ITU A|Z
VOL: 9, NO:1, 104-119, 2012-1

Dialogue on space: Spacial codes and language of space

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Received: March 2011 *Final Acceptance: January 2012*

Abstract:
Design is a sophisticated cognitive activity that has space at its core. Design begins through the gaining of an understanding of the living culture, potentials, constraints, and variables of the space. To do this, architects must acquire a perception of the architectural space by decoding the characteristics of its social culture and discovering the messages revealed via its built form. In this way an architect enriches his or her understanding and forms personal knowledge of the space in question. Critical questions arise at this point: How do architects understand and decode space? How do architects perceive and conceptualize space? How do architects express meaning in space? How do they think and talk about space?

The intent of this paper is to reveal the output of discussions on these essential questions with the students in the first lecture of an undergraduate elective course, Architectural Morphology that was given at Istanbul Technical University, Faculty of Architecture. The course asked students to describe and talk about their living spaces so as to record their mental processes and clarify the characteristic elements of language they use to talk about space. The last part of this paper contributes to the creation of a scientific, analytical tool, space syntax, to form a language for thinking and talking about space.

Keywords: *Space, knowledge of space, language of space, space syntax*

Introduction

Architecture is inspired by dichotomies. Is architecture science or art? As design methodologists Alexander, Gregory and Simon have questioned in their works: Is design quite different than science? (Cross, 2001). Does Simon's following statement retain validity today? "The natural sciences are concerned with how things are … design on the other hand is concerned with how things ought to be." (Simon, 1969). Is design a rational process in that rules and steps are clarified (Alexander, 1964, Jones, 1984, Archer, 1984) or is it a process in that problem and solution emerge together? (Lawson, 2003). Does design aim to reach optimal solutions (Simon, 1969),

or is design about making (Schön, 1987), experimenting, and probing? Does architectural knowledge include intuition, feelings, and experiences or does it consist of theory, science and research?

In architecture, sometimes both ends exist together, at other times the design process proceeds along one of the ends. This characteristic makes design practice a more complicated activity. A similar discussion can be held on space and spatial language. The question here is if the language employed by architects in architectural dialogue is made up of words that mainly talk about the physical characteristics of space, or if this language is composed of words that try to discover logical characteristics of that particular space. Is this language based on intuitive components that demonstrate subjectivity and individuality or is it based on rational components with objective and universal structural forms?

Space forms the core of architecture. In order to design, the architect must first conceive and consider architectural space by decoding the characteristics of its nature and discovering messages revealed via its built form. It is in this way that s/he becomes aware of the surrounding spaces. In other words, design is a process of discovery that helps the architect to construct and enrich his/her understanding of space and spatial experiences. These recorded, collected, described and even reproduced experiences then form the core of his/her spatial knowledge and act as the activator of the design process by leading architects to decide on the principles and concepts of the space desired. If we accept design as a sophisticated mental process capable of manipulating various kinds of information (Lawson, 2003), and space as the key element of this process or as a laboratory that contains the source of such information, critical questions arise: How do architects conceive and conceptualize architectural space? How do architects understand and decode space? How do they think and talk about space? (Dursun, 2009).

Space acquires meaning with the life occupying it. Life shapes the space. In the meantime space also formalizes its own life. Talking about space without any reference to the life it contains makes this space lonely, quiet, static and ordinary. In fact, is there not a common tendency to talk about space in this manner? Are not most of us, even architects, interested in the things that we can observe from the outside rather than the things that we are a part of? Do we not usually talk about visible things rather than invisible things in space? In everyday life there is a common approach where spaces are conceived and evaluated by their physical appearances and formal characteristics. Here, the structure of spatial language is constructed on visible, describable, discursive, concrete, measurable characteristics and with a related vocabulary. But what about invisible, abstract, logical characteristics of space and their expressive language?

Space is more than a simple volume that surrounds us. First, it has a physical form that can be easily decoded and described by its concrete characteristics such as length, width, scale, geometry and also texture, color, light, etc. Second, it has characteristics that are abstract and complex, and difficult to talk about. These are codes, rules and abstract parts shaping meaningful things in space (Dursun, 2009). By exploring man-space relationship, the main argument is to discover how social relations are organized in space and how a particular space affects human behavior. In this case, the structure of spatial language becomes more complicated and

a depiction based on mainly invisible, non-discursive, un-measurable characteristics and on a related vocabulary becomes increasingly difficult.

The language of space has to possess a lexicon that is capable of expressing both physical and logical characteristics of space. Architectural knowledge thus has to possess equipment that is capable of decoding both physical and logical characteristics of space, including its intuitive and rational components (Figure 1).

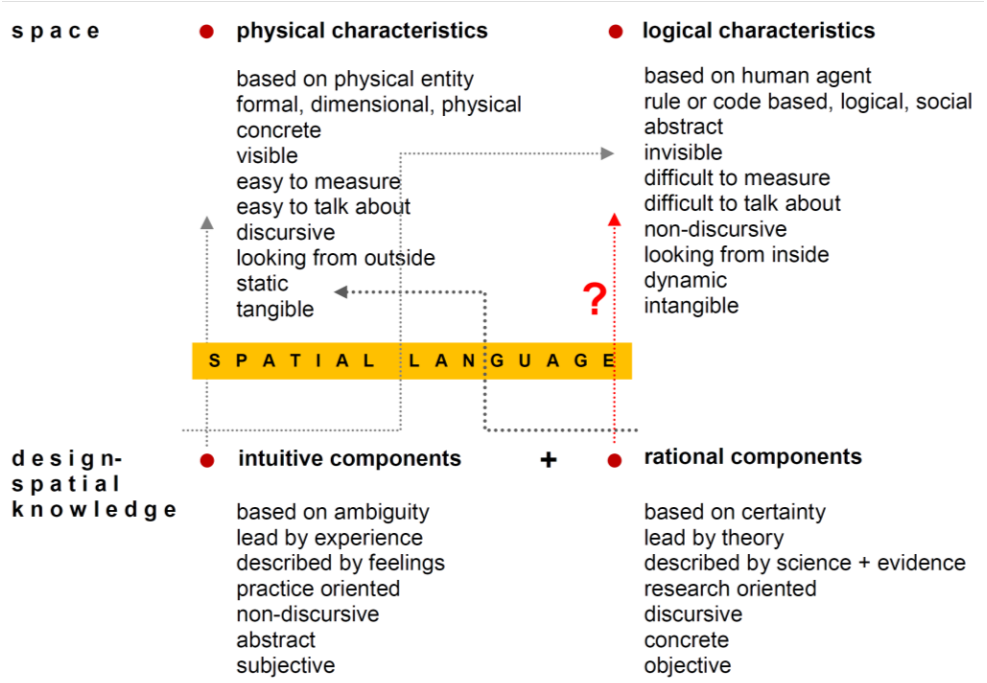


Figure 1. *Language of space*

Accepting space as a social construct and understanding the relationships between man and its built environment have been a main research of interest for sociologists as well. When we consider post-modernism thought, we see that in his book, The Production Space, Lefebvre, a 20th century pioneering sociologist of urban life, defines space as a social product (Lefebvre, 1998). He contends that space is modified by social relations and that it is not only supported by social relations but also produced by social relations. He suggests that every society and every mode of production produces its own space (Shield, 2004). Foucault, on the other hand, gave an example of a panopticon plan layout to explore the question of how architectural form may influence social behavior. As conceived in its prison design, the theme of panopticon-–a concept that includes surveillance and observation, security and knowledge, individualization and totalization, isolation and transparency—provides a privileged locus of realization (Foucault, 1984). Foucault tried to demonstrate that architecture may become an apparatus for creating and sustaining a power relationship independent of the person who operates it (Leach, 1999). Harvey in his book, Social Justice and the City, states that the question “what is space? (must) ... be replaced by the question “how is it possible that distinctive human practices create and make use of distinctive … space(s)?” (Harvey, 1973). For Harvey, social practices and processes create spaces and these spaces in turn constrain, enable and alter those practices and processes.

Harvey argues that space is both the cause and effect in/of social life (Castree, 2004).

Lawson uses an architectural point to define architectural and urban spaces as containers to accommodate, separate, structure and organize, facilitate, heighten and even celebrate spatial behavior. Space creates settings that organize our lives, activities and relationships (Lawson, 2005). Markus implies that buildings are treated as art, or as technical or investment objects, but rarely as social objects, (Markus, 1993). He suggests that people discover and create meaning in social relations, and then these both form and are formed by their social practices- the things they do together. Designing and producing buildings are social practices. Similar with Markus' statement, Hillier indicates that buildings carry social ideas within their spatial forms (Hillier, 1996). Spaces are never simply the inert background of our material existence. Spaces are key aspects of how societies and cultures are constructed in the real world. Human behavior does not simply happen in space. It has its own spatial forms.

Here, the problem is to discover a way to decode the relations between man and his environment and to express the social, logical, abstract, non-discursive characteristics of space. In other words, the critical question is about how we talk about the logical characteristics of space and how we place the social in an objective, rational, scientific debate.

This paper aims to shed light on the complex nature of space and its language by utilizing data derived from architectural student course work. It tries to generate an understanding of how architects perceive and decode architectural space and how they clarify their tools when talking about space. The ways in which they comprehend and express architectural space and the tools and methods they select are revealed by visual and textual documents that the students have produced. The findings are then used to decode and formulate their spatial language. The final part of the study contributes to the creation of a scientific, mathematical and analytical tool, space syntax that can be used to form a language for thinking and talking about space. The aim here is to evaluate its potentials in terms of its capabilities of making non-discursive characteristics of space discursive and providing a discovery tool for architects to put the space into a more extensive debate.

Case study: Talking about our living spaces

The aim of this paper is to provoke a debate by focusing on the following questions that were discussed in the first lecture of an elective course at the undergraduate level, in ITU, Faculty of Architecture, namely Architectural Morphology:

How do architects conceive and conceptualize space?
How do architects understand and decode space?
How do architects express meaning in space?
How do architects think and talk about space?

Without being lectured on the subject, the students were asked to describe and talk about their living spaces by using their own architectural background. They were asked to record their mental processes and clarify the characteristic elements of their languages. During the discussion, the

aim was to structure the language they use to talk about space by decomposing it into its components. By identifying personal and general expressions, an attempt was made to decode the elements of how designers' thought process and those transformations that take place within this processes move from abstract forms into expressions of the concrete kind. Data derived from this study were based on student work carried out during the 2007-2008 and 2008-2009 academic years.

Based on the student records three different approaches can be observed in decoding and talking about their living spaces:

1. Space as a physical entity:
Some of students mostly talked about space by using words expressing the physical characteristics of space (student B, H, K). According to student K the thing that make up his living space are the parameters that we fit into. Size or dimensions are the most important factors. In other words the architect has to determine the amount of space that will be sufficient for a person to live in. Secondly, other parameters come into play such as location, light, shape, furniture, noise, relations with housemate or neighbors, etc. Student K preferred to prepare a diagram with the keywords that he mentioned in talking about his living space. Spatial dimensions such as 3x5x2.4 meters, levels of natural light, orientation, heating, building age, distance from metro station or grocery, topography, width of the street, neighborhood characteristics, number of windows on facade are highlighted in his diagram. Student H used photography to illuminate his ideas. In this picture two scenes are used to show the visual effects of a motorway during different time periods. He holds that our desire to be in a particular space is affected not only by functions but also by our feelings concerning these spaces. Tools for perceiving space are mainly visual. Plan, section or in other words geometry, have been used as tools both for designing, decoding and giving meaning to a space. Our spatial perception or decoded spatial meaning must be transformed into a visual language rather than to a verbal language in order to communicate (Figure 2).

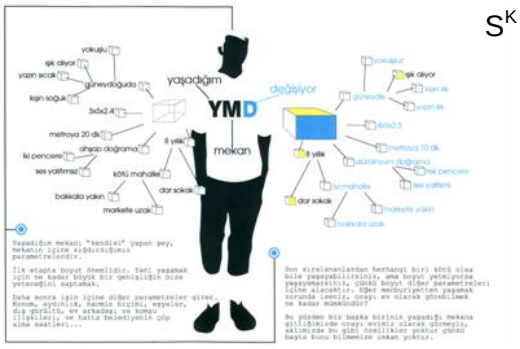
S^H   S^K

Figure 2. *The student records related to their living space, Student H/K*

2. Space as a social entity:
Some students mostly talked about space by using words expressing logical characteristics of space (student C, D, O). Student D mainly differentiated the sense of belonging to a space and the spatial description of a space and concentrated on man-space relationships and movement in space. He said that the sense of belonging to a space and the spatial description of a space are two different topics. The former is a result of subjective feelings about space, yet it does not affect the definition of that space. When formulating a

spatial definition, the key element is not an individual point of view but the personal behavior occurring in that particular space. Student D used a home plan to illuminate his ideas and argued that space works as a network that creates potentials of movement and describes a living pattern. According to him we move through space as dictated by relations among the space. We understand the space through our movements in that space and by living in it. Borders plus the syntax of space affects our way of living. The home is described by spatial relations.

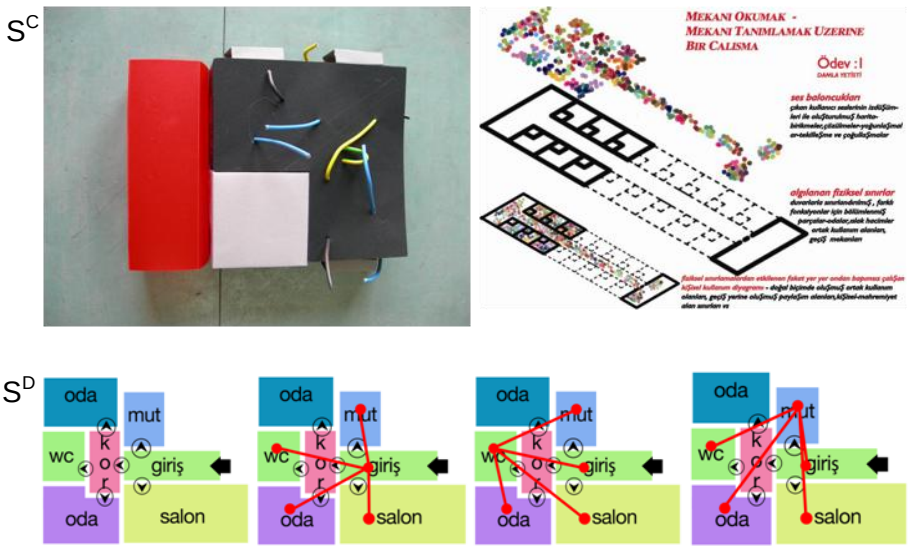


Figure 3. *The student records related to their living space, Student C/D*

From the same group, student C talked about a student residence and described the living space with the following words: `Student rooms are attached to a corridor.' She emphasizes that space should be decoded in a multi-layered system by focusing on different topics such as man-man, man-space relationship, user needs, space use, spatial thresholds, i.e. spaces for privacy and spaces for common use and social interaction, etc. She maintains that this reproduced and integrated data then help us to inject a particular space with meaning. Student C first represented her living space as a 3D model that shows circulation in red, the living unit in black, and the service unit in a white box. In the last phase of her work she mapped the relations between user sound and space use and tried to explore the dense, common spaces in her living space (Figure 3).

3. Space as a hybrid entity:

Straddling these two methods was another group of students who attempted to balance the two or tried to create interrelations between them (student A, E, F, G, J, L). In other words, their expressions become meaningful only by the combination of the two. According to student L his living space has a flowing character. It is at the center of the residence. There is no border to his living space; there are relations with other spaces, in other words there is continuous communication with other spaces. Communication creates diversity both for him and for his living space and exposes a spatial meaning. Same student also expressed his views that light, sound, smell and speed of life, his textures on the walls, the dirty carpet on the floor or uncomfortable sofa reflect some clues about him and indicate the meaning of space.

Student A described her living space as a three bedroom, one living-room apartment attached by a corridor that is 13m long and 89cm wide. This long and narrow corridor receives no natural light and acts as an important element shaping communication between spaces and people. First, student A mapped activity rooms based on different parameters such as time spend in that particular space, colorfulness of that space, sound parameters of that space, level of light, emptiness, lifelines, changeability, comfort issues. Then, she focused on man-space relationship and spatial movement / stability and suggested that space is formed by these characteristics. Her 3D model that represents movement in space then transforms in to a diagram mapping space use, movement flow, movement traces, circulation and stability. She maintained that it is very difficult to understand and talk about space when the space is devoid of inhabitants or the footprints of its inhabitants. In the design process, space is elaborated by considering movement / immobility, spatial flow and relations. Language is generated via words while humans are built from threads of DNA. Similarly, we can presume that space has its own DNA and we cannot talk about it without decoding them.

Student F was the last example from this group. She pointed out the importance of our senses in building up our relation with space. She said that these senses also shape our spatial perception and spatial cognition. According to her, perception comes into being though how it is shaped by different senses. Some key elements such us movement, visuality, fixed furniture, comfort, color, texture and light make it easier for us to shape our spatial perception. These elements, along with our senses, ease the ways we perceive and talk about space. Student F also attempted to depict a city route from her daily life. Space that is the subject of this daily journey was described by digital sound records. Sound was recorded to express existing life and meanings in space. Student F suggested that we are able to get information about density, movement, interaction, life in space by focusing on different sounds such as footsteps, human voices and shouting, transport, production, marketing, etc. (Figure 4)

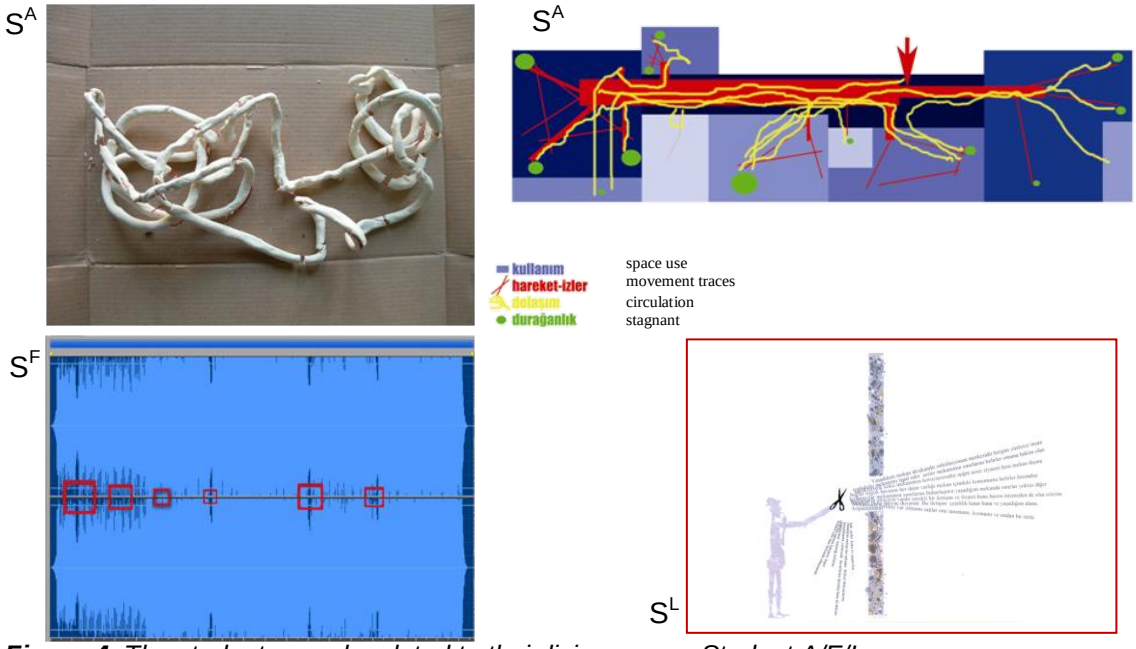


Figure 4. *The student records related to their living space, Student A/F/L*

In brief, among the two groups of vocabularies that students used to describe his/her living space the first group comprises those keywords that include geometry or form, size, dimension (length and width), proportion, level of light and sound, color, texture, materials, topography, and function. Structural elements (walls, surfaces, etc.) are included in this grouping as well. The second group, on the other hand, spoke specifically about man-space and man-man relationships, and about spatial organization. Movement, flow of moment, use of space, frequency of use, user footprints were the repeating keywords in their spatial language.

Table 1 lists the words or vocabularies that 15 students used randomly in talking about space. Table 2 shows the words used by the students to express their thoughts.

Table 1. *Keywords or vocabularies of spatial language*

spatial language / vocabulary repertoire: expressing / decoding space

1	design criteria such as proximity/distance, comfort, convenience, openness/closeness, largeness/smallness	**39**	space-time relations
2	geometry	**40**	perception of space
3	day light level	**41**	location
4	proportion	**42**	spatial organization
5	length-width	**43**	orientation
6	typology	**44**	day and night effect
7	spatial relations	**45**	perspective
8	man-space relationship	**46**	sequence of space
9	movement, flow, density of movement	**47**	topography
10	spending time in space	**48**	speed
11	enjoyment of space	**40**	smell
12	colour / colourfulness of space	**50**	structural characteristics
13	use of space, frequency of use/ use density in space	**51**	memories
14	liveliness of space	**52**	events/ their footprints
15	changeability of space	**53**	man-man relationship
16	sound	**54**	warm in summer, cold in winter
17	texture	**55**	orientation / on sought, on sought east
18	light / distribution of light	**56**	narrow street
19	size	**57**	sloped / flat
20	circulation elements	**58**	20 minutes walking from station
21	changes that have occurred throughout time in space	**59**	close to grocery
22	walls, boundaries, surfaces, ceilings	**60**	wooden window frame
23	users' voices	**61**	good neighbourhood
24	spatial use / function / activity	**62**	8 years old
25	personal spaces	**63**	room mate
26	perceivable boundaries	**64**	neighbour relations
27	places for privacy	**65**	garbage collecting time
28	places for common use	**66**	cold weather
29	inhabitants' / user footprints (furniture, personal belongings) / how do they use space?	**67**	thousands of people
30	spatial thresholds (corridor for social interaction, individual rooms for privacy)	**68**	unexpected user
31	speed (taking the shortest and easiest route between spaces)	**69**	communication between spaces, traffic
32	forms that shape the 3d object	**70**	speed of life
33	materials	**71**	food, beverage
34	circulation	**72**	complexity
35	new meanings	**73**	polyphony
36	users' habits	**74**	multi-layered
37	visibility	**75**	rules – living pattern
38	comfort	**76**	difference between space levels

Table 2. *Spatial language*

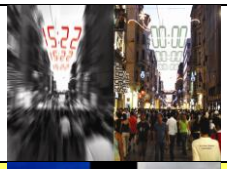
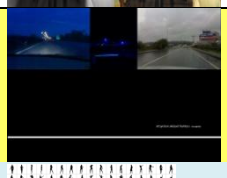
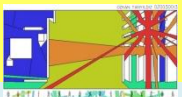
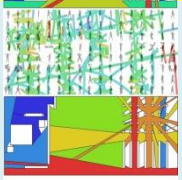
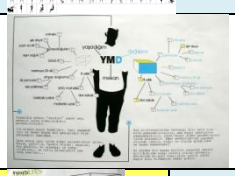
std	vocabularies																	
A	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
B	6	7	9	12	13	16	17	18	19	20	21							
C	7	22	23	24	25	26	27	28	29	30								
D	7	8	9	31														
E	12	13	17	18	24	32	33	34	35	36								
F	9	12	14	17	18	29	37	38	40	41								
G	3	7	8	9	16	19	24	29	42	43	44							
H	12	18	45	46	47	48	49	50										
I	8	29	51	52	53	54												
J	8	9	19	24	29													
K	16	18	19	29	32	42	55	56	57	58	59	60	61	62	63	64	65	66
L	7	9	16	17	18	29	34	50	67	68	69	70	71					
M	24	29	72															
N	73	74	75															
O	8	24	29	76	77													

Keywords which try to explore physical characteristics of space
Keywords which intend to express logical characteristics of space

Table 3. *Tool for expressing space / student records*

std	tool for expressing space / student records
A	**3d-model** **diagrams** **sound records** **verbal / written expressions,** **written expressions,** **line expressions/drawing**
B	**3d-model** **diagrams**
C	**3d-model** **diagrams**
D	**diagrams**
E	**diagrams** **sketches** **written expressions** **line expressions /drawings**
F	**sound records** **diagrams**

Table 3. (*Continued)*

std	tool for expressing space / student records				
G	**digital records** **photography**			J	**photography** **written expressions** 
H	**digital records** **photography** **image**				
I	**maps** **diagrams** **written** **expressions**				**diagrams,** **written expressions** 
K	**diagrams** **written** **expressions**			L	
M	**diagrams** **written** **expressions**				**collage** **written expressions** 
N	**collage**				**O**

Students' tools for expressing the space and the records are brought together in Table 3 to present the picture as a whole. The records emphasize the complex nature of this discussion in terms of architecture, design, space and its meaning. The students used a variety of tools such as 3-D models, diagrams, sketches or line drawings, photography, sound records or written expressions, and collages to represent their living environment.

Most of the students believed that the ways architects use to understand and decode space are primarily subjective rather than objective. For example, Student N suggested that spatial expression involves subjectivity and abstraction. The five senses play an important role in this process. This individuality is reflected in student's records and their spatial language. Still, there are other students like student D who differentiated the sense of belonging to a space from the description of that space. According to their views, the former reflects subjective characteristics while the latter reflects the objective. They hold that our discussion should focus on universal expressions rather than on individual points of view. Student E indicated that assigning a meaning to a particular space demonstrates subjectivity. However, spatial meaning is formulated not only by the five senses but also by other elements that are connected to space. Formulating a spatial expression is not an effort to give a new meaning to a space but it is an effort to discover the existing meaning in that particular space. According to Student J the definition of space differs among people and is subjective in

nature. Space is not explored merely by the five senses. The order and location of space dictates the movement of dwellers. This means that the space itself makes its own rules. Similar to Student J, Student G developed this discussion by indicating that in order to decode space, it is essential to understand how spaces come together and how they provide potential areas for movement or stability. He holds that when we perceive space it is possible to observe that spaces are related to each other rather than existing as independent, individual units and these relations have influences on the location and formation of those spaces.

As they concluded their discussions, the students agreed that abstract knowledge related to space must be transformed into concrete form in order to be comprehensively debated. Student H pointed out that our spatial perception or decoded spatial meaning must be transformed into a visual language rather than to a verbal language in order to communicate. However, it was also observed that students are not equipped with the tools that allow them to express their ideas in a universal way.

The students mainly talk about man-space and man-man relationship in space, both the basic elements of reference when decoding the meaning of that particular space. However, it is observed that they do not know how to formulate this knowledge in the form of a universal language.

Space syntax: An analytical tool for decoding social knowledge in space

This part of the study discusses a tool, namely space syntax that aims to formulate abstract social knowledge in space in a scientific, rational form. Space syntax is an approach that defines the built environment as a spatial network formed by interrelated spatial units and aims to decode and visualize invisible social knowledge in the space. The main effort here is given to explicate the hidden and abstract social information by transforming it to concrete, measurable form by implementing mathematical and graphical tools. The basic concern of this scientific and research based approach is about rules and meanings revealed via space that are a result of man-space relationship. It focuses on social instead of physical.
Space Syntax is constituted on two main hypotheses:

1. The built environment functions as a spatial / social network. In this network the main focus is given to relational characteristics rather than individual. Space is experienced through this spatial networks or relations (Figure 5). According to Hillier and Hanson, all human activity through which culture is created has come to be seen as grounded in an interplay between concrete elements and abstract relations. These elements--words, columns, behaviors and so on--are manipulated with deliberate forethought. Relational schemas through which we order and interpret elements--syntax, rules, and schematic drawings--are handled unconsciously and we deal with them without thinking of them. Hillier and Hanson define concrete elements as the “ideas that we think of” and relational schemes as “the ideas that we think with” (Hillier and Hanson, 1997).

According to Hillier and Hanson elements are discursive (Hillier and Hanson, 1997), meaning that they are concrete, visible and tangible. We can see them, name them, and know how to talk about them. On the other hand relations are non-discursive, meaning that they are abstract, invisible and intangible. We have no languages to describe them.

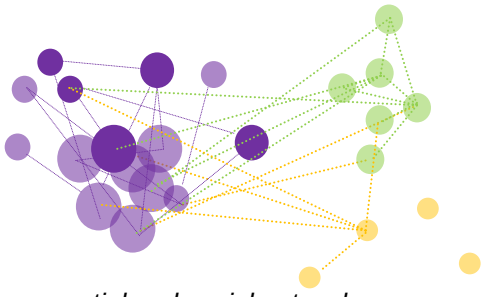


Figure 5. *Space as a spatial and social network*

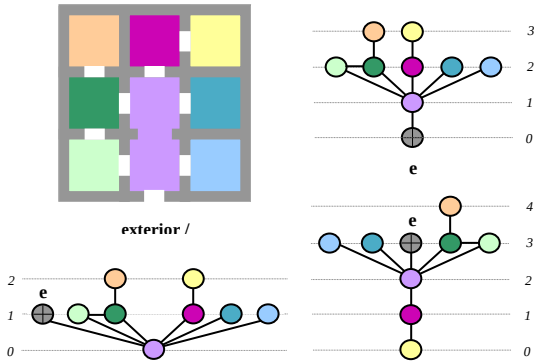
2. Spatial networks create potentials of movement and describe a living pattern. Movement is the key element to decode man-space / man-man relationship (Figure 6). According to Seamon, the basic concern of space syntax relates to the nature of everyday spatial movement; lived experience of how, in fact, such movement can even happen; the ways in that people, as they move about, are aware or not aware of their environment and about other people who are co-present; the ways in that people, as they move about, attentively encounter each other (or do not); the ways in that particular spatial configuration of pathways afford particular patterns of movement and encounter and how these patterns, in turn, contribute to and sometimes shift pathway of spatial configuration over time (Seamon, 2007).

Spatial network creates potentials of movement.

Some spaces in a spatial complex are much more visited than others.

Movement Traces of Visitors in Tate Britain, UK
(Space Syntax, 2002)

Figure 6. *Movement in space*



Three j-graphs showing accessibility relations between convex partitions in space.

Space syntax developped a simple graphical method, namely ***justified graph***, to show configurational properties and depth structures.

As the justified graph of a spatial complex is drawn from different point of view within in the interior, ***configuration*** will be different from different units. Some graphs will be shallow; the others will be deep depending on where you were positioned in a spatial system.

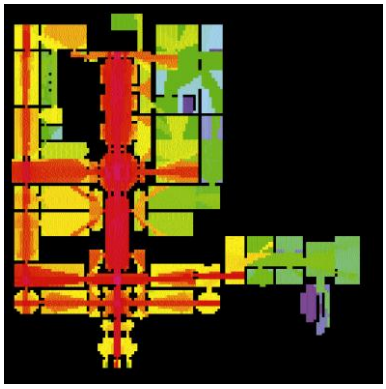
Integration value of a space expresses the relative depth of that space from all others in the graph. It states numerically a key aspect of the shape of the justified graph from that space (Hillier, 1996).

An integrated space creates a potential for ***movement*** and defines a milieu for ***social interaction***.

Figure 7. *Space syntax, tools for spatial analysis*

Space Syntax tries to find a way for capturing characteristics of relational schemes that underlie built form. It exploits non-discursivity in a space by

using graphical representations of configurational or relational properties and expressing them in a quantitative way (Figure 7). Space syntax has also formed the basis for a new generation of software programs setting out how people use and experience their spaces (Figure 8).



Spatial property of integration may be computed for axial, convex, isovist respresentation of space as it was for the justified graphs.

Degree of relative integration is represented by the density of tone from red to blue, with red indicating the most integrated areas of all.

VGA, Visual Graph Analysis for Tate Britain, UK
(Space Syntax, 2002)

Figure 8. *Syntactic analysis, a visual / graphical representation*

Conclusion

The student works revealed two fundamentally different languages used by architects in their discussions about space.

1. The first method is to talk about space by focusing on the physical characteristics that can be easily captured or observed from outside: Here, space is described via formal or structural elements, their dimensions and characteristics, such as length, size, walls, surfaces, light, sound, etc. This discourse does not concern the people who inhabit the space. Space is thought to have a static character and its definition is concrete and easy to formalize. Numbers, words, visual and sound records are used to describe space. The architect knows how to describe and talk about these characteristics of space (Dursun, 2009).

2. The second method consists of talking about space by focusing on the logic of space that cannot be easily captured or observed from outside: Here, space is described by analyzing its relational elements and their social meanings such as man-environment relationship and movement in space. The aim is to discover the invisible characteristics of space and attempt to describe something that surpasses the physical characteristics of space. The main argument revolves around the man-environment relationship and the architectural potentials that a particular space provides. The provision of additional information about man-man and man-space relationships reveals both social and cultural characteristics, and the spatial rules believed to be hidden in that space. Here, space is dynamic and its definition is abstract and not easy to represent. Those who use this method rely on a variety of tools such as 3-D models, photos, words or texts, diagrams, sound recordings to describe this space. In this case the describer is mostly at a loss as how to describe and talk about these characteristics of space as s/he understands it.

In the experimental work with architectural students focusing on their conversations related to their living spaces, the students have described the space as a living domain. Their records emphasize the importance of man-space, man-man relationships in space by accepting space as a dynamic,

living organism. In design thinking the main effort should be made to explore new tools or ideas to map these mutual relations and clarify the spatial rules. Here, it is suggested that the approaches that students unconsciously employ are important elements of their design thinking and could be a base for new tools and language to conceive and talk about space.

Space Syntax is an attempt to constitute a configurational theory in architecture by generating a theoretical understanding of how people make and use spatial configuration. It is a scientific or research based approach for understanding and evaluating space (Dursun, 2007). Space Syntax intends to map man and space, man and man relations focusing on movement patterns in a mathematical and graphical base. At the same time it transforms them in to numbers and visual graphics. By this way it makes space measurable and appraisable. All data articulate social knowledge in space and put intangible, invisible, and logical characteristics of space into words.

In the dialogue between architect and designed space, space syntax presents a language for thinking and talking about space. This is a language that architects aren't familiar with using. It is more scientific, more mathematical (Dursun, 2007). By decoding, visualizing, and embodying social, logical, abstract characteristics and their implications in space, it is easier to make invisible, non-discursive characteristics discursive and to carry the space into a more extensive debate.

Certainly, space syntax is only one way of thinking and talking about space by focusing on the organization of spaces, movement patterns and their social meanings. If we hold that the architect is a person who has a comprehensive conception about human beings and inhabited space, his/her duty must be to be aware of different tools and knowledge resources that are valuable form them in his/her design thinking.

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Mekan üzerine diyalog: Mekansal kodlar ve mekanın dili

Mekan mimarinin özünü biçimler. Tasarım mekanın doğasında var olan özelikleri, farklı katmalarıyla, değişkenleriyle içindeki yaşamı çözümleyerek başlar. Mimarlar yapılı çevre ile iletilen mesajların farkına vararak, mekana ilişkin bir kavrayış geliştirir. Bu, mimarın çevresini kuşatan mekandan haberdar olma biçimidir. Bir başka deyişle mimarın mekana ilişkin kavrayışını şekillendiren, onu zenginleştiren ve mekansal deneyiminin biçimlemesine yardımcı olan bir keşif sürecidir. Kayıt edilmiş, toplanmış, yeniden yeniden üretilmiş deneyimler mimarın mekan bilgisinin özünü oluşturur. Bu tür bir farkındalıkla kurgulanan mekan bilgisi mimarlara tasarım sürecine istediği mekan kurgusuna ilişkin prensip ve kararları almada yol gösterici olur. Eğer tasarımı farklı bilgilerin ustaca bir araya getirildiği incelikli bir zihinsel süreç (Lawson, 2003) ve mekanı bu sürecin anahtar elemanı, bu tür bilginin kaynağı olan bir laboratuvar olarak kabul edersek şu kritik sorular karşımıza çıkmaktadır: Mimarlar mekanı nasıl kavrar, nasıl algılarlar? Mimarlar mekanı nasıl çözümler, nasıl anlarlar? Mimarlar mekan üzerine nasıl düşünür, nasıl konuşurlar?

Mimarlığın kendi söylemi içinde bir takım karşıtlıklarla beslendiği söylenebilir. Mimarlık bir bilim midir? Mimarlık bir sanat mıdır? Tasarım metodolojistlerinin, Alexander, Gregory ve Simon'ın çalışmalarına yansıttıkları gibi tasarım bilimden farklı mıdır? (Cross, 2001). Simon (1969)'ın şu ifadesi bugün geçerli midir?: "Doğal bilimler nesnelerin nasıl olduğuyla ilgilidir; öte yandan tasarım nesnelerin nasıl olması gerektiği ile." Tasarım Alexander (1964), Jones (1984), Archer (1984)'ın belirttiği gibi kuralların ve adımların belirgin olduğu rasyonel bir süreç midir, yoksa Lawson (2003)'un ortaya koyduğu gibi problem ve sonucun bir arada ortaya çıktığı bir süreç midir? Tasarım optimal sonuçlara ulaşmayı mı hedefler (Simon, 1969), yoksa tasarım yapma (Schön, 1987), deneyimleme, araştırma ve sorgulama ile ilgili midir? Mimarlık

bilgisi sezgiler, hisler ve deneyimler üzerine mi kurgulanmıştır, yoksa bu bilgi teori, bilim ve araştırma odaklı mıdır? Mimarlıkta kimi zaman iki düşün alanı bir arada var olur. Kimi zaman ise tasarım süreci bir yönde ilerler. Bu özellik tasarım pratiğini oldukça karmaşık bir aktiviteye dönüştürmektedir. Benzer bir tartışma mekan ve ona ilişkin dil üzerine de yapılabilir. Burada soru mimari anlamda bu dilin esasen mekanın fiziksel özelliklerine vurgu yapan kelimelerle mi, yoksa belirli bir mekanda var olan mantıksal yapıya vurgu yapan kelimelerle mi inşa edileceğidir. Bu dil mekanın biçimsel, somut, görünen, kolayca kavranabilir, üzerinde konuşulabilir, ölçülebilir özelliklerini dillendirmeye mi niyet edecektir, yoksa mekanın belirsiz, soyut, görünmeyen, kolayca kavranamayan, üzerinde konuşması zor özelliklerine mi seslenecektir? Bu dil sezgisel bileşenlerle, öznellik ve kişisellik ile mi ifade edilecektir, yoksa rasyonel bileşenlerle nesnel, evrensel bir strüktüre mi temellenecektir?

Bu çalışmanın amacı İstanbul Teknik Üniversitesi Mimarlık Fakültesi'nde verilmekte olan "Mimarlıkta Morfoloji" seçme dersi kapsamında yaratılan, mekan odaklı bu sorunsalların öğrencilerle birlikte irdelendiği tartışma platformuna ilişkin kayıtları gözler önüne sermektir. Bu bağlamda ilk ders, bilgi verilmeksizin öğrencilerden kendi birikimlerini kullanarak yaşadıkları mekanı anlatmaları, bu mekanı tarif etmeleri istenmiştir. Aynı zamanda zihinsel süreçlerini kayıt etmeleri ve kullandıkları dilin karakteristik özelliklerini belirlemeleri beklenmiştir. Amaç tartışma sürecinde öğrencilerin mekanı anlatmada kullandıkları dili strüktüre edebilmek, tasarımcıların düşünme süreçlerini soyut formlardan somut ifadelere dönüştürmenin nasıl mümkün olabileceğini irdeleyebilmektir. Çalışmanın son bölümü bilimsel, matematiksel, analitik bir araç olarak mekan sentaksının mekan üzerine düşünmede ve mekanı dillendirmedeki katkısı üzerine odaklanır. Bu bölümde söz konusu yaklaşımın mekanın görünmeyen özeliklerini görünür yapmada, mimarlara mekan üzerine deşifre edici, araştırıcı, keşfedici, öğretici bir araç sunmada sahip olduğu potansiyeller değerlendirilmeye çalışılmaktadır. Tartışmalara veri olan kayıtlar 2007-2008 ve 2008-2009 akademik yıllarında derse katılan öğrencilere aittir.