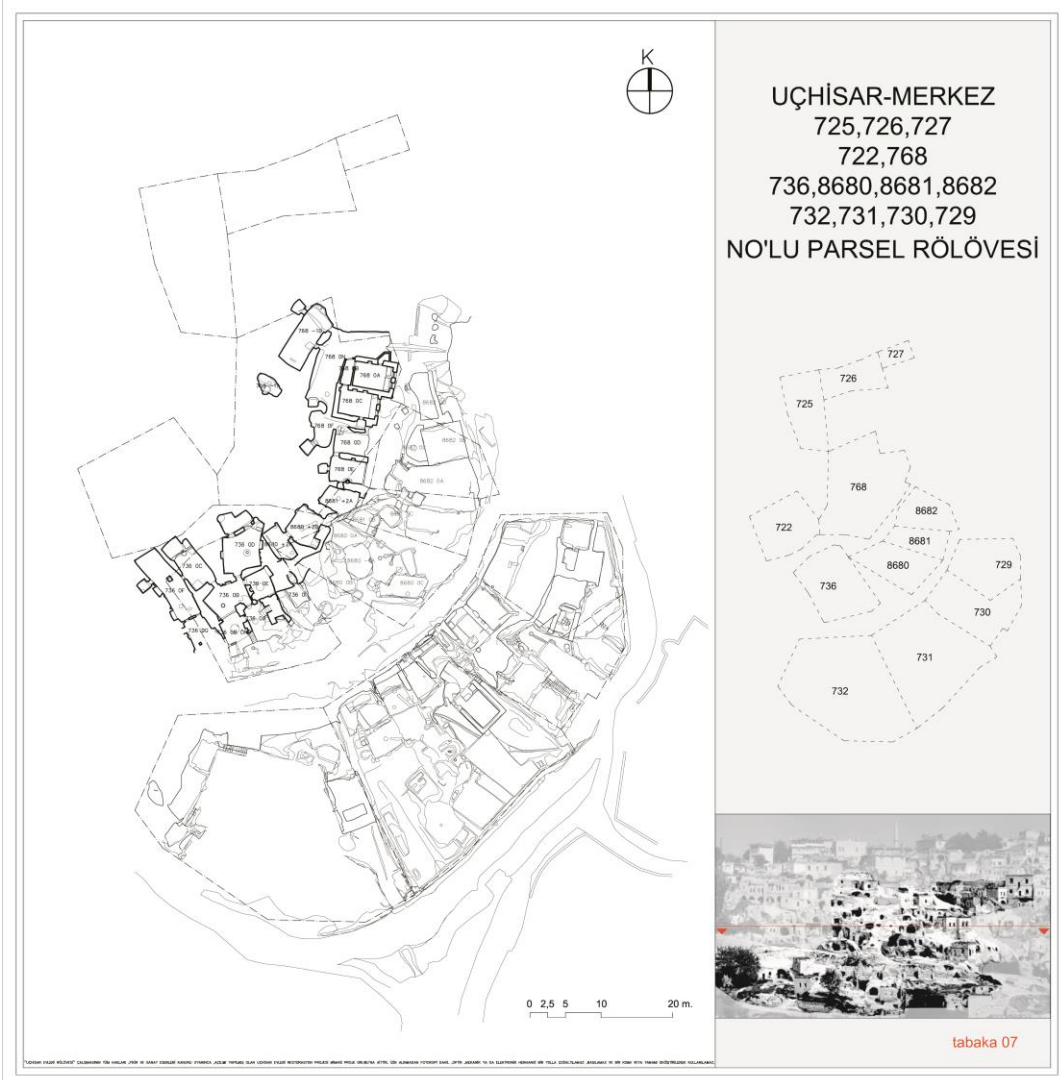

Figure B.7 The layer-7 plan of the surveyed plots. Levels are indicated on the elevation **(**By courtesy of DS Mimarlık, 1999).

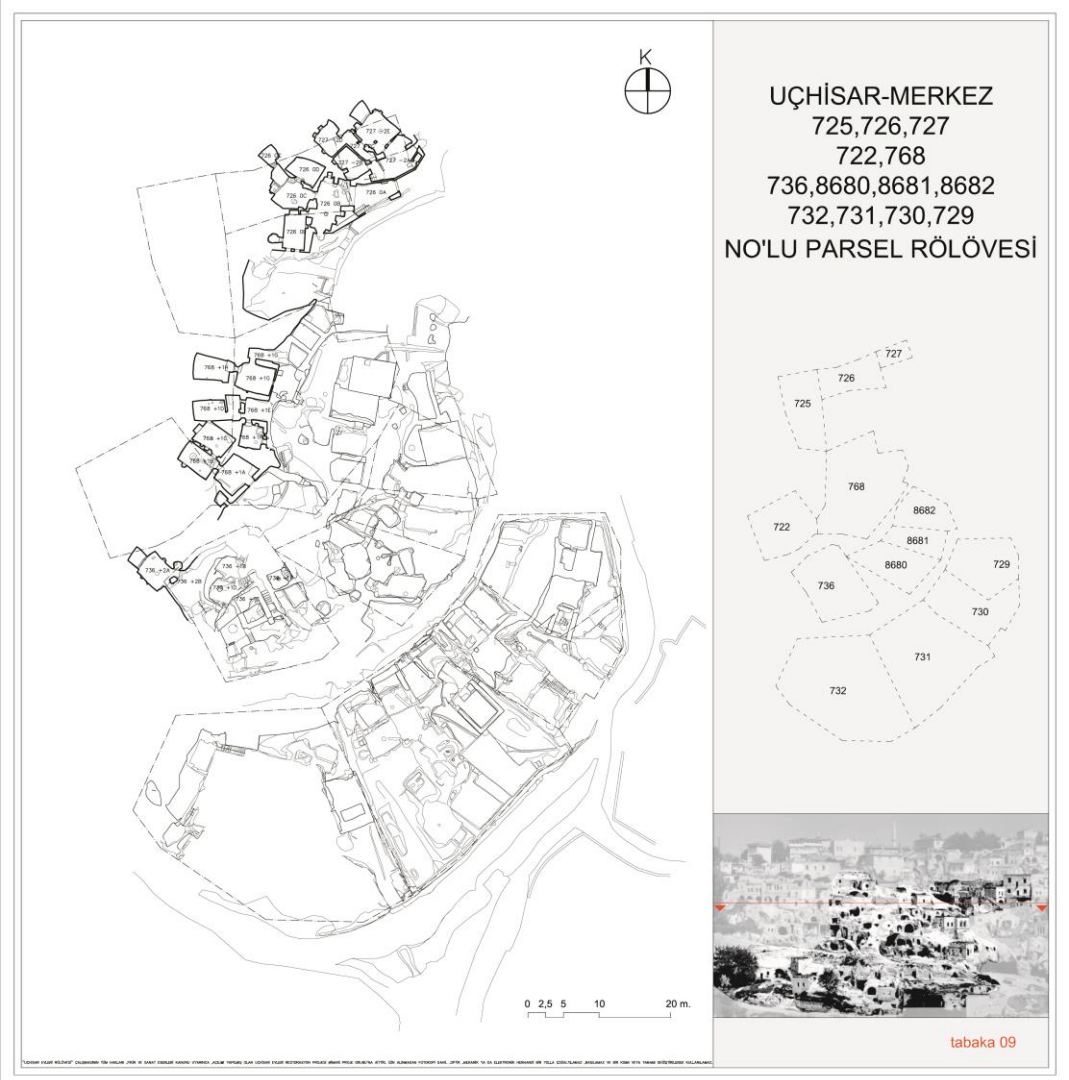

Figure B.8 The layer-9 plan of the surveyed plots. Levels are indicated on the elevation **(**By courtesy of DS Mimarlık, 1999).

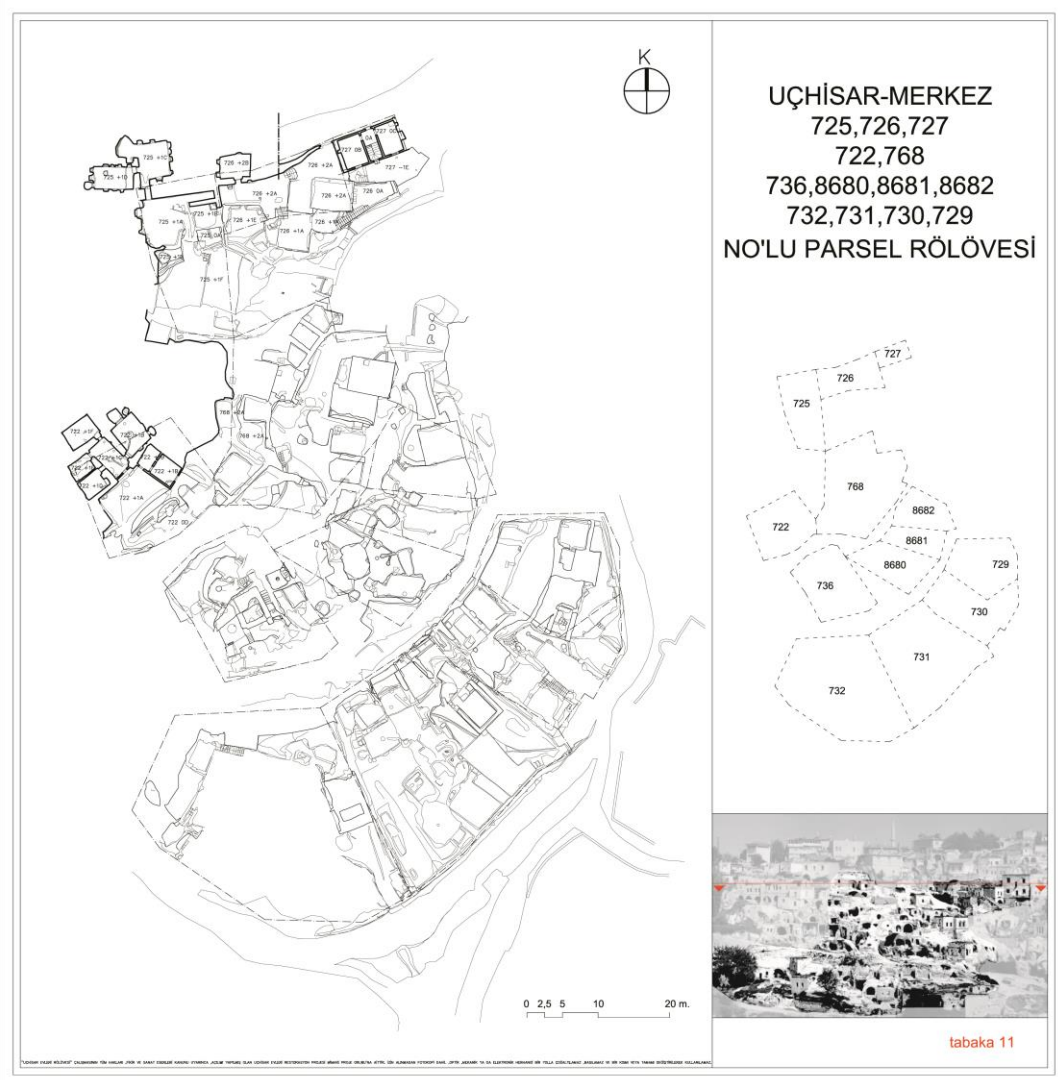

Figure B.9 The layer-11 plan of the surveyed plots. Levels are indicated on the elevation **(**By courtesy of DS Mimarlık, 1999).

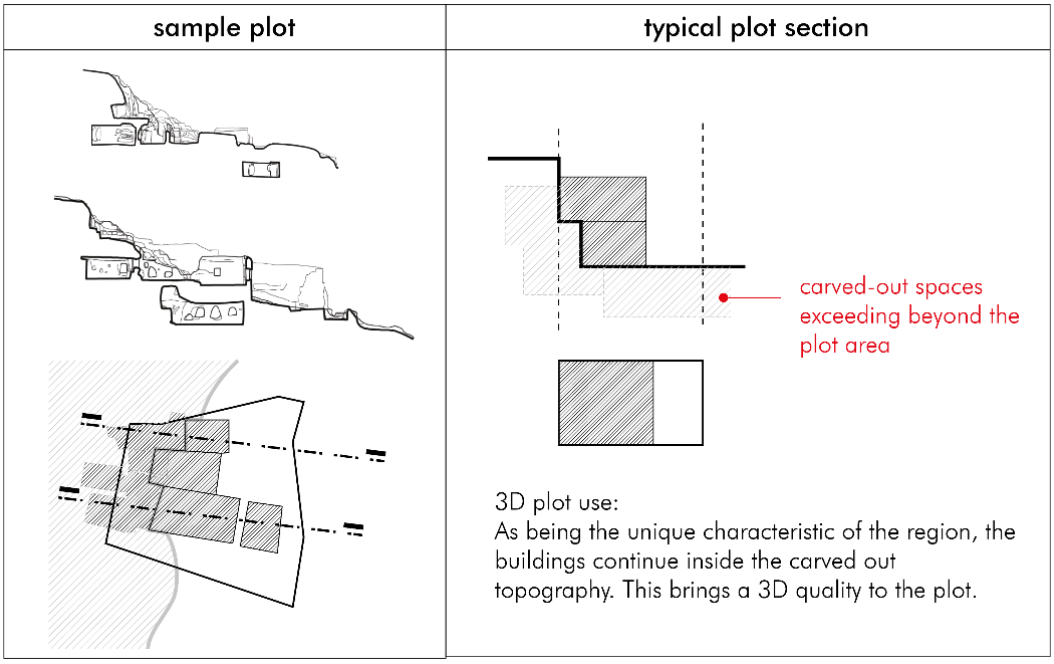

Figure B.10 Carved-out spaces and masonry building units within – and beyond – the plot borders (adapted from DS Mimarlık's survey drawings).

Figure B.11 The plots that are surveyed by Argos Yapı (2019). The precise set of drawing regarding that group of plots are utilized to calculate the building density ratios as well as to define patterns, especially in the scale of building-plot.

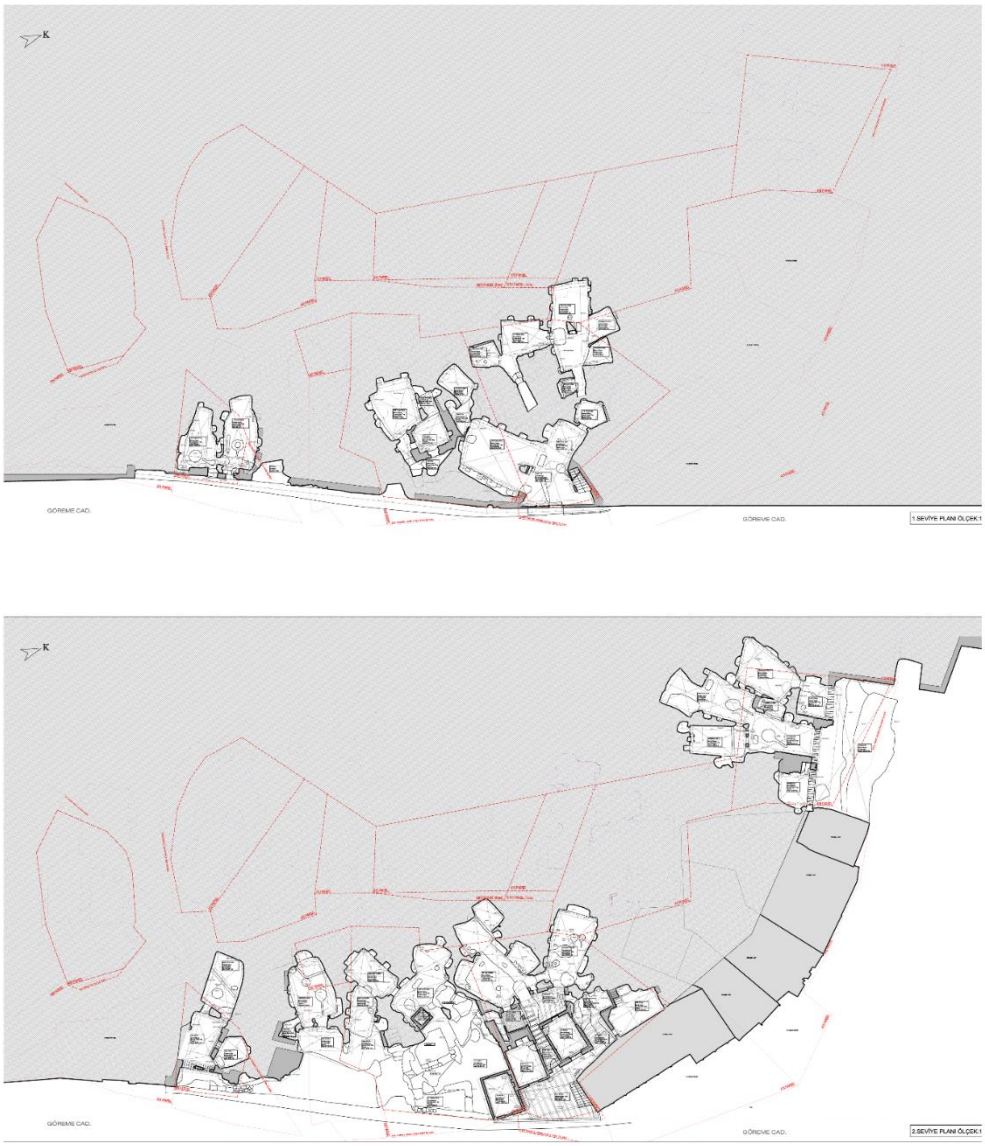

Figure B.12 Level 1 and 2 plans of the plot (By courtesy of Argos Yapı, 2019)

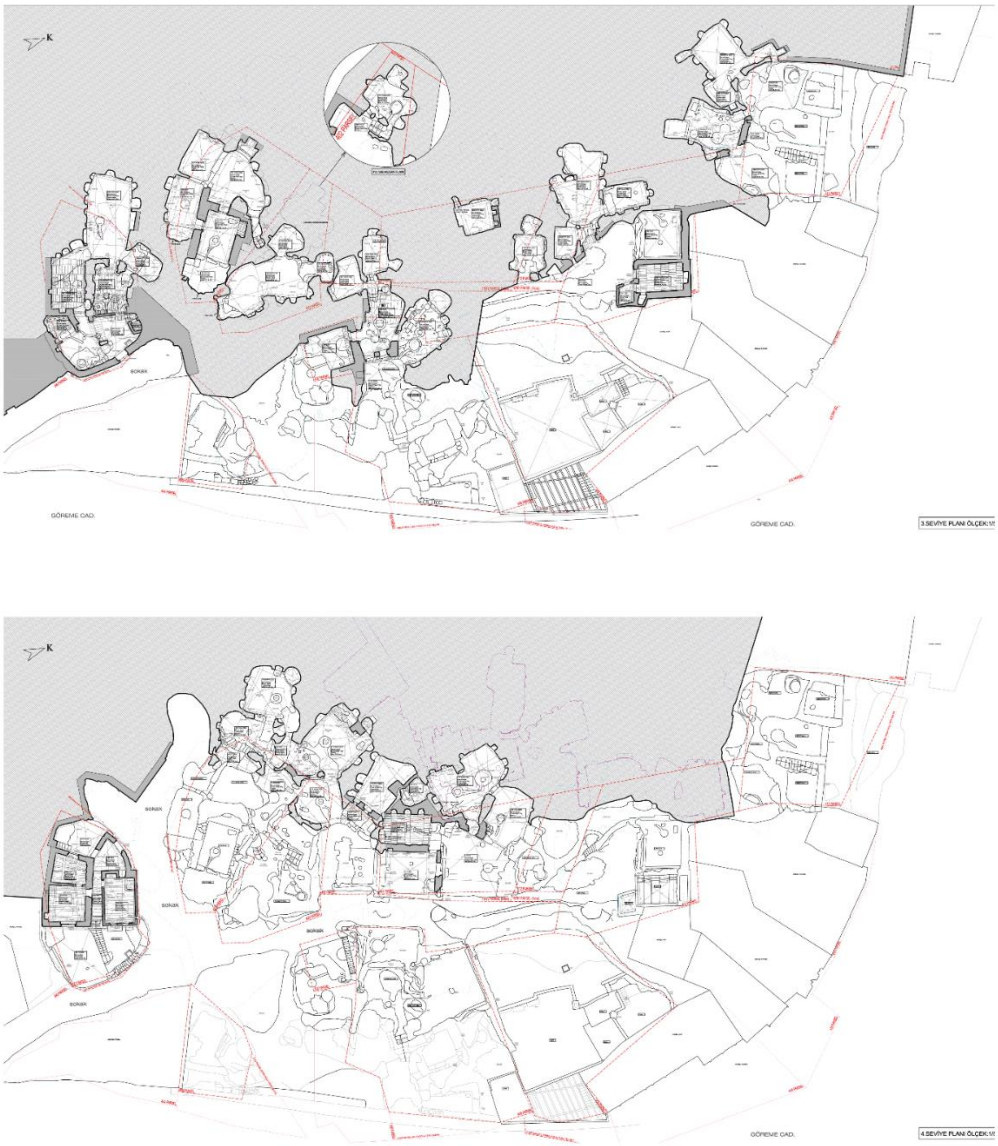

Figure B.13 Level 3 and 4 plans of the plots (By courtesy of Argos Yapı, 2019)

Figure B.14 Aerial photos of the plots (By courtesy of Argos Yapı, 2019)