An Architect/ An Architectural Language and A Shape Grammar

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SUMMARY

Every architect, whose goal is to create valuable artifacts, should own a unique architectural language. This language is composed of a vocabulary and a set of grammar rules to combine them. In this study, a number of ground and first floor plans of single-family houses designed by an individual architect are analyzed. Plan lay-outs are decomposed into their components, and the composition rules are examined. Vocabulary elements, and geometric and semantic relationships among these elements are specified and a shape grammar is formed. Finally, different design possibilities are generated in terms of the defined language rules.

KEYWORDS: Architectural Language, Shape Grammar, Vocabulary,

INTRODUCTION

The purpose of this paper is to demonstrate that by the decomposition of a design, the rules that combine its elements can be searched and with the extracted grammar rules new designs can be achieved in the architectural language of the original design. In this research a well-known Turkish architect Y_lmaz Sanl_ is selected for analysis. This analysis has been restricted to the ground and first floor plans of the two story houses which the architect has designed during various periods of his professional life.

This research is composed of three parts. In the first part, the collected twenty-seven house plans are analyzed in terms of the vocabulary elements and grammar rules. At the end of this thorough analysis of geometric and topological features such as the global form, entrance position, symmetry, and design system, the unchanging characteristics are collected to be classified systematically. In the second part, following this geometric, formal, and organizational analysis, a parametric shape grammar is targeted to generate a certain group of ground floor plans with 3X2 grids. The last part of the research includes another shape grammar which generates upper floor plans based on the generated ground floor plans.

1. ANALYSIS AND DECONSTRUCTION OF PLAN LAYOUTS

The main mutual characteristic of the ground floor plans is the strict geometric organization of their compositons. Classification of these compositions can be based on shape schematically; however, _t should also be stated that this classification is directly related with function.

In the first step the ground floor plans are classified in two groups according to their spatial organization:

(a) The first group consists of the floor plans which can be defined with the underlying grids (Figure 1):

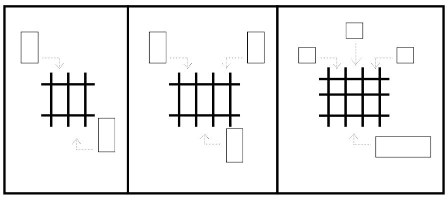


Figure 1 Definition of the plan layouts with grids

(b) The second group consists of the floor plans in which the elements are parts of an additive L-shaped system (Figure2):

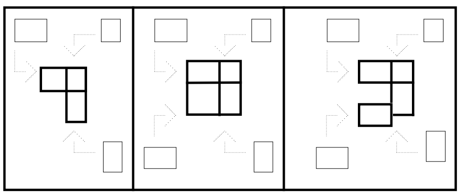
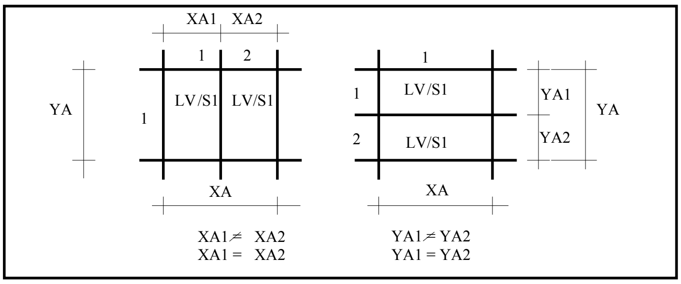


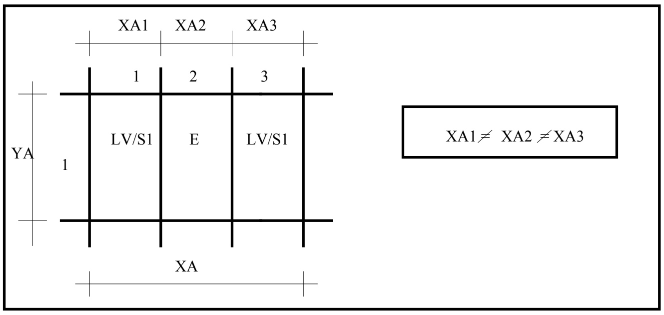
Figure 2 Definition of the plan layouts with L-shaped system

In this work the floor plans with underlying grids are selected for further examination and in this category three sub-groups are formed based on the type of the grid (Figure 3):

(1) 2X1 GRID SYSTEM



(2) 3x1 GRID SYSTEM



(3) 3x2 GRID SYSTEM

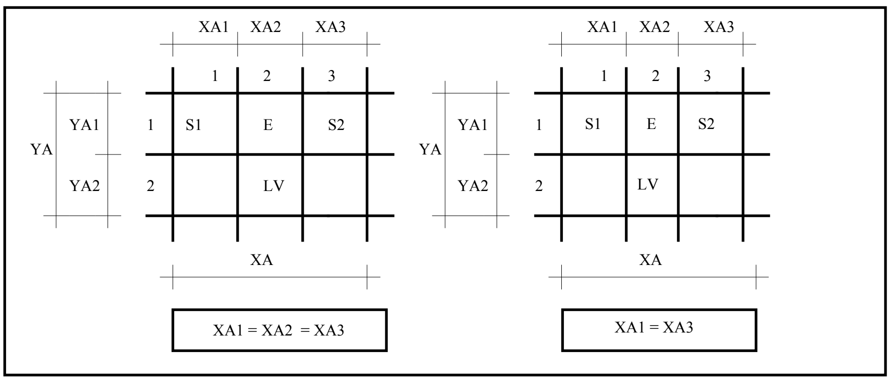


Figure 3 Specification of the grid types

The grids of the plan layouts are defined in terms of the three functional zones: entrance (E), service groups (S1,S2), and livingroom (LV) as shown above. The entrance zone is composed of a hall (H) and the staircase (sometimes the stairs are outside the entrance zone). Kitchen (K), WC, study-room (SR), diningroom (DR), hall (H), maid's room (MR), guest-room (GR), bathroom (BT), and sometimes the staircase compose the service zones. Finally, the livingroom zone may contain a diningroom, a study, or the main staircase.

Following the description of the grid types, all the plans are introduced in terms of their underlying grids. Next, all of the plans are decomposed into two or three zones and the spatial relationships are explored within the plans in terms of the three grid types and finally layout schemes are drawn for each plan.

In the first stage of this research, in addition to the exploration of a set of grammar rules, through the decomposition of the collected plan layouts, a vocabulary of elements is prepared for each zone of a 3X2 grid system to generate new compositions as shown in Figures 4, 5, and 6, respectively. Also, based on the information derived from the decomposed plans of 3X2 system, area ranges, proportional and dimensional limits are all listed in various tables in order to be stored as input knowledge within the targeted pragram later

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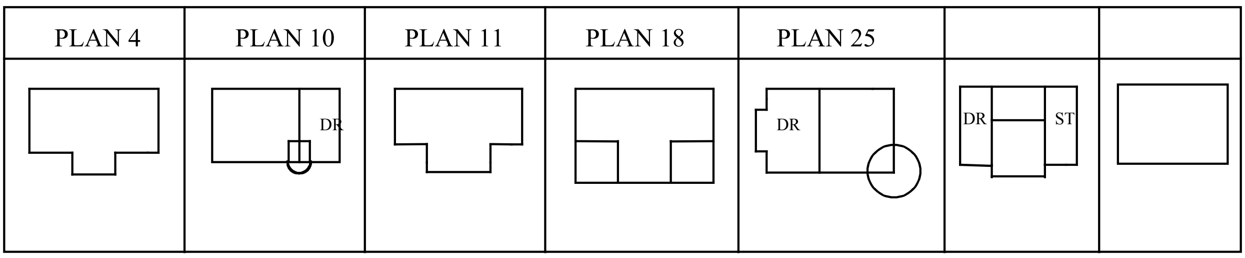

Figure 4 Livingroom compositions derived from plan layouts with 3X2 grids

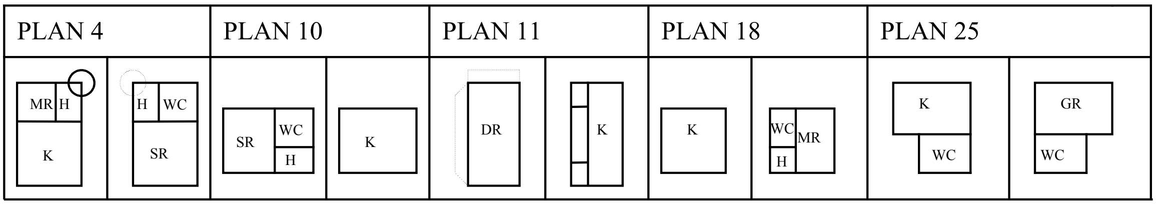

Figure 5 Service zone compositions derived from plan layouts with 3X2 grids

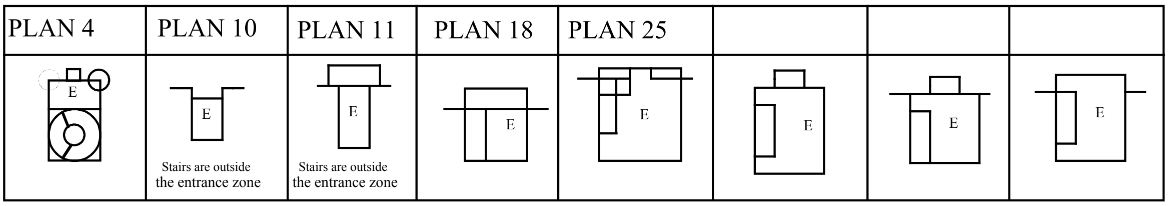

Figure 6 Entrance zone compositions derived from plan layouts with 3X2 grids

In the next step, the upper floor plans of these ground floor layouts with 3X2 grids are again defined in terms of their underlying grids and the zones. These plans have 3X1 grids as shown in Figure 7. There are two sleeping zones (SL1, SL2) composed of bedrooms (children's room (CBR) and parents' room (PBR)), bathrooms (BT), dressing rooms (CL), and sometimes corridors (CR) or halls (H). The third zone is the middle part (M) which is either completely open with only the staircase and a whole around it, and used as an upper floor livingroom or its front section is added to the sleeping zones. A vocabulary for the compositions of these zones are shown in Figure 8.

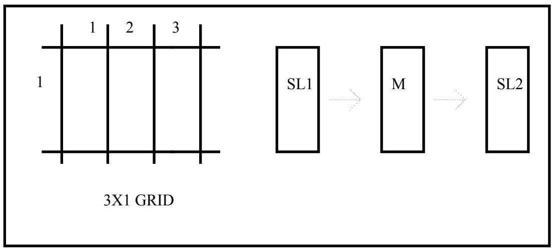

Figure 7 Definition of the upper floor plan layout with a 3X1 grid

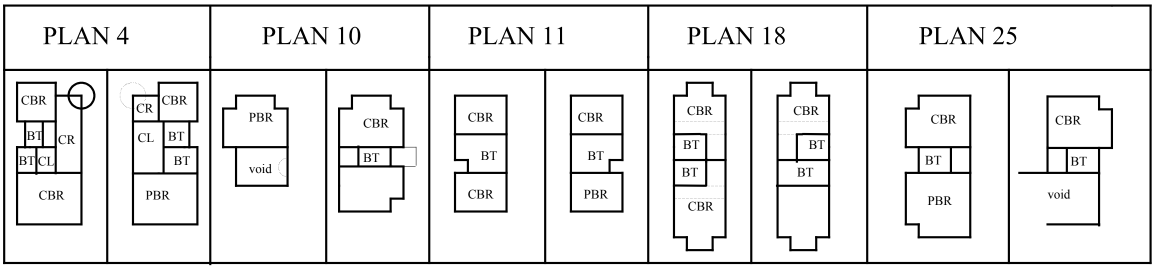

Figure 8 Sleeping zone compositions of a 3X1 system

2. GENERATION OF THE GROUND FLOOR PLAN BY A SHAPE GRAMMAR

In the second stage of this work a parametric shape grammar which generates ground floor plans with 3X2 grid is introduced. This shape grammar is prepared in a general structure which can also be used for 2X1 and 3X1 grid systems with little modification.

The steps that define the generation of the ground floor plans are:

a. Definition of the grid

b. Selecting a value for total area

c. Selection of the view direction

d. Placement of the axis of symmetry

e. Dimensioning the plan

f. Generation of the livingroom

g. Selecting the alternatives for the service groups

h. Controlling the position of the main staircase

i. Generation of the service groups

j.Generation of the entrance hall

The architectural language defined by this parametric shape grammar is introduced as an algorithm of a computer program. Accordingly, the whole procedure starts with an abstract grid and continues with the application of successive grammar rules, and ends with a generated floor plan.

a. Definition of the grid:

The initial image is the undimensioned grid that defines the selected group (Figure 9).

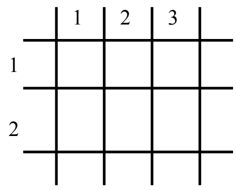

Figure 9 3X2 grid

b. Selecting a value for the area:

In order to dimension the rectangle defined by this grid, a value for the area should be selected. The range for this area is extracted from the collected examples (95 sq. meters- 211 sq. meters).

c. Selection of the view direction (Figure 10):

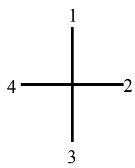

Figure 10 Scheme for the selection of the side with the best view

In the plans with 3X2 grids, once the scenery poisition is established, the positions of all the functional zones are obtained. On the ground floor the living room and on the first floor the parents room are directly positioned on the side with the best scenery.

d. Placement of the axis of symmetry:

On the 3X2 grid, due to the symmetric composition, once the livingroom is placed on the plan, the other zones take place in the system directly. Following the positioning of the livingroom in the plan, the lateral symmetry axis that disects the livingroom is obtained and it is extended along the plan in order to place the entrance door as shown in Figure 11.

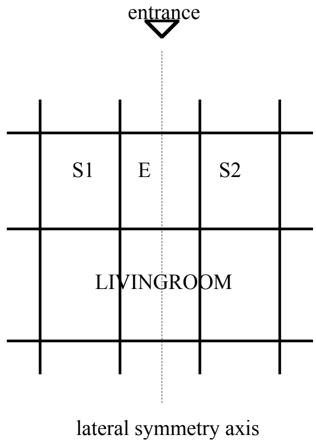

Figure 11. Definition of the zones on the 3X2 grid and locating the entrance door and the symmetry axis

e. Dimensioning the plan:

The global form of the ground floor plan is a rectangle. The range for the proportions of its dimensions is already determined based upon the formal analysis (0.80-1.00). Once this value is entered, and since the area is already known, dimensions are directly evaluated (Figure 12).

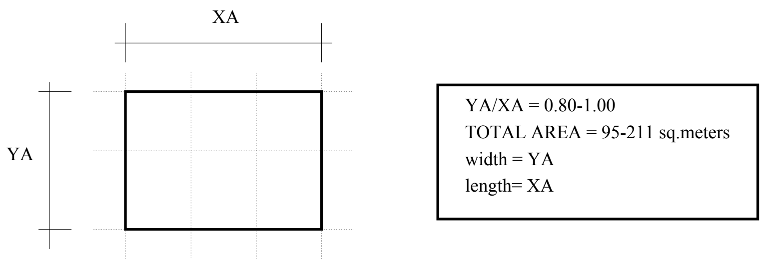

Figure 12 Dimensioning the rectangle that defines the ground floor plan

At this point the grid is established, the rectangle is dimensioned, and the zones are defined. Next, compositions for all the zones will be selected and generated with the application of successive rules and possible combinations of these alternatives will be searched as shown in Figure 13.

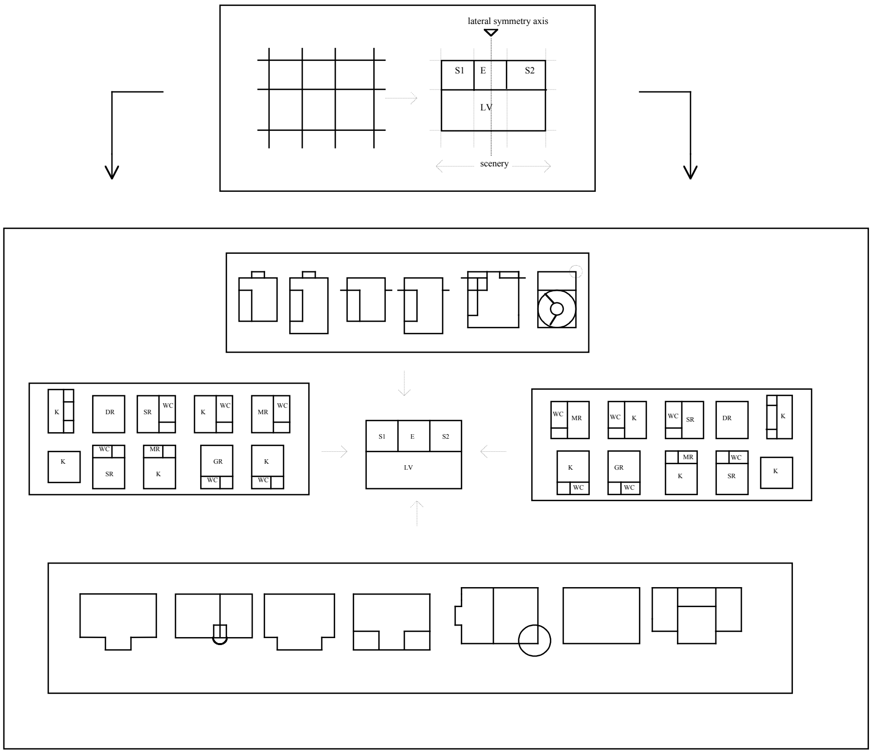

Figure 13. The targeted shape grammar searches the possible combinations of these compositions

Once the 3X2 grid is defined, the next step is to place the units in the plan. Accordingly, the predetermined elements are positioned in the cells of the grid and the design of the plan is completed.

f. Generation of the livingroom:

First, the compartment that defines the livingroom on the grid is established and its dimensions are defined as shown in Figure 14. The second step is the evaluation of the livingroom area.

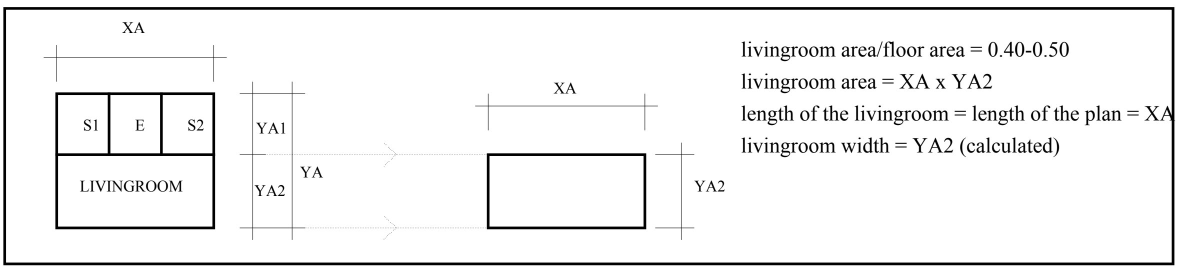

Figure 14 The definition of the livingroom on the ground floor layout

Dimensioning of the rectangle that defines the livingroom is completed with this step. However, the proportion of these dimensions should be controlled.

livingroom width (YA2) / livingroom length (XA)= 0.40-0.70 ?

If the evaluated value does not pass this control operation, a new value is needed to be selected. The next step is the selection of a livingroom alternative (Figure 15). With simple arithmetic operations, the alternative is generated by the program. Next, the alternative replaces the abstract rectangle and the generated livingroom takes place in the plan.

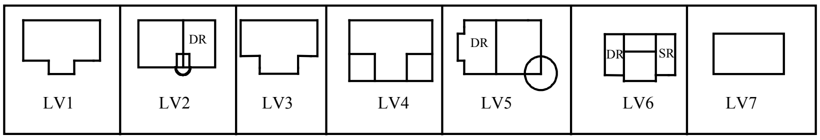

Figure 15 Livingroom alternatives

g. Generation of the service zones:

As in the case of livingroom, the elements composing S1 and S2 zones are already determined as shown in Figure 16. These compositions are defined by undimensioned sub-grids, and based on the type of the sub-grid, the alternatives are classified in two groups. The alternatives selected for each zone S1 and S2 should belong to the same group for the coordination between them.

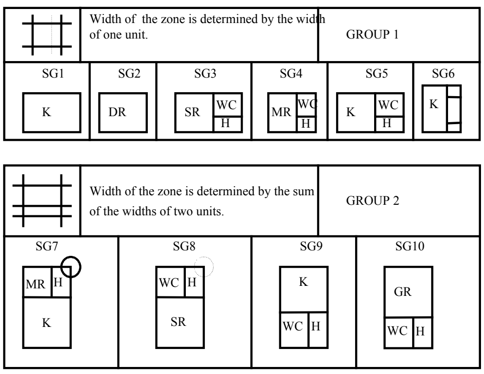

Figure 16 Service zone alternatives

Following the selection of the alternative, there are certain conditions to be controlled. For instance, if the livingroom selected contains a diningroom, a study-room, or a staircase, it sholud be checked that the service zone does not have these elements.

If the livingroom alternative = LV2, THEN S1 and S2 $\neq$ SG2, SG6
If the livingroom alternative = LV6, THEN S1 and S2 $\neq$ SG2, SG3, SG8
If the livingroom alternative = LV5, THEN S1 and S2 $\neq$ SG2

Following the selection of an alternative for S1, the next step is the selection for S2. Again the harmony between the two zones is checked and the placement of two kitchens, or two dining-rooms, or the lack of a kitchen is avoided. In addition, sub-pograms which take horizontal or vertical symmetries of compositions are also included in the program.

In order to simplify the wording of the targeted algorithm, a certain coding system is prepared for service zones as shown in Figure 17.

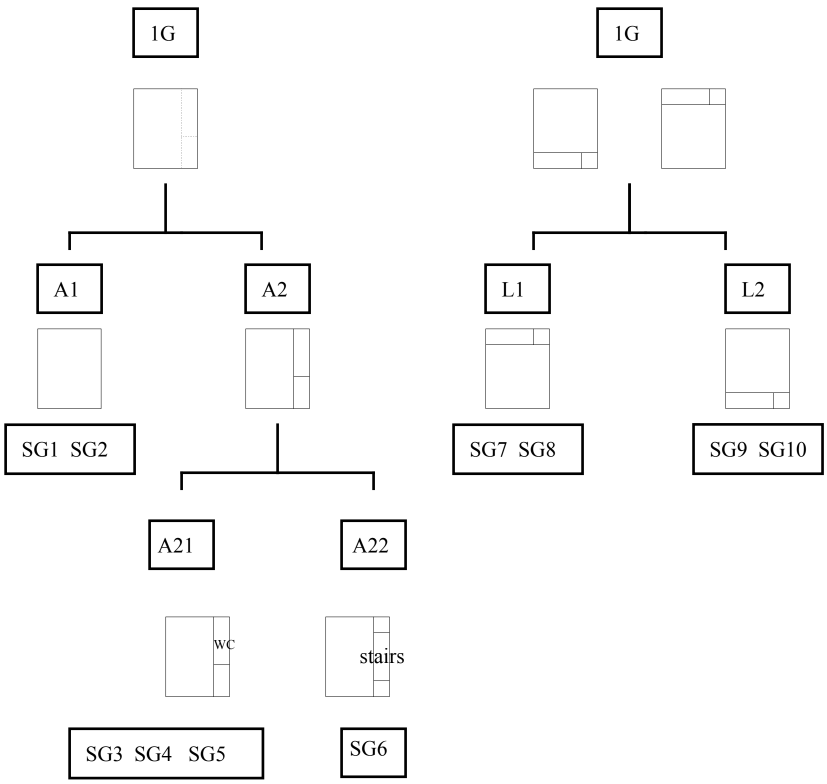

Figure 17 Codes which define the service zones

Before the generation of the selected alternative, the position of the staircase is defined:

M1 = when the stairs are in the entrance hall (XA1=XA2=XA3=XA/3)

M2 = when the stairs are in the service zone (XA2 > 1.50 m.)

M3 = when the stairs are in the livingroom (XA2> 1.50 m)

Small sub-programs are required within the main program for repeating operations such as the dimensioning of units composing the zones like the kitchen, staircase, WC, study, etc. The generation of each zone is very similar. In this context, an example will be given for the generation of a service zone alternative.

First image is again an abstract grid which represents the service zone as shown in Figure 18. If one of the SG3, SG4, or SG5 alternatives is selected, the coding is P(1G,A21).

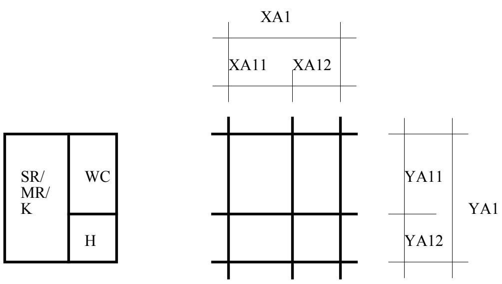

Figure 18 The representation of the service zone alternative with a subgrid

Through the usage of subprograms, the dimensioning of the units is completed and they are placed within the zone and the generation is completed. An example of a possible combination of elements is shown in Figure 19.

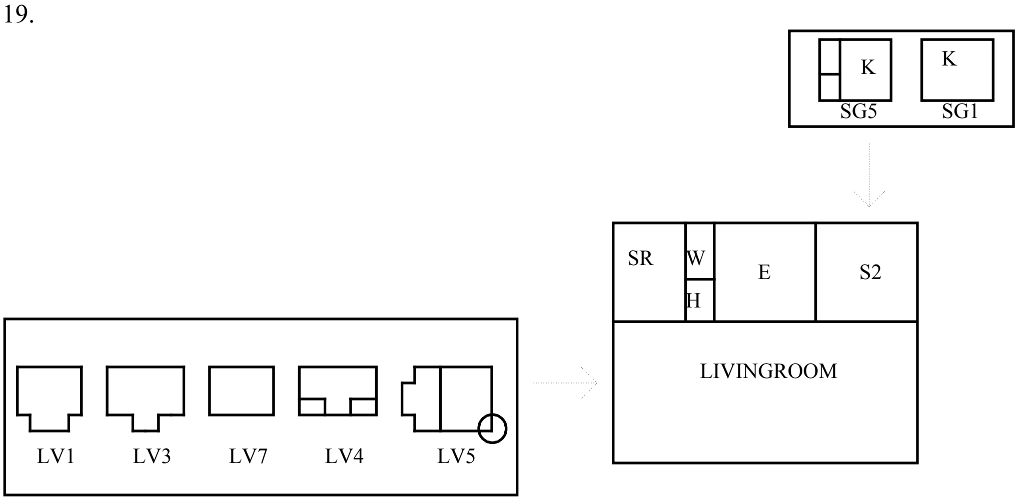

Figure 19. The ground floor plan in the case of P(M1,1G,A21,SG3)

h. Generation of the entrance zone:

The last group of units to be added to the plan constitute the entrance zone. The generation process is directed by the position of the staircase.

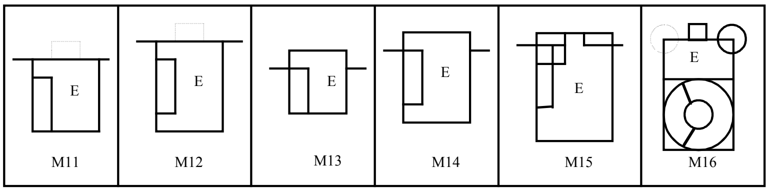

Figure 20 Entrance hall alternatives in the case of P(M1)

In the case of M2 and M3, there is only one solution; accordingly no selection. However, in the case of M1 the alternatives are listed as shown in Figure 20. Following the selection, the alternative is again represented by the sub-grid and the generation of the zone is completed through the sub-pograms similar to the other zones (Figure 21).

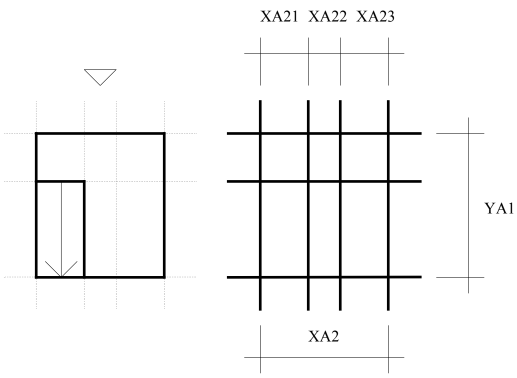

Figure 21 The entrance hall scheme in the case of P(M11)

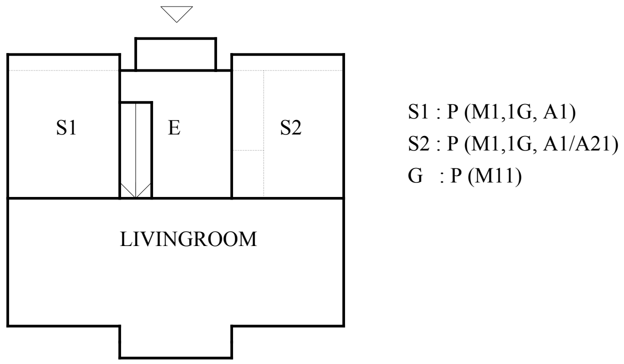

Figure 22 An example of a generated ground floor layout

3. GENERATION OF THE UPPER FLOOR PLAN BY A SHAPE GRAMMAR

In the last part of this paper, another parametric shape grammar which is prepared for the generation of the upper floor layouts is introduced. This grammar is directly based on the output of the first grammar. The successive generation steps are similar:

a. Definition of the grid

b. Definitions of the zones

c. Controlling the position of the main staircase

d. The dimensioning of the upper floor plan

e. Generation of the sleeping zones

f. Generation of the middle section

a. Definition of the grid:

The initial image is again the undimensioned grid that defines the upper floor plans of ground floor layouts with 3X2 grid (Figure 22).

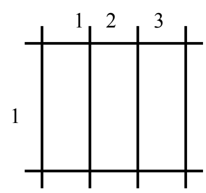

Figure 22 3X1 Grid defining the upper floor plan

b. Definition of the zones (Figure 23):

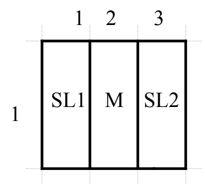

Figure 23 Positioning of the zones on the upper floor layout

c. Controlling the position of the main staircase:

In the generation of the upper floor plan, the first determining factor is the position of the main staircase and in this step the ground floor layout is checked.

M1 POSITION:

In this case the stairs are in the entrance zone and there are six alternatives as introduced before. Based on the selected one, the position of the stairs changes. These different positions are coded as M11, M12, M13, M14, M15, and M16.

M2 POSITION:

If a service zone alternative with the staircase (SG6) has been selected, then M2 defines the position.

M3 POSITION:

If a livingroom alternative with the staircase (LV2) has been selected, then M3 defines the position.

d. The dimensioning of the upper floor plan:

At this step the projection of the upper floor out above the ground floor becomes essential. There are two cases coded as T4 and T2 as shown in Figures 24 and 25.

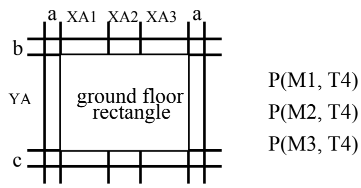

Figure 24 T4 case

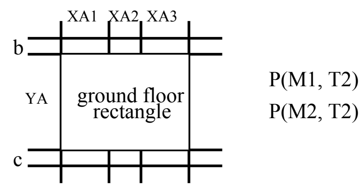

Figure 25 T2 case

WIDTH OF THE RECTANGLE (YU) = b+ YA + c

b = 1.20 meters-1.50 meters   c = 1.00 meters-1.50 meters

LENGTH OF THE RECTANGLE (YU) = a +XA + a

a = 1.00 meters - 1.20 meters

e. Generation of the sleeping zones:

In order to determine the sleeping zone alternative to be used on the upper floor, the conditions on the ground floor should be defined clearly as showin in Figure 26.

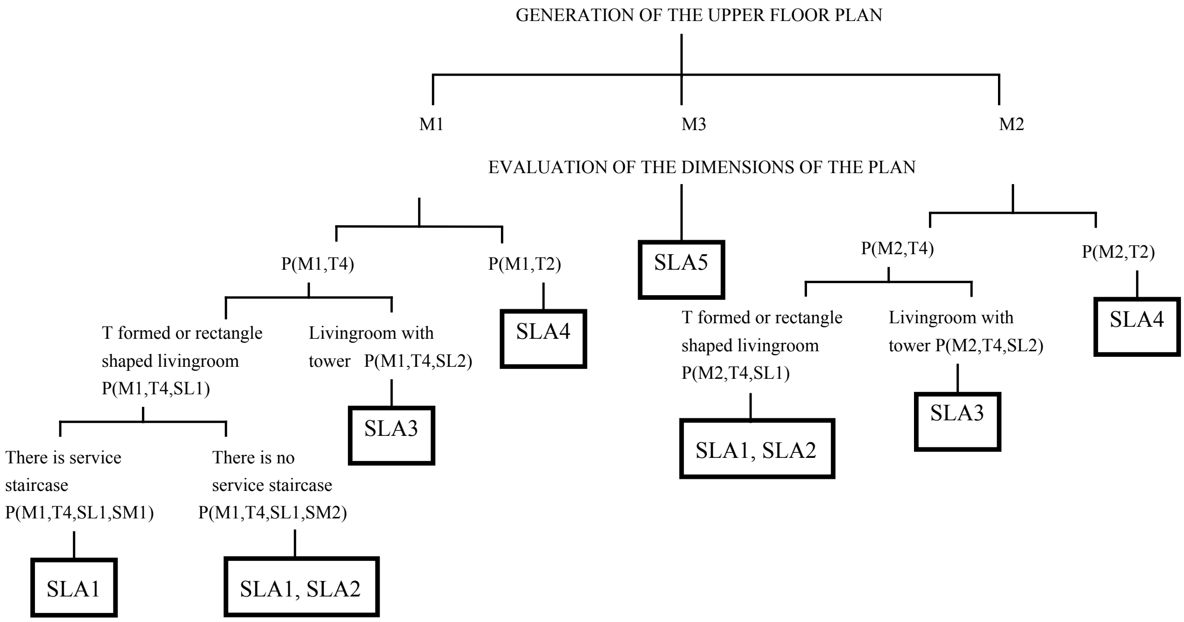

Figure 26 Coding system for the conditions which define the ground floor layout

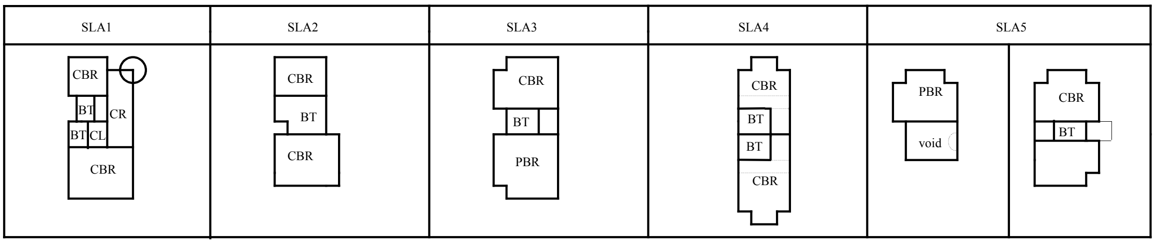

Figure 27 Sleeping zone alternatives

The generation process of these zones is similar to the other zones. The selected alternative from the presented vocabulary in Figure 27 is first defined by a sub-grid and dimensioned through the usage of sub-programs and the completed composition is placed in the grid of the floor lay-out.

f. Generation of the middle section:

The last zone to be generated in the lay-out is the middle section. Actually this section is mostly generated due to the formation of the entrance hall downstairs and the sleeping zones upstairs.

The first alternative may be that this section is used as an upper floor livingroom with the character of a "sofa" which is a traditional Turkish house element. The most outstanding unit is the staircase and it is already placed due to the generated entrance hall. There is usually a whole around the stairs providing the relaitionship with the ground floor. The second alternative is that the section on the scenery side is divided in two parts and used equally by the two rooms on two sides. The back part is again used as a small livingroom. There is of course again a staircase and a whole around it. The third alternative is that the parents' room is extended to this middle section on the scenery side. Another alternative is that this section is completely formed as a void and there is only the staircase and a bridge that connects the two sleeping wings. Another form of this middle section is that this part is used as a gallery opening to the livingroom downstairs.

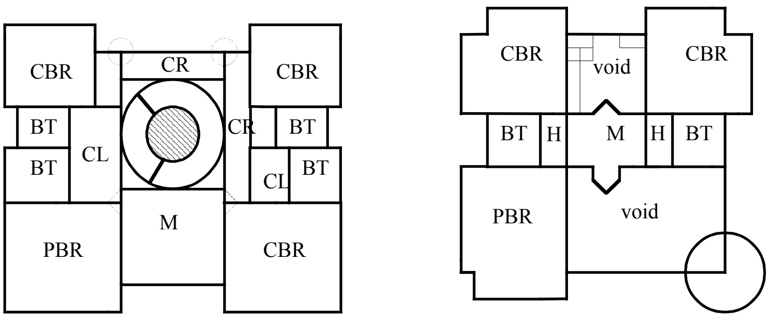

Figure 28 Examples for generated upper floor plan layouts

CONCLUSION

In this algorithm the possible combinations for each zone are presented and selection among various alternatives is required. This selection has been checked through various control systems and the selected compositions are dimensioned and generated through the usage of simple arithmetic operations. Next, the generated ground floor plan is represented with codes based on various aspects of the layout and an appropriate upper floor plan is generated with a second grammar. As a summary, following the decomposition of the plan layouts, by the extracted grammar rules, it is tried to put the components together in other possible combinations which may not have been used by the architect, but in harmony with the constructed architectural language.

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ACKNOWLEDGEMENTS

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Vice Rector of Istanbul Technical University 1992-1995
Rector of Istanbul Technical University 1996-2000
Rector of Istanbul Technical University (re-elected) 2000-
President of ITU Development Foundation 1996-
President of Turkish Association of Architecrural Education

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Queens University of Belfast, Department of Architecture
Visiting Professor (external examiner) 1993
Open House International, Member of International
Editorial Board 1996-

MEMBERSHIPS
The Turkish Chamber of Architects 1967
CIB Working Commission,
W55 Building Economics 1983
CIB Working Commission
W78 Computer Aided Design 1983
IAPS International Association for The Study of People
And Their Surroundings 1989
ENHR European Network For Housing Research 1989
ISA International Sociological Association, Research
Committee on Housing and the Built Environment 1990
ACADIA Association for Computer-Aided Design in
Architecture 1991
Scientific and Technical Research Council of Turkey
Member of Executive Committee 1991
EAAE European Association for Architectural Education 1992
EAIE European Association for International Education 1996
CMU Community of Mediterranean Universities 1996
RMEI Reseau Mediterraneen des Ecoles d’Ingenieurs 1996

EDUCATIONAL ACTIVITIES

I.Courses

Undergraduate Courses 3

Architectural Design Courses
Architectural Design Studios
Diploma Studio
Computer Applications in architecture
Architectural Design Theories and Methods
New approaches in Architecture (Elective)
Theories and Logic Models of Architectural Design
Housing for Low – income Groups

Graduate Courses

Architectural Desing Courses
Computer-Aided Architectural Design I
Computer-Aided Architectural Design II
Logic Models of Architectural Design

II. Master Thesis Supervised
Merih Veryeri, " The Evaluation of Circulation Systems in Educational Buildings", ITU, Faculty of Architecture, 1979.

Ali Papuççuo_lu, "The Evaluation of Classrooms in Primary Schools", ITU, Faculty of Architecture, 1979.

_lhan Ci_ero_lu, "Comparative Studies on Housing Production Systems", ITU Faculty of Architecture, 1979.

_nci _ncel, "An Algorithm for Three Dimensional Spatial Allocation Problem", ITU, Faculty of Architecture, 1990

Hediye Yaylalı, "The Relationship Between the Geometry and the Visual Performance of Classrooms", _.T.Ü. Faculty of Architecture, 1980.

Meral Göksel, "Adaptability and Efficiency Measurements in Educational Buildings", ITU, Faculty of Architecture, 1980.

Hülya Ülker, "A Renovation of A Historical Apartment Houses in _stanbul, ITU Institute of Social sciences, 1985.

Arzu Erdem, "The Evaluation of Existing Housing Stock", ITU, Institute of Social Sciences, 1985.

Bingül Çetin, "Computer-Aided Hosing Design" ITU School of Gratuate Studies, 1987.

Hüseyin Ba_o_lu, "A Cost Evaluation Model", ITU School of Graduate Studies, 1987.

Metin Tunçel, "Computer-Aided Dwelling Unit Design", ITU School of Graduate Studies, 1988.

Berrin Bilgiç, "Visual Evaluation of Built Environment", ITU, School of Graduate Studies, 1989.

Zerrin Olgun, "Choosing the Appropriate New Functions for Deterioted Old Buildings", ITU, School of Graduate Studies,1989.

Fatin R. Anlar, "The Evaluation of Metro Stations", ITU, School of Gratuated Studies, 1989.

U_ur Ula_, Thpe morphological Analysis of The Houses in Lefko_e/Arab Ahmet Quarter", ITU School of Graduate Studies, 1990.

Esra Özsüt, “The Subjective Evaluation of Circulation Systems in Buildings”, ITU School of Graduate Studies, 1990.

Deniz Denkta_, “Computer-Aided Site Layout”, ITU, School of Graduate Studies, 1990.

Dilek Ünal “An Expert System for Designing Terraced Houses”, ITU School of Graduate Studies, 1991.

U_ur Yi_iter “Two Storey Dwelling Unit Design Based on Palladian Grammar”, Bosphorus University School of Graduated Studies, 1991.
Meltem Aksoy, “ An Expert Systems for Designing Courtyard Houses”, ITU, School of Graduate Studies, 1991.

Nurbin Paker, “An Expert System for Designing Metro Stations”, ITU, School of Graduate Studies, 1992

Aysimin Sevdin, “The Concept of Total Performance in Buildings: The Evaluation of Metrol Stations”, ITU School of Graduate Studies, 1992.

Suzan Sanlı, “Morphological Analysis on Architectural Language”, ITU, School of Graduate Studies, 1993.

Sema Eser, “Morphological Analysis of Anatolian Houses”, ITU, School of Graduate Studies, June, 1993.

Pelin Dursun, “Morphological Analysis on Squatter Settlements”, ITU, Scholl of Graduate Studies, June, 1995.

III. Ph.D. Thesis Supervised

Gülen Ça_da_, “The Simulation of Evacuation Process in Building”, ITU, School of Graduate Studies, 1986.

Halil Dinçel, “A Solution for Housing Problem in Metropolitan Areas: Squatter Settlements”, ITU, School of Graduate Studies, 1989.

Nevnihal Erdo_an, “Comparative Analysis on Squatter Settlements and Vernacular Architectue”, ITU Scholl of Graduate Studies, 1991.

Hülya Arı, “Morphological Analysis of Multi-Storey Dwellings in _stanbul” ITU, School of Graduate Studies, 1993.

U_ur Ula_, “Typological Analysis on Magosa Houses “ITU, School of Graduate Studies, 1994.

Arzu Erdem, “An Interactive Model on Space Planning”, ITU, School of Graduate Studies, 1994.

PhD thesis in progress
Meltem Aksoy
Nurbin Peker
Pelin Dursun
Sema Eser
Murat Kader

COMPLETED RESEARCH PROJECTS
Sa_lamer, G., Determination of Circulation Systems in Buildings, Research Project TÜB_TAK-MAG-367 Funded by Scientific and Technical Research Council of Turkey, 1976 November.

Sa_lamer, G., Atalık, G., Arpat, A., Giritlio_lu, C., Bölen , F., “Turkish Marine Administration Istanbul-Salıpazarı Passenger Harbour areas” 1989.

Sa_lamer, G., Ça_da_, G., Arı, H., Çetin, B.Z., “Evaluation of Metro Stations”, Sponsored by I.T.U. Building and Earthquake Center, 1988.

Sa_lamer, G., Yürekli, H., Özsoy, A., Bindal, M., "Adaptability Measures in Dwelling Units", Sponsored by I.T.U. Research Fund ., 1979-1981.

Sa_lamer, G., Yürekli, H., Özsoy, A., Bindal, M., "The Evaluation of Educational Buildings", Sponsored by I.T.U. Research Fund. 1976-1978.

Sa_lamer, G., (in collaboration with Yürekli, H., Aksoy, M., Paker, N., _nceo_lu, A.) "Comparative Evaluation of Different Approaches in Housing Provision for Low Income Groups" TÜB_TAK, INTAG 104, Sponsored by Scientific and Technical Research Council of Turkey.

Sa_lamer, G., (in collaboration with Yürekli, F., Berköz, E. Yorulmaz, M., Tong, H., Kahvecio_lu, A., Ak, F., "Appropriate Housing Models for North Eastern Part of Turkey" TÜB_TAK, YAG 41, 1994, Sponsored by Scientific and Technical Research Council of Turkey.

Sa_lamer, G., Ça_da_, An Expert System For Designing Two Storey Houses", Funded by The Research Fund of I.T.U.

Sa_lamer, G., Awotona, A., Turgut, H., Dülgero_lu, Y., Özkan, E., et al. "Housing Finance Availability For Low-Income Groups in Turkey : A case Study on Pınar Squatter settlement", Funded by Med.Campus Housing Network ve The British Council, 1996

Sa_lamer, G., (Coordinator) "Med.Campus Housing Network: Housing For Low-_ncome Groups Istanbul Technical University in collaboration with University of Newcastle Upon Tyne, Queen's University of Belfast, University College Dublin, Israel Technion.

Sa_lamer, G., (Coordinator), Funded by The British Council "Academic Link project between Istanbul Technical University and University of Newcastle Upon Tyne", CARDO (1993-1996) "Housing For Low-income Groups".

RESEARCH PROJECTS IN PROGRESS

Sa_lamer, G., (Coordinator) "Technology Development Projects on Traditional Nicea Ceramics", Funded by Ctate planning Establisment of Turkey, 1993-1997

Sa_lamer, G., (Researcher) "Med. Campus Tourism Network" Istanbul Technical University, in collaboration with University College Dublin, Israel Technion 1996

Sa_lamer, G. (Coordinator). Revitalizaton of Slum Areas in Istanbul Metropolitan Area, ITU 1998 (in collaboration with Sas Paola University, Torino Politechnic).

ORGANIZED MEETINGS

Sa_lamer, G., Özüekren, _. (Co-chair) 17-20 September 1991, ENHR International Symposium on "Housing For The Urban Poor", ITU, Istanbul, Organized by ITU and ENHR, Funded by Istanbul Technical University, TÜB_TAK (Scientific Technical Research Council of Turkey), The Prime Ministry of Turkey.

Sa_lamer, G., Ça_da_, G, (Co-chair) "Seminar on Computer Aided Architectural design), 21-25 Kasım 1988, _.T.Ü., and D_ZAYN KONSTRÜKS_YON Journal Organization.

Sa_lamer, G., (Chair) "Forum on Architectural Education: Future ?", 19-21

April 1995 Organized by Istanbul Technical University and EAAE/AEEA (European Association for Architectural Education), Funded by ITU, AAE, TÜB_TAK (Scientific Techhnical Research Council of Turkey)

Sa_lamer, G. (Coordinator). Rehabilitazation of squatter settlements in Istanbul Metropolitan Area, 1996.

Sa_lamer G., (Chair) "Habitat II Istanbul Workshops" 10-14 Haziran 1996 ITU, Istanbul. Organization by Istanbul Technical University, Funded bu, ITU Foundation, TÜB_TAK, The British Council, Med-Campus Housing Network, The Prime Ministry Mass-Houisng Administration of Turkey.

Sa_lamer G., Akın, Ö., (Co-Chair) "Descriptive Models of Design" 1-5 Temmuz 1996, ITU Istanbul, Organized by Istanbul Technical University and Carnegie Mellon University, Funded by NSF and TÜB_TAK (Scientific Technical Research Council of Turkey)

BOOKS and EDITORAL BOARD

Sa_lamer G., "Problem Definition and Problem Solving in Architectural Design", I.T.U. Faculty of Architecture, pp 136, 1982.

Sa_lamer G., "A. Heuristic Method for Designing Single Storey Layouts", Ph.D Thesis, I.T.U. Faculty of Architecture, 1973, pp 173.

Sa_lamer, G., "Computer Applications in Architecture" Guest Editor of Special Issue of Mimarlık, September 1985, Chamber of Turkish Architects.

Sa_lamer G., Özüekren, _., 1991 (Edited), Housing For The Urban Poor", ENHR Symposium Proceedings.

Akın, Ö., Sa_lamer, G., 1996 (edited) "Descriptive Models of Design", Symposium Proceedings, Funded by NSF and TÜB_TAK (Scientific and Technical Research Council of Turkey)

Sa_lamer G., Melezinek, A., Incecik, S. (Editors). 28th IGIP International Symposium, Engineering Education in the Third Millenium, 1999, _stanbul, Turkey.

Saglamer, G., Ural, D.N., Karaca, M. (Associate Editors). International Journal for Housing Science, Special Issue on the Kocaeli Earthquake, Vol.24 No.1, 2000.

PAPERS

Sa_lamer, G. "The Evaluation of Circulation in Multi-Storey Building", Design Methods and Theories, Journal of DMG, Vol.13, No3/4 s.181-183, 1978.

Sa_lamer, G., "Mimarlıkta Bilgisayar Uygulamaları" Mimarlık Eylül 1985, s.10-15.

Sa_lamer G., Yürekli H. Özsoy, A., Bindal, M., "Determining the Attributes of Relations of Activities 'Demand and Spaces' Supplies-The Filters-in Measuring the Adaptability of Dwellings", International Journal for housing Science and Its Applications, Vol, 6, No.3, 1982, s.229-239.

Sa_lamer G., Yürekli, H. Ça_da_, G., "Mimari Tasarımda Bilgisayar Yardımıyla De_erlendirme : Bir Maliyet Modeli", Dizayn

Konstrüksiyon, A_ustos, Eylül 1986, s.10-12.

Sa_lamer G. Yürekli, H. Çetin, B.Z., "Konut Tasarımında Bilgisayar Kullanımı", Dizayn Konstrüksiyon, A_ustos-Eylül 1986, s.18-21.

Sa_lamer, G., Dinçel, H., "The Analysis of Layout Patterns in Squatter Settlements, International Journal for Housing Science and Its applications, Vol.14, No.2, 1990, pp.107-114.

Sa_lamer, G., "Mimarlıkta Bilgisayar Uygulamalarının Dünü, Bugünü ve Yarını" , Mac Intosh Dünyası Mayıs 1992.

Sa_lamer, G., "Continuation of Vernacular in Squatter Settlements", Housing Research and Design Education", Ed. Bullos, M., Teymur, N., Avebury, 1993, pp 207-220.

Sa_lamer, G., Erdo_an, N., "A Comparative Study on Squatter Settlements and Vernacular Architecture", Open House International, 1993 Vol 18, No 1, 1993 pp.41-49.

Aksoy, M., Sa_lamer, G., "A Shape Grammar For Courtyard Houses" Advanced Technologies, Architecture, Planning, Enginnering., Ed.M.R.Behesti, K.Zreik., Elsevier, 1993, pp 251-258.

Paker, N., Sa_lamer, G., "A Shape Grammar For Underground Stations", Advanced Technologies, Architecture, Planning, Engineering., Ed.M.R.Behesti, K.Zreik., Elsevier, 1993, pp 259-266.

Sa_lamer, G., Sıkıçakar, A., Aksoy, M., "Discussion on Matristanbul", _stanbul, No.6, July, 1993, pp 95-100.

Sa_lamer, G., Turgut, H., Aksoy, M.Paker, N., _nceo_lu, A., "Is Informal Housing is The Destiny of The Urban Poor", People, Place and Development, to be published as a selected paper, Ed. Awotona, A., Teymur, N.

Erdo_an, N., Sa_lamer, G., Dökmeci, V., Dikba_, A., "Socioenvironmental Determinants of Social Interactions in a Squatter Settlement in _stanbul" Journal of Architectural and Planning Research, Vol 11, Number 1, Spring, 1994.

Sanlı, S., Sa_lamer, G., "An Architect, An Architectural Language and A Shape Grammar", The Global design Studio, CAAD Futures95, Ed.Milton Tan, Robert Teh, Center for Advanced studies in Architecture. National University of Singapore, 1995, pp 453-467.

Ça_da_, G. Sa_lamer, "A Simulation Model to Predict the Emptying times of a Building" Architectural Science Review, Vol.38, Number 1, pp.9-20, March 1995.

Sa_lamer, G., Turgut,H., Aksoy, M., Paker, N., _nceo_lu,A., "Is Informal Housing The Destiny of the Urban Poor", People, Place and Development, to be published as a selected paper, Ed. Awotona,A.,Teymur, N.1995.

Erdem, A., Eser,S., Sa_lamer,G., "Analysis of the Precedent,: Lessons for the Future", Perspectives on Achitectural Education, Ed. Cairs,G., Worthington,J., Institute of Advanced Achitectural Studies., The University of York, pp 55-59,1996

Sa_lamer G.,Kahvecio_lu,H., Tong, T., "Desingned of Housing Models for the Regions with Priority in Development", Housing science, Vol 21.No.3 pp167-179,1997

Sa_lamer G., "Rapid Urbanization and its Consequences on Air Pollution in _stanbul", Environmental Research Forum Volume 7-8,pp2-11,1997.

SUBMITTED AND PUBLISHED PAPERS

Sa_lamer G., "a Heuristic Method for the Synthesis of Single Storey Layouts", Proceedings of ICWE, 8-13 September 1975, Cracow, Poland.

Sa_lamer G., "Tek Katlı Yapıların Relatif Yerle_me Problemi _çin Heuristik Bir Algoritma" Uygulamalı Bilimlerde Sayısal Elektronik Hesap Makinalarının Kullanılması, Ulusam Sempozyum, _.T.Ü. E.H.B.E. _stanbul Ekim 1972, s.377-408

Sa_lamer G.,Keskinel F., "Mimari Tasarımda Bir Optimum _lk Yerle_me Düzeni Olgoritması", Uygulamalı Bilimlerde Sayısal Elektronik Hesap Makinalarının Kullanılması, Ulusal Sempozyum, _.T.Ü. E.H.B.E. _stanbul, Ekim 1972, s.336-376

Sa_lamer G., "Boole Cebri Yardımıyla Mimarı Form Tanımı", Elektronik Bilgi __leme, Ulusal Sempozyum, _.T.Ü. E.H.B.E. _stanbul, 25-26 Nisan 1977, s.59-80.

Sa_lamer G., "Yapılardaki Sirkülasyon Sisteminin Belirlenmesi ve Farklı Da_ılım Biçimlerinin Davranı_ı", TÜB_TAK VI. Bilim Kongresi MAG Tebli_leri 23-27 Ekim 1977 _zmir, s.843-859.

Sa_lamer G., "Bina Programlama Sürecinde Modeller", Mimari Programlama Semineri _.T.Ü. _stanbul, TÜB_TAK Yapı Ara_tırma Enstitüsü, s.51-60,1980.

Sa_lamer G., "The determination of Circulation Systems in Buildings", 9th Triennial Conference on Operational Research, Hamburg, July 20-24, 1981.

Sa_lamer G., Veryeri, M., "Çok Katlı Yapılarda Sirkülasyon Benzetimi", V. Ulusal Yöneylem Kongresi, 23-25 Mayıs 1979. Sa_lamer, G., Yürekli, H., Özsoy, A., Bindal, M., "Konutlarda Mekan-Eylem Uyumu", Mimarlık Bilimleri Kongresi, Orta Do_u Teknik Üniversitesi, 26-28 Eylül, 1979, Ankara s.347-358.

Sa_lamer G.,Yürekli, H.,Özsoy, A., Bindal, M., "Measuring Adaptability Between Activities and Spaces in Dwelling Units", Proceedings of 8th CIB Congress s. 145-150, Oslo, June 1980.

Sa_lamer G., Yürekli, H.,Özsoy, A., Bindal, M., "Comprehensive Schools: Method of Analysis and Future Proposals", Constibution to the OECD Symposium on Educational Facilities, Policies in the 1980's, Hoclem, The Netherland 6-10 October 1980.

Sa_lamer, G., Berköz, E., "A Dynamic Simulation Model for the Optimization of Solar Energy Flow Through the Building Envelope", Proceedings of 8th Clb Congress s.262-265, Oslo, June 1980.

Sa_lamer G., Yürekli, H., "Konutlarda Eylem ve Mekan _li_kilerinin Belirlenmesi", Mimarlık ve Teknoloji Sempozyumu, K.T.Ü. Mimarlık

Bölümü, Trabzon 1982.

Sa_lamer G., Ça_da_ G., “Relationships between form and Performance of Classrooms with respect to Visual Comfort”, Third ASTM/CIB/RILEM Semposium on the Performance Concept in Building, 29 March-2 april 1982, Lisbon.

Sa_lamer G., Ça_da_ G.,Veryeri M., “Comparative Evaluation of Standard School Buildings with Respect to Circulation System Efficiency”, Third ASTM/CIB/RILEM Symposium on the Performance Concept in Building, 29 Marth-2 April 1982, Lisbon.

Sa_lamer G., “School Demand and Stock Rationalisation”, Seminar on Improving the Versatility of the Educational Building Stock and Developing Effective Strategies for Stock Rationalisation, Bristol, 14-16 June 1982.

Sa_lamer G., Yürekli, H.,Ça_da_, G. Özsoy, A.,Yaylalı, H., “A Case Study:The Rehabilitation of a Historical Site in _stanbul” CIB 83,August 1983, Stockholm, s.467-475.

Sa_lamer G., Yürekli, H.,Ça_da_, G., “Assessing the Present Costruction Systems in Slum Areas”, World Congress on Housing, Miami, U.S.A. November 1983.

Sa_lamer G., “Mimarlıkta Bilgisayar Uygulamaları” Mimarinin son 25 yılı Semineri 24-27 Nisan 1984, _stanbul s.41-45.

Sa_lamer G., Yürekli, H.,Ça_da_, G.,Yaylalı H., “Comparison of Potential Uses of a Historical Building Complex”, CIB 84, Third International Symposium on Building Economics, Working Commission W-55. Proceedings Vol.6,Canada, July 1984,s.142-152.

Sa_lamer G., Ça_da_, G., “Bir Dersli_in Bo_alma Süresinin Tahmini _çin Simulasyon Modeli”, Ulusal Yöneylem Kongresi, 1984, _stanbul.

Sa_lamer G., “Mimari Tasarımda Bilgisayarın Rolü”, Bilgisayar Yardımıyla Mimari Tasarım Semineri, Yapı Endüstrisi Merkezi, 1985, _stanbul s.1-12.

Sa_lamer G., Yürekli, H., “Activity and Space Relations in Dwellings, CIB Cogress 1986, Washington DC.

Sa_lamer G., “Mekan Planlaması Modelleri ve Mimari Tasarımdaki Uygulamaları, 2. Ulusal Bilgisayar Destekli Tasarım Sempozyumu, _zmir 28-30 Nisan 1986, Ege Üniversitesi s.368-377.

Sa_lamer G., Ça_da_, G., “Binalarda Yaya Sirkülasyonu ve Bo_alma Sürecinin Benzetimi”, XI. Ulusal Yöneylem Kongresi, 23-25 Eylül 1987.

Sa_lamer G., Ça_da_, G., “Hafif Metro _stasyonlarında _nsan Hareketlerinin Simulasyonu”, XI. Ulusal Yöneylem Kongresi, 23-25 Eylül 1987.

Sa_lamer G., Yürekli, H., Çetin B.Z., “Automated Layout Generation of Single Storey Dwelling Units”,XIV IAHS World Cougress on Housing, October 13-17, 1987 Berlin.

Sa_lamer G., Erdo_an N., “Effects of Users Cultural Background on Squatter Settlements” Sixth Inter-Schools Conference on

Development, Emerging Trends in the Third World Housing Policies: 1990's and beyond, 18-19 Mach 1989, Sheffield.

Sa_lamer G., Arı H., "Comparison of Space Organizations of Dwelling Units" CIB 89 XIth International Congress, Paris June 1989, pp64-74.

Sa_lamer G., Ça_da_, G., "Do people Need Designers?" CIB 89, XI th International Congress Paris, June 1989, pp.97-108.Sa_lamer, G., Dinçel, H., "The Analysis of Layout Patterns in Squatter Settlements", Proceedings of IAHS World Congress on Housing, University of Porto, October,1989, pp.112-118.

Sa_lamer G., Erdem, A., "Evaluation of Different Approaches in Housing Design", International Symposium on the Meaning and Use of home and Neighbourhood, Gaule, Sweden 21-23 August 1989.

Sa_lamer G., 1989, "Housing Problems in Turkey at the Beginning of the 21 st Century", International Panel-Discussion on Architecture, Bio-Environment and Urban Management, 21 st October 1989, K.T.Ü. Trabzon.

Ça_da_, G.,Sa_lamer,G., "Yüksek Binalarda Dü_ey Sirkülasyon", Yüksek Binalar 1. Ulusal Sempozyumu, 1-3 Kasım 1989, _.T.Ü. Mimarlık Fakültesi, pp.115-119.

Sa_lamer, G., Yürekli, H., 1986, "Activity and Space Relations in Dwellings", 11th CIB Congress, Washington.

Sa_lamer, G., Karakullukçu, O., "Kültürel ve Do_al Çevrenin Turizm Yatırımlarına etkisi.: Trabzon Örne_i", Türkiye'de son 10 Yılda Turizm Yapıları Uygulamaları Sempozyumu, 6-7 Nisan 1989, Yıldız Üniversitesi, Mimarlık Fakültesi, pp.

Sa_lamer, G., Yürekli, H., "Ataköy Konutlarında Mekan-Eylem Uyumu", Ataköy Toplu Konut Uygulamalarının De_erlendirilmesi, Panel, _.T.Ü. Mimarlık Fakültesi, A_ustos, 1989 _stanbul, pp.67-77.

Sa_lamer, G., Arı, H., "_stanbul'da Bir Problem Bölge: Haliç", _stanbul'un Problem Noktaları ve Ö_renci Çalı_maları ile Çözüm Arayı_ları Sempozyumu", 11-12 Mayıs 1989, _.T.Ü. Mimarlık Fakültesi, pp.82-85.

Sa_lamer, G., Anaysing the Housing Demand and Evaluating the Housing Production Systems in Turkey. International Research Conference on Housing Debates-Urban Challenges July 1990, Paris.

Sa_lamer, G., Ça_da_, G., 1991, "Designing A House", CAD Futures 91 Conference, Zurich.

Sa_lamer, G, 1991, "Continuation of Vernacular in squatter settlements", IAPS Symposium on Housing Research and Design Education, London.

Sa_lamer, G., Erdo_an, N., 1991, "A Comparatives Study on Squatter settlement and Vernacular Architecture", ENHR Symposium on "Housing for the Urban Poor", _stanbul, Ed.Sa_lamer, G., Özüekren, _., ppc. 081-c093

Sa_lamer, G., "Dichotomies in Architectural Design Education"ACSA Symposium on Automation Based Design Education, 12-15 May

1992, Deltf TU.

Sa_lamer, G., Yürekli, H., Ça_da_ G., Yürekli, F., 1992, "Evaluation of A Cooperative Housing", World Congress on Housing, ISA, Montreal, Canada.

Sa_lamer, G., Aksoy, M., "A Shape Grammar For Courdyard Houses", Advanced Technologies, Architecture, Planning, Engineering., Ed. M.R. Beheshti, K. Zreik., Elsevier, 1993, pp 251-258.

Sa_lamer, G., Aksoy, M., "A Shape Grammar For Underground Stations", Advanced Technologies, Architecturei Planning, Enginnering., Ed. M.R. Beheshti, K.Zreik., Elsevier, 1993, pp 259-266.

Sa_lamer, G., Wilkinson, N., Aksoy, M., Paker, N., _nceo_lu, A., Comparative Evaluation of Different Approaches in Housing Provision for Low-Income Groups", IAPS Symposium on People, Place and Development, 1-2 December 1994, University of Newcastle upon Tyne.

Sa_lamer, G., Turgut H.,G., Aksoy, M., Paker, N., _nceo_lu, A., "Is Informal Housing the Destiny of The Urban Poor", IAPS Symposium on people, Place and Development", 1-2 December 1994, University of Newcastle Upon Tyne.

Sa_lamer, G., Sanlı, S., "An Architect, An Architectural Language and A Shape Grammar", CAAD Futures95,24-26 September 1995 Singapore.

Sa_lamer, G., Kahvecio_lu, H., Tong, H., "Desing of Housing Models for Region given Priority in Development", XXIII IAHS World Congress 25-29 September 1995 Singapore.

Turgut,H., Sa_lamer, G., ve di_erleri "Ev ve Sokak: Gecekondularda Ev-Sokak _li_kileri ve Kentle_me" 7. Yapı ve Ya_am 95 Fuar ve Kongresi, TMMOB _ubat 1995, Bursa.

Sa_lamer, G., "Mimarlık:Nasıl Bir Gelecek?" Mimarlık ve E_itimi Forumu I:Nasıl Bir Gelecek? 19-21 Nisan 1995 _TÜ, EAAE, _stanbul sf,8-15.

Sa_lamer, G., "Istanbul:A City Suffering from Huge Population Growth", FIDIC Conference 1995, _stanbul, Workshop 6, Main Presentation.

Sa_lamer, G., "Evolituon of Squatter Settlements in _stanbul", Habitat II _stanbul Workshops, Housing For Low-_ncome Groups, 10-14 June 1996 _TÜ _stanbul

Sa_lamer, G., ve di_erleri "Housing Finance Availability for Low-_ncome Groups in Turkey A Case Study on Pınar settlement Habitat II _stanbul Workshops, Housing For Low-Income Groups" 10-14 June 1996 _TÜ _stanbul.

Dursun, P., Sa_lamer, G.,"Informal Housing Areas:From Single-Storey Shelters to Multi-Storey Apartment Blocks" XXIV IAHS Housing Congress: How to House a Nation: The Challenge for the XXI. Century, Ankara,May,27-31 1996, ODTÜ, sf 888-901.

Sa_lamer, G., H., Turgut ve di_erleri "Continuity and Change in Squatter Dwellings" IAPS XIV. Conference, 1-3 August 1996, Stockholm.

Sa_lamer, G. Rapid urbanization and its consequences on air pollution in

Istanbul. Air quality management at urban, regional and global scales. Eds. Incecik, S., Ekinci, E., Yardım, F., Bayram, A. Environmental Research Forum, Trans Tech Publications, Vol. 7-8, 1997, pp 2-11.

Sa_lamer, G. Turkish Higher Education: Problems and Solutions, 10th EAIE Conference, International Education, interaction with wider community, November 24, 1998, Stockholm, Sweden.

Sa_lamer, G. ITU Technopark project. ATAS- Association of Turkish American Scientists, XIth ATAS-GWU Annual Conference, USA, February, 25, 1999.

Sa_lamer, G. Turkish Higher Education: Problems and solutions. 28th IGIP International Symposium, Engineering Education in the Third Millenium, 1999, _stanbul, Turkey.

Saplamer, G. Future Expectations, International Conference on Kocaeli Earthquake, December 2, 1999, Istanbul, Turkey.

Sa_lamer, G. Women in higher education with special reference to Technology & Science: Turkish case, The Netherlands, June 20, 2000.

Sa_lamer, G. Higher education and research in Turkey: A new perspective for collaboration, January 25, 2000, UCL, London, UK.

Sa_lamer, G. Globalization and its impact on higher education and engineering training, Barcelona, 2000.

Sa_lamer, G. Higher education, is it global?. ATAS- Association of Turkish American Scientists, XIIth ATAS-GWU Annual Conference, USA, March 28, 2000.

Sa_lamer, G. Higher Education, is it global. Mediteranean Engineering Education network 4th General Assembly. May 5-7, 2000.

Sa_lamer, G. Integration of Turkish Universities into EU, EAIE 12th Annual Conference, December 1, 2000, Liepzig, Germany.

AWARDS

First Prize in the Architectural Competition of the Aydın-Ku_adası Tourism Complex, Organized by the Ministry of Public Works. (20.000 m_) (with collaboration of H. Yürekli, F. Yürekli, A. Özsoy), 1983.

Taçfoundation Prize, 1984-1985.
Architectural Design Projects, Spring Term.

Taçfoundation Prize, 1987-1988.
Architectural Design Projects, Spring Term.

Taçfoundation Prize, 1988-1989.
Architectural Design Projects, Spring Term.

CIB, 1980.
8th CIB Congress, Oslo, 1980

DAAD, 1981.
9th Triennial Conference on Operational Research, Hamburg, 1981.

British Council, 1991. Visiting Scholarship (6 Weeks)

Collection 1999 Architectural Competition, Dr. Sedat Urundul Nursing School (with Meltem Aksoy).

OECD Education Buildings 2000 Competition (PEB2000). Dr. Sedat Urundul Nursing School (with Meltem Aksoy).

INTERNATIONAL CONFERENCES ATTENDED

Second International Conference on Computers in Engineering and Building Design, 23-25 March, 1976, London.

2th CIB Congress, June 1980, Oslo CIB Bursu ile bildirili olarak katılma.

9th Triennial Conference on Operational Research,
July 20-24 1981, Hamburg. DAAD Bursu ile bildirili olarak katılma.

Seminar on Improving the Versatility of the Educational Building Stock and Developing Effective Strategies for Stock Rationalisation, OECD, PEB, 14-16 June, 1982, Bristol.

International panel-Discussion on Architecture, Bio-Environment and Urban Management, 21 October 1989, K.T.Ü. Trabzon Panelist, Paper submitted.

International Research Conference on Housing Debates-Urban Challenges, Paris 1990, Paper submitted.

Sixth Inter School Coference on Developments, Emerging Trends in the Third World Housing Policies, University of Sheffield, 1989. Paper submitted.

IAPS, Housing Research and Design Education
24-28 July 1991, London. Paper submitted.

ENHR, "Housing for the Urban Poor" International Symposium, 17-20 September 1991, _stanbul. Organized with the collaboration of _.T.Ü. and ENHR and TÜB_TAK, Member of the Organizing Committee, Paper submitted

ACSA, Symposium on Automated Based Design Education
12-15 May 1992, Delft TU. Paper submitted.

IAPS Symposium on "People, Place and Development", December 1994, University of Newcastle upon Tyne, Two papers submitted.

XXIII IAHS World Housing Congress, 25-29 September 1995 Singapore. Paper submitted.

CAAD Futures 95 International Conference 24-26 September 1995 Singapore. Paper submitted.

Mimarlık ve E_itimi Forumu I: Nasıl Bir Gelecek? (Forum on Architectural Education: Future) 19-21 April 1995 _TÜ, EAAE, _stanbul (paper presendet)

FIDIC Conference 1995, _stanbul, Workshop 6, Main Presentation.

Habitat II _stanbul Workshops, Housing For Low-_ncome Groups" 10-14 June 1996 ITU _stanbul (2 papers presented)

XXIV. IAHS World Housing Congress: How to House a Nation, The Challenge for the XXI.Century., Ankara May 27-31, 1996, ODTÜ. (paper presented).

ATAS and ATS annual conferences in 1997, 1998, 1999, 2000, Washington DC, Speaker, session chair and panelist.
EAIE annual conferences, 1997, 1998, 2000, speaker and session chair.
AIMOS Balkan Universities network, annual meetings, 1997, 2000.
CMU (Community of Mediterranean Universities) annual meetings.
CRE (Association of European Universities) annual meetings.

ARCHITECTURAL COMPETITIONS AS JURY
Maçka Comrensive Scholl Complex, The Ministry of Public Works 1983.
Reorganization of Trabzon Shore, The Municipality of Trabzon, 1985.
Rector's Office and The Main Administration Building of I.T.U., 1983.
ITU Music School, 1993.

PROFESSIONAL WORKS
Ziya Karakullukçu Apartment House, Trabzon, 1973.
Bosa_ Pipe and Profile Planti Trabzon, 1977.
Orhan Karakullukçu Villas, Zigana, 1983.
Turan Karakullukçu Villas, Levent, _stanbul, 1984.
Turan Karakullakçu Villas, So_uksu, Trabzon, 1984.
Trabzon Manucipality Touristic Hotel, Trabzon, 1985-88
Mehmet Yavuz and his partners Apartment, Trabzon, 1985
Tekin Günver Çengelköy Villas, Istanbul, 1986.
Trabzon BEL-ERKO housing cooperative, Erdo_du Multi houses, 1986
TC. Ziraat Bank, Trabzon, 1987.
Turkish Marine Administration Istanbul-Salıpazarı Passenger Harbour Areas, 1987.
Istanbul Metro System, 1987-1995.
Istanbul Metro and Bosphorus Railway Tunnel Crossing, 1988.
T. Günver and R. Gürler Villas, Istanbul, 1987..
O. Karakullukçu and T. Karakullukçu Office Design, 1991.
Gulbent Multi Housing Cooperative, 1992
Zivak Multi Housing Cooperative, 1992.
Historical Galata Bridge Transport Project, 1993.
Bursa Metro, 1994.
Istanbul Atatürk Airport Development Design, 1996.
Dr. Sedat Üründül Nursing School, 1996.

Suzan Sanl_ has completed her undergraduate studies in the School of Architecture at the University of North Carolina , U.S.A. and Faculty of Architecture at Istanbul Techinical University successively. She has gotten her master's degree in 1990 from the Building Design Department of Faculty of Architecture of I.T.U. At the moment she is a Ph.D. student at the same institution.