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ICONARP as an e-journal considers original articles, research briefs, book reviews and viewpoints in peer-reviewed. ICONARP is an exciting new venture occurred with experiences, theoretical approaches, critical and empirical studies in the field of architecture and planning.

SCOPE and AIM

The journal aims to be a platform for the studies of design, education and application and has a goal to be a bridge in between traditional/modern, east/west, local/global in the disciplines of Architecture / Planning.

Architecture and Planning, as two interconnected fields, are strongly affected by other disciplines such as fine art, urban design, philosophy, engineering, geography, economics, politics, sociology, history, psychology, geology, information technology, ecology, law, security and management. However, there are no academic journals which specifically focus on the connections of architecture and planning with other social fields. **ICONARP** aims to fill that gap. Our scope is to provide a suitable space for theoretical, methodological and empirical papers, which use global and local perspectives together, in architectural and urban studies.

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EDITORIAL

ICONARP began its broadcast life as peer-reviewed faculty journal in the field of international architecture and planning and now it is the seventh issue.

ICONARP is continuing its growing process with this new issue.

The eighth issue will be published in December and we wait for your contributions with your scientific studies until September 15th 2016

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A Picturesque View to Able-Bodied Persons in the City and the Stigma of Disability

Erkan Polat

Abstract

Today, in Turkey, the percent of the disabled is %12. Thus, there are 10 million disabled people and when you take the disabled into account with their families half of the Turkish society is affected directly from disability. In addition to that, if we take elders, pregnant, children, obsesses and very tall or short persons who suffer from a kind of temporary or permanent disability into account, we face an incredible situation. These people in city who are limited in terms of motion feel the necessity of design approaches which minimize physical and spatial hindrances in order to travel and wander around in a safe way in places. In addition to the accessibility of the physical environment by the disabled, environmental factors being the cause of disability is quite significant in terms of urban spaces. In this paper, what cities of Turkey, urban planning and design offer to the disabled and what they do not is

Keywords:
Accessibility, disability, cities of Turkey, universal design, barrier-free.

Assoc. Prof. Dr. Erkan POLAT

being investigated, in particular and in general, what is attainable by the help of a universal and inclusive design and universal and inclusive planning to reach a universal, accessible, livable, usable, fair and inclusive city.

INTRODUCTION

Today's cities which keep all kinds of variations and colored views-identities and where facilities of technology are widely used have each to become contemporary market places. These cities which are in this respect sold to their inhabitants cannot satisfy their needs in a broader sense. Though the customer is always right, some customers are often 'right-less': The disabled, the old, the child, the pregnant, the obese etc.

In fact, these people who have equal ‘rights’ and ‘(un)luck’ at birth cannot keep up with the urban competition or become the last or can never enter the competition as time passes by in cities where there are so-called utterances in favor of equality. However, these utterances never reflect the reality. Utterances which are in favor of equality and freedom in terms of human and townsmen rights seem for everybody, in fact, they are only for ‘standard’. Naturally, the disabled live in cities and places which are disabled and full of barriers despite a growing number of advances (Polat, 2002).

An accessible built environment is a key for a society based on equal rights, and provides its citizens with autonomy and the means to pursue an active social and economic life. For an individual to enjoy his/her rights as a citizen, he/she should be able to access buildings, premises and other facilities: an accessible environment means that a person will be able to seek employment, receive education and training, and pursue an active social and economic life.

Urban built environment displays a stretch from the inside places of buildings to the urban outdoor ones and even to the nature in the peripheries of the city. The perfect functioning of all these places in the city depends on the design of it as an accessible, usable, livable, universal place and on the fact that everybody should use it on equal terms and on one’s own. In this respect, urban furniture should be for appropriate for the use of the disabled as well as all the functional areas and buildings such as housing areas, working areas, urban social and cultural infrastructures, public areas, education, health and sports areas, shopping areas, entertainment and relaxation areas and holiday places, open and green areas, transportation areas and means of transport within and between cities, roads, pavements, and passages.

THE GEOGRAPHY OF THE DISABILITY

Being disable is both a cause and a result. Factors, particularly like poverty, inadequacy of the standards of education and health define handicap in terms of both a result and a cause in a recycled way. That is to say, you can be a disabled person as a result of poverty and poor as a result of handicap.

Handicap / Impairment: Having serious using part of your body or mind fully because of injury or damage (WHO, 1980).

Disability: the process of the exclusion of the handicapped or the impaired (Porter, 2002).

However, in a dictionary disability is defined as handicap, deficiency, defectiveness or imperfection and the disabled are explained as handicapped, impaired or imperfect people (TDK, 1983). According to TSE (Standards Institute of Turkish): Disability is the limitation or loss in the use of the functions of the body (TSE, 1991).

According to another definition 'disability' is a handicap which has an effect on the normal growth, improvement or adaptation to life temporarily or permanently. However, though handicap is defined as imperfection in function or a deviation from the norm it does not always have an effect on the individual's normal life. We should take into account normal functions when a disability appears. Therefore, any imperfection which hinders any ability which requires motion can be the result of impairment. If the individual cannot develop a defense mechanism which will overcome this impairment becomes a disability (Bilir, 1984).

According to The United Nations (1994), disability is defined as a number of different physical limitations but disability is limitation or loss in motion of the individual when compared with other members in the society (UN, 1994). However it may appear, this imperfection or anomaly has always been viewed as a human defect which hinders the attainment of the norm. As a matter of fact, an individual who lacks bodily or psychological entirety temporarily or permanently due to birth or old age is 'disabled' and a person whose competence is not enough to match the requirements of the environment he lives in is a 'disabled person'.

Handicap has become a widely used utterance in most countries recently. This is why the causes of disability, its occurrence and typology draw different perspectives. In developing countries like our country and South Africa, questions to be asked to determine disability have recently been included in the census. There are other studies to collect data with different purposes (working proportions, voters etc.) in

other countries. There are also differences among countries in terms of the definition of the disability (Gleeson, 1999).

NON-USERS AND USERS OF THE CITY

The physical environment is, both in theory and practice, a continuity of space. Therefore, barrier-free or universal design means giving users the possibility to use the space in a continuous process - to be able to move around without limitation.

The built environment could be defined as a transformation of the natural environment into a new shape, generally. At the same time, as space is changed physically by human beings, it is normally divided and categorized along new artificial dimensions such as "public", "private" and "functional". The right to use space and the possibility of using space, which is termed accessibility, is restricted, not only by physical barriers, but also by a complex of cultural, social and economic rules.

When discussing a barrier-free society, this basic consideration of space as continuity is often forgotten or neglected. Evidence of this is found in the manner that legislation for accessibility is introduced in most countries. Normally a step-by-step policy is used. Step-by-step policies always seem to start from administrative, economic or technical divisions of space, such as between "private" and "public" space, housing and public buildings, buildings and street environment, as well as between buildings and transport. This way of thinking results in the erection of barriers to full accessibility or free movement. Unless those barriers are eliminated, the disabled will not be able to participate fully and avail themselves equally of the opportunities that exist in society.

The creation of a building or a space is always preceded by some kind of planning, design and decision-making. In industrialized societies, this process of planning and decision-making is regulated by legislation and praxis, that is, custom. The process is accomplished by professionals and overseen by authorities. Normally, in theory at least, this process is under democratic control, following laws, codes and standards. In these countries where the administrative structure is weak, the planning and building process is informal and more open to individual wants and means. This occurs even if the central or local government has adopted legislation, complemented by by-laws and standards.

The owners of each and every part of the city, all the places and buildings are the townspeople. Can users of the city who make it existent by their existence, who live different spatial phenomenon in different times and make them lived, today

really use the cities and urban places having equal rights and in a meaningful way?

There are differences in the profiles of these users who use urban places in terms of sex, age and physical or bodily structure. When there is a categorization in terms of sex, male and female users are mentioned. When there is a categorization in terms of age there are the children, the young, the adults and the old users. It is possible to put users into two groups as the 'abled' and 'disabled' when there is a categorization in terms of bodily structure. The 'Abled' users are a general category and it also includes sex and age categories whereas disabled users have more subcategories. With respect to abled users there are also short term and long term users, thin and fat users, fast and slow users and healthy and unhealthy ones. Disabled users can also be called 'handicapped users'. With this point of view, the disabled, the pregnant, the old, the obese or the thin and people who carry loads, in general people who are restricted in terms of motion can be put in this category.

Some sociological or socioeconomic conditions like racial discrimination, social and economic positions do not have a great effect on the diversity of the users. At this point 'the process of the rights' starts from the qualification of users as 'human beings' and goes up to 'citizen'. So we can talk about a wide issue covering points from human rights (HR) to the rights of the disabled (DR), pedestrian rights (PR) to citizen rights (CR) (Figure 1).

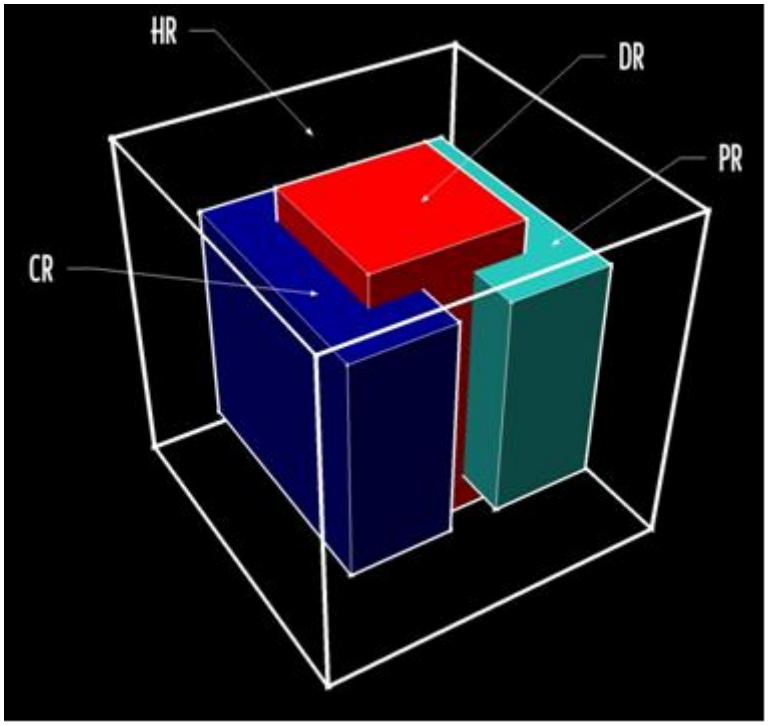

Figure 1. All-togetherness of rights.

The disabled users are a 'visible minority' in cities or urban places and they cannot use their rights in a fair way but in

fact they are the 'invisible majority'. Even we are in the first quarter of the 21st century, especially in developing countries like Turkey; there is not the realization of accessible, livable, usable on one's own space design and planning approaches. That is why, apart from the disabled users the handicapped users cannot use urban places and thus they cannot be visible in cities as a whole. Especially families with bodily or mentally disabled individuals do not or cannot send their children to school a little due to the lack of education or economic conditions and naturally these individuals are left in a position where they cannot become independent individuals and have to live dependently. If this individual is a daughter, she has fewer opportunities.

FROM UNIVERSAL AND INCLUSIVE DESIGN TO UNIVERSAL AND INCLUSIVE PLANNING

From the view of this point, universal design approach is mainly used for defining of spatial needs on the architectural or built environments. This system that will be used until a definite scale on the urban design level is not properly used for urban planning. However, if the process from the universal design to universal planning can be defined truly, it will attain to a city that on all scales and for everyone; in other words, from barrier-free spaces to universal cities.

However, whatever the scale and complexity of the concept, the design and planning control objectives are universal. So, a realistic and achievable goal here is the successful delivery of inclusive environments. Universal and inclusive spaces are the concern of everyone involved in the development and planning process, including:

- Users and members of the public, particularly disabled people, older people, women, children, parents, careers and anyone disadvantaged through poor design.
- Planning officers at development control and policy level;
- Planning inspectors;
- Councilors;
- Developers;
- Architects and designers;
- Building control officers and approved inspectors;
- Occupiers;
- Investors;
- Access officers;
- Highways officers;
- English Heritage;
- The statutory fire authorities.

On this point, all decisions and applications in the design, planning and development process should recognize the benefits of all actors and endeavor to bring about universal and inclusive design.

Universal design is the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design (Mace, 1997). The intent of universal design is to simplify life for everyone by making products, communications, and the built environment more usable by as many people as possible at little or no extra cost. Universal design benefits not only for the disabled but also for people of all ages and abilities. There are seven principles (The Center for Universal Design, 2006; Preiser and Smith, 2011; Null, 2014):

1. Equitable Use: The design is useful and marketable to people with diverse abilities.

- Provide the same means of use for all users: identical whenever possible; equivalent when not.
- Avoid segregating or stigmatizing any users.
- Provisions for privacy, security, and safety should be equally available to all users.
- Make the design appealing to all users.

2. Flexibility in Use: The design accommodates a wide range of individual preferences and abilities.

- Provide choice in methods of use.
- Accommodate right- or left-handed access and use.
- Facilitate the user's accuracy and precision.
- Provide adaptability to the user's pace.

3. Simple and Intuitive Use: Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.

- Eliminate unnecessary complexity.
- Be consistent with user expectations and intuition.
- Accommodate a wide range of literacy and language skills.
- Arrange information consistent with its importance.
- Provide effective prompting and feedback during and after task completion.

4. Perceptible Information: The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.

- Use different modes (pictorial, verbal, tactile) for redundant presentation of essential information.

- Provide adequate contrast between essential information and its surroundings.
- Maximize "legibility" of essential information.
- Differentiate elements in ways that can be described (i.e., make it easy to give instructions or directions).
- Provide compatibility with a variety of techniques or devices used by people with sensory limitations.

5. Tolerance for Error: The design minimizes hazards and the adverse consequences of accidental or unintended actions.

- Arrange elements to minimize hazards and errors: most used elements, most accessible; hazardous elements eliminated, isolated, or shielded.
- Provide warnings of hazards and errors.
- Provide fail safe features.
- Discourage unconscious action in tasks that require vigilance.

6. Low Physical Effort: The design can be used efficiently and comfortably and with a minimum of fatigue.

- Allow user to maintain a neutral body position.
- Use reasonable operating forces.
- Minimize repetitive actions.
- Minimize sustained physical effort

7. Size and Space for Approach and Use: Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility.

- Provide a clear line of sight to important elements for any seated or standing user.
- Make reach to all components comfortable for any seated or standing user.
- Accommodate variations in hand and grip size.
- Provide adequate space for the use of assistive devices or personal assistance.

A barrier-free space or city is one that successfully strives to prevent and remove all obstacles in order to promote equal opportunity and participation by citizens and visitors with disabilities. On this meaning, barriers may include:

- Physical barriers, such as stairs, uneven pavements or narrow pathways;
- Architectural barriers;
- Information or communication barriers, such as a publication that is not available in large print;
- Attitudinal barriers, such as assuming that a person with a disability cannot perform a certain task;
- Technological barriers, such as traffic signals that change too quickly or meeting rooms without assistive listening systems for persons with hearing disabilities; and

- Barriers created by policy or practices, such as not offering different ways to complete a test as part of a job interview.

Universal design creates environments that respond to the needs of the population to the greatest extent possible. It is an evolution from accessible or barrier-free design to one that is even more inclusive. While barrier-free design refers to specific solutions for specific disabilities, universal design acknowledges that people come in various sizes and have various strengths and abilities (City of Winnipeg, 2001).

When you look from the urban point of view you can see that barriers become more different and they are more related to accessibility and mobility (Figure 2):

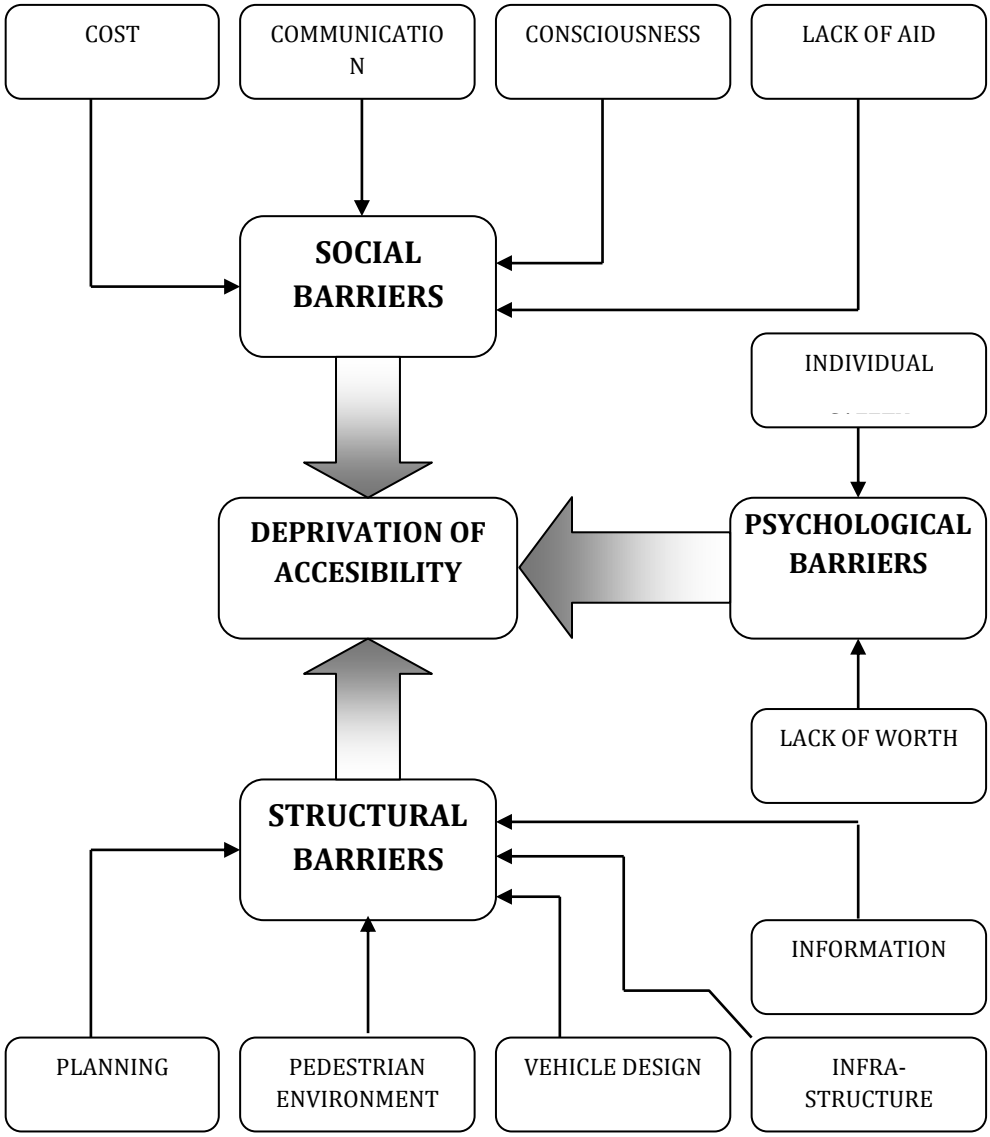

Figure 2. Barriers which have an effect on accessibility in urban places.

At this point, it appears important that the level which is attained by universal and inclusive design when you move from

spatial scales to urban scales should be attained in a universal and inclusive way in terms of planning. When this is achieved, accessibility from one's room to all the buildings and places of the city will be ensured.

In this respect, legal and political regulations are more important than physical or spatial arrangements and thus planning and decision making are critically important processes.

In reality, the differences among countries are less and the true situation more complex. In most countries, the legal prerequisites for the planning process differ, for example, between urban and rural areas, and between state-owned and private-owned buildings. The planning and decision-making process concerning building may be viewed as an area wherein institutionalized and informal interests struggle for their positions.

Planning, design and building may be viewed as integral stages in a continuous decision-making process. When the physical environment is created and in use, the production stage changes into one of management and maintenance. Accessibility is dependent on each stage of this development.

Good guidelines are necessary tools for the creation of accessible environments. Many existing documents have an uncertain quality and limited scope. An important weakness of most handbooks is that they are restricted to certain disability groups.

In many developing countries, the necessary professional, land and economic resources have not yet been allocated to support research and development work in this field. An increase in interregional, regional and sub-regional exchanges of experiences in this field is recommended. Of certain value is the development of research methods applicable to a variety of national and local conditions. Studies of access issues in rural areas are important and remain to be undertaken. Research to obtain feedback from users is also required. In this regard, the experiences of persons with disabilities and their organizations need to be channeled back to planners. Differences in cultural and economic prerequisites must be taken into consideration.

Planning and design processes in most countries are governed by a series of administrative instruments. Normally, these instruments can named:

- Regional or sub-regional plans;
- Master plans;
- Town/urban plans;
- Building permission documents; and
- Construction documents.

CONCLUSION

In spite of significant political and regulative changes providing people with disabilities greater independence and opportunities for greater participation in Turkey cities. Changes in public attitude and regulative improvements about disability have followed at a slow pace in response. Disability plays a role in how people view and treat each other in society and city.

Self-control, free will, individual responsibility and expects values coupled with ignorance have led to a public view of disability as a sign of character flaw-whether of the person or of the family. Erroneous views create prejudicial attitudes, which often result in exclusion of the individual by the community (or even by the family).

Shame, fear, insensitivity, bias and guilt are basic stigmatic contributors of disability. A stigma becomes attached to the individual or the entire family, while at the same time elevating temporarily able-bodied persons (at least in their own mind) allowing them to justify rejecting, neglecting, or even eliminating the disabled.

So, it's necessary to answer of "what are some core societal beliefs about disability?" question. Based as they are on misinformation, these attitudes about disability and the disabled reflect fear, embarrassment, guilt, anger, prejudice, or lack of caring. These lead to equating disability with something negative or wrong-a valuation which easily attaches to the individual. So that the disabled person is seen as negative, diseased, incomplete, unworthy of living, or someone to be ignored or discarded.

Is being different than you mean we are disposable? This is not to suggest a nationwide effort of "disability profiling". But disabled people are not considered a minority class or part of a recognized community. They can too easily become "The Others".

A principal element of subjugation of a minority group is the assumption of biological inferiority by the majority. The physical, mental & behavioral differences of people with disabilities have perpetuated the perception of subordinate status. For these people disrespect is common, tolerance of it varies, true understanding and acceptance are uncommon outside of personal or family experience.

We also have our own identity issues. For example, some of us don't acknowledge or identify themselves as disabled. They view themselves as a separate culture or another group's member. Others "declare" their status in a political manner and refer to themselves as disabled persons.

In this view, it is the environment and society that create the condition of disability. To change this external limitation is to

confront that system of control-similar to the Women's Rights, La Raza, and other racial movements. The largest segments of this group look at themselves as a person with a disability. This "person first" language stresses the individual value & humanity of each individual who happens to also have a condition/s creating functional limitations in certain environments and situations.

Disability stereotypes and public mythology notwithstanding, in nearly all situations, for real people living with disability it is not something you overcome, change, or cure. It is managed by many coping and compensatory strategies. Consider the balancing act necessary to be a part of the community rather than be apart from it.

Today, to be a disabled person in Turkey is a challenge for most people. They are not superheroes for finding ways to do what other people take for granted. If disability were a country on world it would be the 3rd largest behind China and India with 750 million people. And if disability were a city in Turkey it would be the largest behind Istanbul with about 10 million people.

And whatever differences may be about the nature and experience of being disabled in Turkey, there is growing recognition that values and desires for quality of life and fair treatment are unifying forces for change. This change seeking to create and live in is a post-disabled world, city and all related spaces.

Where we are viewed as whole human beings, not human beings with holes in them, we invite you to help build a world that will solve for others what we have struggled with so much ourselves. It's time a way to get involved and contribute to the universal dialogue about being disabled in the city.

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The Implementation of Sustainable Approaches in the Architectural Design Studio Developing Architectural Designs Using the Solar Envelope Method

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Abstract

Teaching students the notion of sustainability during their architectural education is of great importance. The architectural design studio course is the most important environment in which theory and practice can be brought together. In this study, the development of architectural design by using the solar envelope method–which can be considered

Keywords:
Solar Envelope, Architectural Designs, Studio

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within the scope of sustainable architecture–was examined in the architectural design studio course in the department of architecture in our university. In the design studio, students had the opportunity to directly observe the impact and use of scientific information that is often difficult to obtain and access. The advantages and disadvantages that appear during the application of this mentioned method was identified based on the observations that were made, and feedback was provided by the students. This method helped the students in conceiving architectural projects in the context of sustainability in a more applied way rather than as a superficial and solely theoretic concept. Through this method, students have gained additional sensitivity regarding solar architecture and perceived its effect on form and space. According to the feedback obtained from students, the most important disadvantage was design freedom. Students found it stringent to be bound to make their designs within very well established boundaries from the early stages. The authors think that the limitations increased creativity and allowed interesting and unusual solutions. The projects were all formed on the basis of the rhythm of nature, which attached more value and meaning to architecture.

INTRODUCTION

It is an undeniable fact that the construction sector, and hence architecture, plays an important role in the environmental problems that the world is facing nowadays. Sustainability in architecture is of vital importance for the future. The construction sector, where architects are the primary actors, plays an important role in the production of harmful waste materials and extensive energy consumption. In other words, architecture can be an influential tool in introducing sustainability as an important value for society. Architectural and urban spaces in which people maintain their lives have the power to encourage sustainable approaches and ways of living to be accepted by the whole society. Ensuring that sustainable become more widespread in architectural practices depends on the legal regulations, the policies of local administrations and the education provided in architecture schools.

The ability of architects to be able to develop a sustainable design depends on the knowledge they received during their education and their level of experience. The schools of architecture in a variety of countries are making various efforts to ensure they graduate architects who are informed and sensible about sustainability (Wright 2003; De Herde & Dartevelle 2010; Lefèvre & D'Orazio 2010; Yannas 2010; Zeiny 2012; Dimitrova 2014). It was also seen that in the schools of

architecture in Turkey, the courses regarding sustainability have considerably increased, especially in the last decade (Yüksek 2013). However, what is most important is to use the information given in these courses in architectural design studios which comprise the backbone of architecture education. The young future architects should indeed experience "sustainable architectural design" during their education, especially in architectural design studios, in order to internalize these concepts.

Sustainable architectural principles that are accepted at a global scale and in Turkey constitute the subject of many of the courses provided to students in the department of architecture in Selçuk University. However, knowledge about sustainable architecture is generally shared with students within the context of theoretical elective courses. There is a degree of uncertainty on how this knowledge is shared in applied courses involving architectural design studies. The most important issue to bear in mind is how well the information regarding sustainability can be integrated into architectural design projects. In order to be able to begin applying the information regarding sustainability in a more practical way, a number of problems should be resolved in how architecture education is provided, especially in architectural design studios. These problems can be generally classified as follows:

- Failure to integrate theoretical information regarding sustainability into the architectural design process:

Theoretical information regarding sustainability cannot be internalized by students throughout the design process (Khan et al. 2013). For instance, in case an energy-conscious design is sought, the "energy" concept should be integrated in the design process from the initial stages onwards (Maciel et al. 2007). However, the energy related issues are generally perceived as a problem that should be left to a mechanical engineer who will be a part of the process only at the end of the design.

- Difficulties in wholly grasping technical information and effectively applying them in architectural design:

Certain technical information, which is mostly engineering-related and is not necessarily a part of the architecture education curriculum, might be quite difficult for the students to learn by themselves. For this reason, this information does not guide or shape the spatial design process. For instance, the transfer of basic climatic input data that can

have a great impact on the energy consumption of the buildings, as well as thermal comfort levels of the residents, such as wind, humidity and exposure to solar radiation in the architectural design is either very superficial, or completely absent. This type of scientific information should be correctly "translated" so that they can be used in the architectural design process (Lenzholzer & Brown 2013).

- Failure to transfer knowledge learned in theoretical courses into the architectural design process:

In our department of architecture as in many schools of architecture, the knowledge obtained from such courses are not well used in architectural projects. As a result of this, it becomes difficult to obtain sufficient experience in integrating sustainability principles into the architectural design process (Mohammad Taleghani et al. 2011).

- Space and form being excluded from the goals of sustainability:

Space and form are tangible results of an architectural product. Today, under the prevailing conditions in Turkey, architecture is interpreted as a means to show-off by certain groups of people and the difference is sought in the sensation that the forms can result in. This formalistic approach can also be observed in academia, students can easily fall under the influence of this way of thinking (Canan et al. 2006).

Unfortunately, this emphasis causes them to overlook the passive energy gain and energy loss potential of architectrual form . In fact, form has a direct impact on energy consumption of buildings (Granadeiro et al. 2013; Çakmak Yılmaz 2015). Nature has also an important role in the formation of architectural forms (Forwood 1994).

In order to be able to overcome the abovementioned problems, more than the conventional architectural design approaches is needed in the schools of architecture. The instructors have a great responsibility in bringing new teaching methods into practice and in utilizing and combining their own experiences and backgrounds in order to provide a vision of sustainability to the students. In order to accomplish this, an attempt was made within the content of "Architectural Design Studio 4", which is a third year undergraduate course in the department of architecture in Selçuk University. The students were asked to use the solar envelope method developed by

Knowles (Knowles 1981). The solar envelope is a method that can be used within the framework of sustainable architectural design and energy-efficient design.

The aims of this study can be listed as follows:

1- Teaching the solar envelope method to the students. Making sure that scientific knowledge that might seem time-consuming to learn is combined with practice.

2- Determining the effect of the sun on the architectural design. Providing new and relevant experience to the students.

3- Examining the effects of a method that is attempted for the first time in a design studio, determining its advantageous and disadvantageous impacts on the architectural design process and identifying important points.

METHODOLOGY

The methodology that the students should focus on their project was clearly defined in the first weeks of the course. The studio instructors supervising the studio workload gave a detailed lecture on the solar envelope method within the content of the course. The theory of this method, similar methods that were previously used, books, theses, and up-to-date studies were introduced to the students (Cotton 1996; Siret 1997; Littlefair 1998; Pereira et al. 2001; Capeluto 2003; Knowles 2003; Topaloğlu 2003; Siret & Harzallah 2006; Canan 2008; Morello and Ratti 2009; Raboudi et al. 2012; Paramitaa and Koerniawan 2013).

Solar envelope concept:

Knowles describes the solar envelope as follows: "The solar envelope is a construct of space and time: the physical boundaries of surrounding properties and the period of their assured access to sunshine" (Knowles, 2003). The book by Knowles R. L. entitled, "Sun Rhythm Form" provides all details about the principles of the solar envelope method (Knowles, 1981).

The "Solar Envelope" is defined as the boundaries of a construction volume that do not cast shadow on the neighboring buildings located in its close vicinity over a certain time span (Houpert, 2003). The "Solar Envelope" defines the insolation principles in buildings and in the urban fabric (Noble & Kensek, 1998). Another definition, on the other hand, says that the solar envelope is a space, in which all design solutions are possible and

formed in consideration of optimizing solar radiation and considering how it casts shadow on the close environment (Capeluto & Shaviv, 2001). A building designed within the boundaries of a solar envelope will not cast shadows on neighboring buildings located in the vicinity and therefore will not obstruct the insolation potential. The dynamic nature of the sun whose position varies based on time and the seasons, can directly influence architectural and urban forms (Capeluto et al., 2006).

Solar envelope production:

Stages of solar envelope production:

In order to produce a solar envelope, the basic parameters of space and time should be well defined:

1-Space Factor: This is the base area of solar envelope. It is defined as the boundaries of the area in which the shadows extend from all directions.

2-Time Factor: The time parameter is defined as the time interval in which insolation is desired.

(Table 1) Shows the production of a solar envelope for winter (December 21, between 10:00 AM and 2:00 PM) on a selected area located in the city of Konya at 37.5° north latitude. The elevation angle of the sun at 10:00 AM and 2:00 PM is 22.5°. The azimuth angle is ∝=30° (at 10.00 AM) and ∝=-30° (at 2:00 PM). Each stage of solar envelope production is shown in 3D.

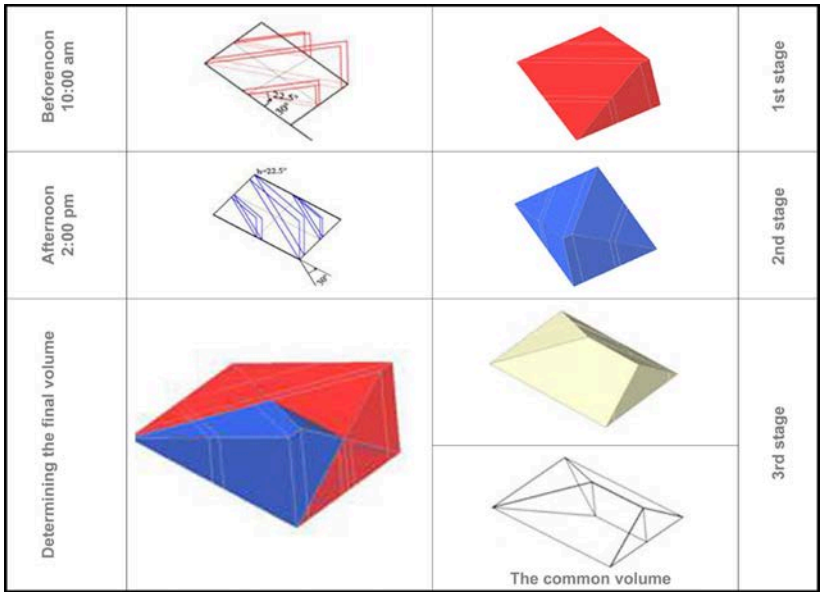

Table 1. The stages of solar envelope production

Students' studies on the production of solar envelopes:

In order to ensure that the solar envelope method was thoroughly understood by the students, a series of workshops were organized within the framework of the studio course. In the first of these workshops, students produced solar envelope models using a variety of paper and cardboard (Figure 2). For this aim, the student first formed imaginary plots on a base for the city of Konya. They then produced solar envelope models on these areas of different sizes. In the models, the latitude of Konya on December 21 was considered and the coordinates of the sun at 10:00 AM and 2:00 PM were used. Different colors were used to easily perceive solar envelopes produced for different time-slots in one day. It was still a good course exercise, which provided rapid, concrete and effective learning.

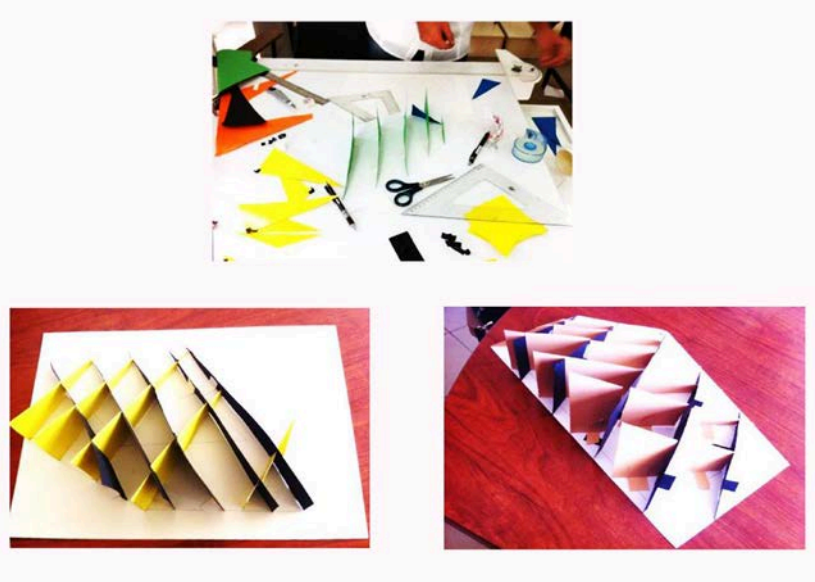

Figure 2. Solar envelope models produced using paper and cardboard

The second workshop of the series aimed to easily produce "solar envelopes" with the three-dimensional working interface of AutoCAD software. The solar envelopes produced for the time before noon and afternoon can be very different from each other, especially in areas with amorphous geometries, resulting in quite unusual volumetric characteristics. This workshop experience showed how difficult it is to find the common volume using two different amorphous volumes without using any software providing three-dimensional working facilities.

Integrating the solar envelope method into the architectural design process:

The methods used in architectural design processes can be said to generally follow a cyclic path rather than a linear one.

In order to come to a conclusion, continuous feedback from previous steps is needed. In this dynamic process, the decision is almost always made using a trial and error approach. In the relevant literature, this type of approach is called a direct problem solving approach (Houper, 2003). The insolation problems in the architectural design process are considered very difficult to solve with a direct problem solving method because it is time-consuming (Siret and Houpert, 2004).

The solar envelope method is somehow different in the way it directs the design. It's possible to say that architectural design processes in which the solar envelope method is used are examples of deduction. On the other hand, one can also define the solar envelope method as an inverse problem solving or reverse logic approach. The desired conditions are defined at an early stage (Houpert, 2003). It is requested that the object (architectural form, urban fabric, or any other design product) is shaped on the basis of the intentions (Perrin, 2004).

In the architectural design studio, the solar envelope method was included in the dynamic design processes, with which the students are familiar. The solar envelope method was influential at every stage of the design, and the method was made an intrinsic part of the design process to the greatest extent possible. It was ensured that the students were be assigned a project allowing a flexible working atmosphere so that they were not pushed too far and their productivity was not discouraged.

EVALUATION AND DISCUSSION OF THE DEVELOPED PROJECTS

Common approaches and problems observed:

At the beginning of the term, the students were assigned different areas located in different parts of the city of Konya. The positioning of the areas within the urban fabric, their geometry, surface area and environmental features were all different from one another. The students were expected to make designs including residential, commercial areas and to define their own architectural program (approximately 70% as residential areas and 30% as commercial areas).

From the early stages of the design process, the issue that was most innovative and challenged the students was to abandon the two-dimensional plan schemes commonly used. It was a necessity to think in 3 dimensions.

The first sketching phase and initial proposals regarding the general layout plan needed to be carefully studied. As a result of this, it was elaborated with utmost attention where to place open spaces and buildings. They could see especially in the general layout plan decisions that placing buildings too close to each other might result in a loss of construction volume.

Generally students attempted to obtain the largest building volumes in order to be more flexible in the later stages of the design. This concern of obtaining the maximum volume became especially noticeable when the aim became to fit as many buildings as possible into the area. The students were not able to determine the height and volumes of the buildings as they wished.

In addition to these, the majority of the proposed projects made an attempt to integrate the new design with the urban fabric. Students reflected well on the design approaches to prevent social isolation, which is one of the main goals of sustainable cities. Social and functional mixity were important keywords on the design process.

After established their general layout plans, students began to work on the solutions of the internal problems on a limited space. They cut the obtained volumes horizontally and created planes corresponding to different floors. It was observed that the formation of vertical circulation core providing access to residential units at each floor (stairs enclosures and elevators) was one of the biggest design problems that the students faced in the entire studio process. In the mass produced by using solar envelopes; the slab surface area of each floor gradually decreases with height and the vertical circulation core should be positioned by taking this effect into consideration.

As the number of floors decreased in buildings towards the north, it was considered suitable to not provide access to buildings in this direction. Access to the buildings at higher floors was more or less from the southern direction. This is a good design decision because the prevailing wind direction in Konya is north.

Due to the upward gradual decrease in surface areas, different plan layouts were required on the highest floors. In order to overcome this design problem, students had to produce unconventional solutions and therefore new planning schemes outside of the typical residential plan types were pursued. Terraces that were formed due to the gradual form of the buildings allowed for the use of green roofs and edible landscape.

Although the seasons where heating is needed became somewhat important for the design, in the proposed designs, the summertime comfort conditions were also attempted to be satisfied. Students proposed the use of mobile or fixed solar breakers in order to ensure summertime comfort.

Examination of some selected student projects:

In the project developed by Abdülhamid İçöz on area no. 1, a total of three buildings were fit in the area. Different stages of obtaining building volumes using solar envelopes are shown

in (Figure 3). The building block located at the northern tip of the area is composed of commercial and residential functions. There is a small inner valley in the building form obtained by using solar envelope method. The building is composed of gradual terraces that faced each other, and has a mixt function. The ground, first, second and third floors are composed of commercial spaces. On the fourth and fifth floors, there are studios and other apartments. On the higher floors, where the surface areas decreased due to solar envelope, duplex apartments were designed. Two blocks located in the south have a solely residential function.

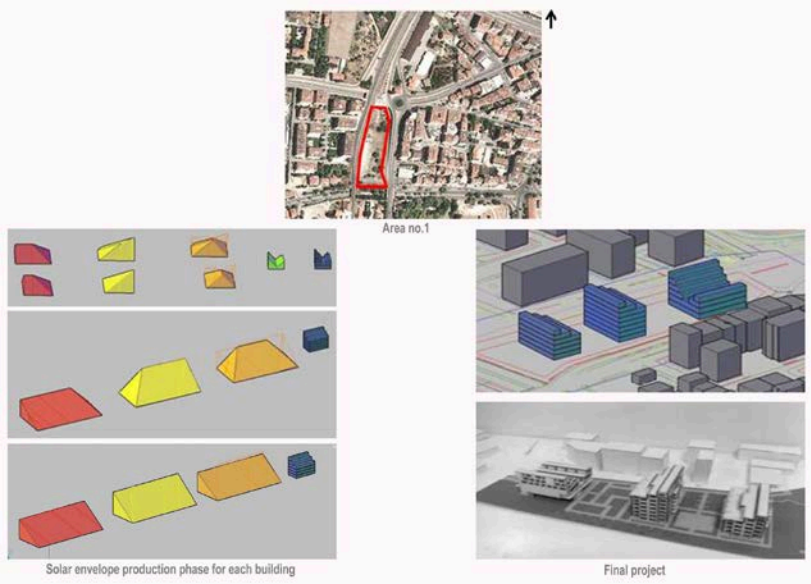

Figure 3. The project developed by Abdülhamid İçöz

The project developed by Ali Rıza Kapkap on area no. 2: the site is located in an urban redevelopment area. Therefore, it was an interesting architectural design attempt with the use of the solar envelope method, as redevelopment areas are generally formed with financial concerns.

The project is composed of a residential building and a commercial block located nearby. Although this area is wider than the area no. 1, the student took no chances and designed fewer buildings (Figure 4). The design included a car park and a supermarket on the ground floor of the residential building, which has access from two different directions (north and south). The apartments are accessed via long hallways. The stores located in the commercial building were not designed to be exposed to direct sunlight. Therefore, the commercial block was not taken into consideration while producing the solar envelope to obtain the volume of the residential building.

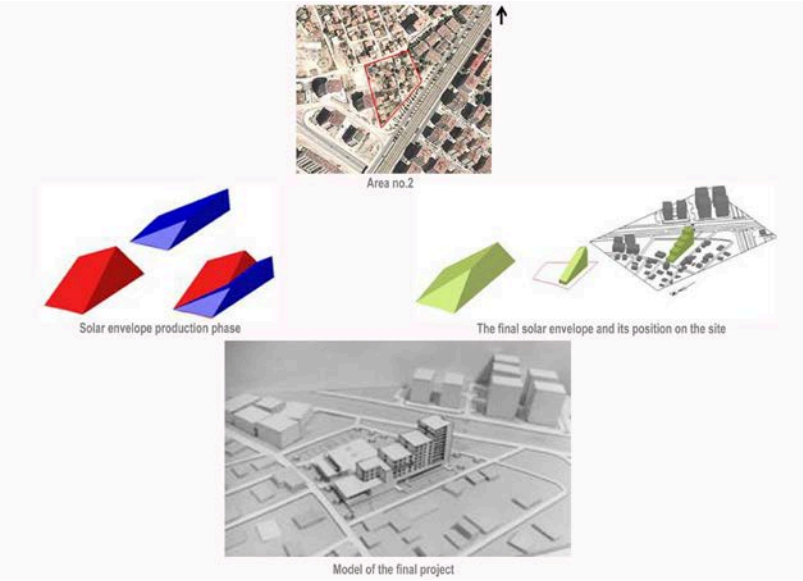

Figure 4. The project developed by Ali Rıza Kapkap

The project of Abdullah Selçuk in area no. 3: The area is located in an urban zone in transformation. One of the most remarkable features of this project is the square centrally located that contributed to create a public space. There are three buildings surrounding this public square (Figure 5). At the ground floors of the buildings, there are social and commercial facilities such as shops, restaurants and cafes (Figure 6). In the south part of the area, open spaces with landscape arrangements are organized for public use.

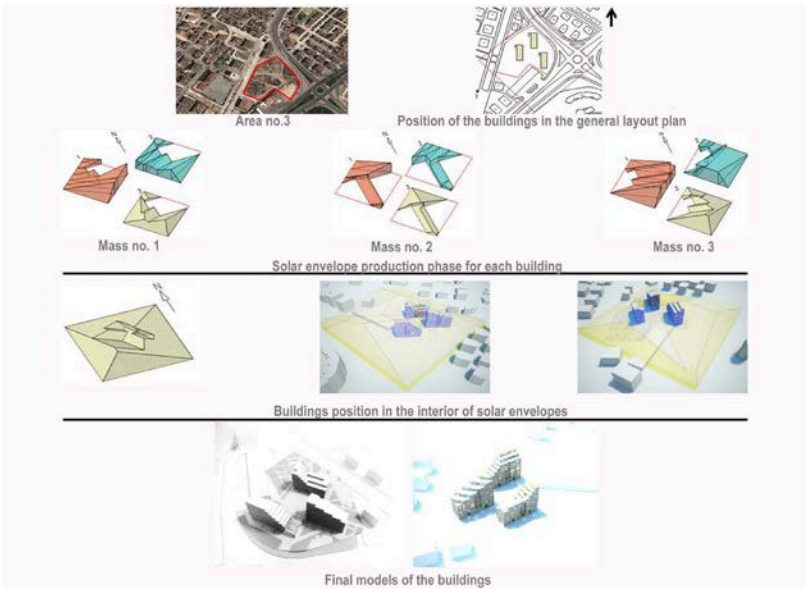

Figure 5. The project developed by Abdullah Selçuk

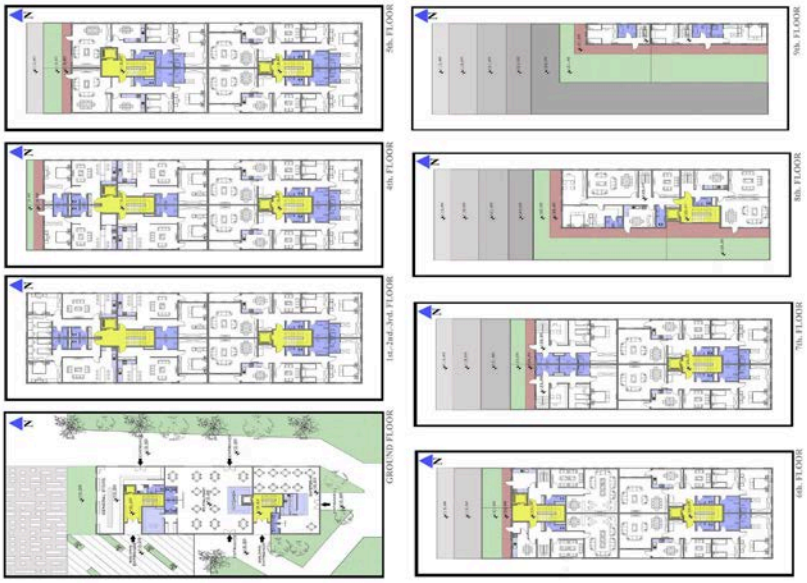

Figure 6. The project developed by Abdullah Selçuk
(Plans of different floors in the B block)

Students feedback:

In the final week of the design studio, students provided their feedback about the information they were given during the term and the methods they applied in the architectural design studio. The studio instructors considered it important to determine the negative and positive views of the students regarding this method that was implemented for the first time. This feedback was considered to reveal important hints for similar projects in the future and indicate some problems that might have escaped. In this context, students were asked a number of open ended questions. Students were asked to freely express themselves. The most interesting answers given by the students are listed below under each relevant question.

What do you think about the solar envelope method? What is it that the method brought to your projects?

-The solar envelope method showed us how knowledge related to the sun can be used in our projects. Until today, we have always been asked to research about prevailing winds, negative winds, temperature graphs, precipitation graphs and sun diagrams for environmental impact analysis and to include all these aspects into the relevant drawings. However, I never fully understood why we put all this material into our presentations, or even why we carried out all these analyses because I could not see how the analysis stage affected my project. For the first time, I am actually able to see the reflection of the results obtained from the environmental analyses on my design. I understood that the sun had a significant impact on the design beyond where it rises and where it sets.

- The solar envelope method taught me to consider others who will not use my design. It limited my urge to design random things and helped me organize my design considerations. It made me happy to be able to say "we are designing residential and commercial facilities, but we are doing this in an entirely different way".

- In the initial stages, it found it difficult to apply the method to my project. However, after a while, when I better understood the method, I started seeing it benefits. This method changed my perspective on architectural design. It forced me to think about the right of insolation for people living in the close vicinity. Another interesting benefit of the method is that it helps produce the form directly.

- This new method helped us take a concrete step in architecture to protect natural cycles.

- The solar envelope method offers an architectural approach that looks after the environment out of the boundaries of usual contractor mentality. It helped us take care of the environment as much as we care for ourselves.

- I never paid so much attention to the environment in my previous projects. Thanks to this project, I learned how to make new designs without ignoring the environment. This method forced us to design even the distances between different buildings, while finalizing the general layout plan. This method also had an influence on the organizations of the squares and pedestrian axes in the design area.

What do you think are the limitations of the solar envelope method?

- I had the opportunity to determine the building forms in the projects in which I have thus far participated. In the project that we carried out using the solar envelope method, the form is shaped in the initial stages and all of our plan-related solutions had to be dependent on these forms.

- The building volumes decrease towards upper floors, due to the inclination angles of the sun's rays. This situation requires completely different planning solutions on the upper floors. Although this might seem like an advantage at first, it made it considerably harder to design circulation areas.

- While organizing the general layout of the design, we had to come up with the right locations of the masses. Otherwise, improper positioning results in serious losses in floor surfaces.

- The solar envelopes needed to be reproduced even when I created the smallest projection during the planning stage. This meant I had to restart the whole process all over again.

-The limitations of the method become apparent only when one needs to decide the floor height and form. It does not have significant limitations from an architectural perspective. Since architects need to have the ability to make designs in all sorts of environments, I do not consider it disadvantageous to try to come up with solutions within the boundaries of this method.

- It is not easy to make corrections throughout the project. A correction can take the project to the beginning of the whole process.

- The design areas decrease significantly on the upper floors. In spite of this disadvantage, the solar envelope method gave us the opportunity to design new spaces such as terrace floor gardens and encourages us to consider these types of spaces. The method suggests the use of new living spaces in our projects.

If the project subject was designed using a different technique other than the solar envelope method, what would your project be like?

- I would have more freedom in terms of heights and the distribution of masses over the used building plot. In addition, it would be easier to cope with the functions.

- If I need to make a comparison on the basis of general layout plans, I can easily say that buildings were closer to each other in my previous projects. In addition in these projects, the open and semi-open spaces were not properly organized. Thanks to the solar envelope method, my suggestions regarding the positioning of the buildings and the design of other buildings were more consciously made rather than randomly.

-If I did not use this method, I could have suggested the use of higher buildings without considering the buildings in the close vicinity.

Would you consider using this method in your projects in your future career path?

- It might be impossible to complete a project solely using the solar envelope method; however, it can be applied in parts of a project.

- If I am given an opportunity to carry out an ecological architectural design project, I would most definitely use the solar envelope method.

- When I consider the market conditions that I became familiar with during my summer practice, I find it quite hard to find an opportunity to apply this method anywhere apart from school projects, because the number of floors and building density cannot be defined randomly when the solar envelope method is used. Clients want to obtain the maximum economic gain out of their land, within the limits of legal regulations. For the solar envelope method to be more applicable in the future, all the architects should be aware of the importance of such design approaches. Maybe then, the laws and regulations regarding construction changes and these environmental design methods can become more applicable.

- I can use it in my future professional life. I can also be an architect that creates very interesting solutions.

After the examination of the responses given by students, it's possible to say that the majority of students were satisfied to applicate the solar envelope method in their project. The experimentation of the method in the design phase was a great gain for both students and for teachers.

The most important feature of the solar envelope method is that it can determine building forms in the very early stages of the architectural design process. It was observed that students gained a significant architectural awareness while attempting to attain an "architectural meaning" to the volumes, which are only some geometrical forms in the initial stages of the design process. The majority of the students were observed to learn how to tackle this new method and consciously use it, offering a completely new way to look at design.

The student feedback clearly shows that most students are willing to use this method in their future professional lives.

Finally, one can discuss a "creative limitation" regarding the solar envelope method. The limitations increased creativity and allowed interesting and unusual solutions. The projects developed and proposed within the framework of this exercise were all formed on the basis of the rhythm of nature, which attached more value and meaning to architecture.

Acknowledgements:

We would like to thank the students who participated to the "Architectural Design Studio 4" course in the autumn session of the 2013-2014 academic year. Among these students, we would like specially mention the following names: Abdullah Selçuk, Ali Rıza Kapkap, Abdülhamid İçöz, A. Mennan Yıldız, Ayhan Avunan, A.Emre Sözel, Üsame Koç, A. Gürkan Arslan, Sıddıka Yeşilkaya, Dilfuza Shainova and Salim Karagözoğlu.

CONCLUSIONS AND SUGGESTIONS

The ability of an architect to be able to develop a sustainable design depends on the information he/she received during his/her education. The schools of architecture should give information regarding sustainable design to ensure they graduate architects, who are informed and sensible about sustainability, as a part of their social responsibility. In order to accomplish this, an attempt was made within the content of the "Architectural Design Studio 4" and students were asked to carry out a project using the solar envelope method. Therefore, the students were given the opportunity to learn and apply a scientific method that is normally not taught in the architectural design studio in our school and use this method for their projects as a tool for design. As they worked with a method resulting in concrete gains in terms of ecological architectural design, they were especially motivated. Students acknowledged the fact that it was important to be given an opportunity to have deeper insight about sustainable architectural design in the design studio environment. The subject of insolation did not remain just as a theory, but could influence architectural projects. It is especially important that they worked with the solar envelope method on real building plots in the city of Konya and within a scheme based on realistic architectural requirements.

Owing to this studio study; the concept of sustainable architecture, a popular term frequently mentioned in national and international architecture platforms, was no longer from the students standpoint an inaccessible concept implemented by only a few architects. They also produced tangible sustainable architectural products. In addition, students felt privileged as they were given the opportunity to learn more about sustainable architecture and create a design. The authors believe this consciousness that the students gained at the end of this exercise will have an influence on future architectural design projects in which the students will participate.

The biggest concern of the students, on the other hand, was that this and similar methods and design approaches were unlikely to find widespread application under the current market conditions due to financial concerns**.** We believe that this concern is partially valid. Unfortunately, our students are mostly adversely affected by the actual professional architectural practices whenever they have an opportunity to become more closely familiar with them. They were suggested to be well equipped and courageous as a means to liberate themselves from these negative thoughts. The architectural design studio course that was carried out using the solar envelope method has indeed become a courageous attempt during the project production process. Breaking the resistance against change is an important responsibility for future architects.

Suggestions:

The project working areas can be selected from more easily controllable places. It is important to work on areas of sizes that are suitable to the project topic. It is difficult for students to carry out projects on areas that are too big to work for a limited time on one's own.

In addition to the size of the area, the characteristics of the close surroundings should also be taken into consideration, as these help define the volume of the solar envelope. Unnecessarily small volumes should not be allowed.

The architectural project can be developed by a group. Especially when an extensive architectural requirement program is needed, the quality of the design can be significantly improved when working in a group consisting of two or three students.

It is important to turn theoretical information into practice. In the schools of architecture, students should be given the opportunity to try different methods and architectural design approaches, so that they can use them in their projects. This study is an example of this. The gained experience should be shared in academia in order to ensure an increase in awareness regarding architecture.

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Examination of accessibility for disabled people at metro stations

Evren Burak Enginöz, Hilal Şavlı

Abstract

According to World Health Organization (WHO), 10% of the population in developed countries and 12% of the population in developing countries are disabled people. And also researches by TUİK, in 2003, 12% of the population in our country are disabled. The problems that are faced in daily life, do not only affect disabled people but also their family. Therefore, it is said to be that half of our population have a disabled life.

According to Scherrer, "Anyone, who has handicaps, is not a disabled person in an accessible place. But healthy person will become disabled in a place without accessibility." (Scherrer 2001). Accessibility can be provided through the continuity of interrelated daily activities without any interruption. When the connection between the activities breaks off, we cannot mention about accessibility.

Keywords:
Architecture, Accessibility, disabled, metro

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Accessibility is not only plays an important role on disabled people by providing daily activities and physical requirements without any interruption but also by sustaining to live as independent individuals in society. Therefore, we have to re-design our urban accessibility to achieve uninterruptible and independent daily life in cities.

In our country, disabled people also have difficulties to access indoors and outdoors and also have to face significant problems to be included in daily life despite the current regulations and laws. However, disabled people are entitled to have all social and cultural benefits independently as healthy people do. Realization of this act can be possible, if we re-design our buildings, transportation systems and the city life to achieve the accessibility requirements of disabled people.

All around the world and also in our country, various laws, design rules and standards are tried to level the playing field on accessibility for public transportation systems with their service stations. However, despite of ensuring laws, regulations and standards on accessibility, lack of reglementation and enforcements, as well as insufficient user's knowledge cause our cities inaccessible.

Therefore, we have to increase the awareness of our community on accessible city life and transportation systems rather than make laws and hope for recovery. In this context, a case study is intended to examine the approaches on barrier-free design and level of accessibility at metro stations in Turkey.

With the scope of this case study, current informative, stimulating and guiding regulations, vertical and horizontal implementations on circulation areas at metro stations are examined by an accessible design control list

Accessible design control list consists of 28 questions that have been selected from Turkish Ministry of Family and Social Policies-People with Disabilities and Elderly General Service Accessibility check Lists and Turkish World Handicapped Foundation- Outdoors and Indoors Accessibility Check Lists. With the help of question we can examine the passengers' expectations on the quality of informative, stimulating and guiding signboards at entrance, circulations and surroundings of metro stations; except the legislations related to the product sizes and constraints that designers or professionals have to obey

The questions are answered by disabled passengers who use Kadıkoy Ayrılık Cesme main transmission metro station. Disabled passengers are divided into two subject groups. First subject group consist of 5 visually impaired and partially impaired people. The second subject group consist of 7 wheelchair users.

Experimentally, asked all the subject groups to make a journey beginning from the entrance of metro station to the train platforms without getting any help. After they completed their journey, they were

requested to answer the questions of control list and describe the positive and negative situations from their experiences.

According to the result of examining the approaches on barrier-free design and the level of accessibility at Ayrılıkcesme main transmission metro station, there are distinctive data detected which are inacceptable accessible solutions for wheelchair users and/or visually impaired people.

In this context, to realize an accessible city life in our country, we have to take some significant decisions on training well-informed professionals, constituting the common shares on standardization of buildings, increasing the community awareness on accessibility and innovating technologies for all disabled groups

INTRODUCTION

According to World Health Organization (WHO), 10% of the population in developed countries and 12% of the population in developing countries are disabled people. And also a research by TUİK, in 2003, 12% of the population in our country is disabled. The problems that are faced in daily life, do not only affect disabled people but also their family. Therefore, it is said to be that half of our population have a disabled life.

Accessibility plays an important role on disabled people by providing physical requirements for daily activities, and also pursuing their independent individual life without being obstructed in society.

Rather than other disabled groups, people with visual disabilities must make an extra effort to insert themselves into society and to participate as citizens in the World around them (Engelbrektsson, 2004) They also have problems acquiring descriptions from relief maps and associating these with their actual positions in real environments (Kulyukin, Gharpure, Nicholson, & Pavithran, 2004).

In everyday life, people who are blind have a series of problems with moving around in both familiar and unknown environments. Specifically, people with visual disabilities have problems using public transportation independently (Baudoin, 2005; Engelbrektsson, 2004).

Too often inclusive transport is not fully considered in transport planning, design, construction and implementation in developing countries. Mobility and access requirements of people with disabilities should be considered by planning and designing barrier- free transport systems. This implies an understanding and identification of the circumstances that

create barriers for people with disabilities (Meriläinen and Helaakoski, 2001).

In our country, disabled people have difficulties to access indoors and outdoors and also have to face significant problems to be included in daily life despite the current regulations and laws. However, disabled people are entitled to have all social and cultural benefits independently as healthy people do. Realization of this act can be possible, if we re-design our buildings, transportation systems and the city life to achieve the accessibility requirements of disabled people.

The scope of this study, with the help of a design check list considering the accessibility and the architectural barrier-free design criteria, try to find out the acceptability of informative, stimulating and guiding regulations at metro stations for all disabled groups. Data from the case study will not only help us to understand the accessibility problems at our metro stations but also give us a chance to open discussion on accessible design and also increase the public awareness.

ACCESSIBLE URBAN TRANSPORTATION AND LEGISLATIONS

In a globalized world, communication, accessibility and transferring become the most important requirements for metropolitan life in our age. Especially, accessibility emerges as an important term which is required by all citizens whether you are healthy or disabled. Disability is directly proportional to the limitations on daily activities.

According to Scherrer, “Anyone, who has handicaps, is not a disabled person in an accessible place. But healthy person will become disabled in a place without accessibility.” (Scherrer, 2001). Accessibility can be provided through the continuity of interrelated daily activities without any interruption. When the connection between the activities breaks off, we cannot mention about accessibility.

Accessibility is not only plays an important role on disabled people by providing daily activities and physical requirements without any interruption but also by sustaining to live as independent individuals in society. Therefore, we have to re- design our urban accessibility to achieve uninterruptible and independent daily urban life

In the world and our country, various laws, design rules and standards are tried to level the playing field on

accessibility for public transportation systems with their service stations.

In United States of America, The American National Standards Institute (ANSI) was the first national standard describing design for access in 1961. (ANSI) is a professional non-partisan accrediting body with no governmental status which sets voluntary design standards in a variety of areas. ANSI A117.1 (1961) was six pages in length and described some very minimal design criteria which had been field tested at the University of Illinois at Champaign/Urbana. Afterward, The Architectural Barriers Act (ABA) enacted August 12, 1968. ABA marks one of the first efforts to ensure that certain federally funded buildings and facilities are designed and constructed to be accessible to people with disabilities.

In 1984, Uniform standards for the design, construction and alteration of buildings so that physically handicapped persons will have ready access to and use of them. These Uniform Federal Accessibility Standards (UFAS) are developed and maintained by an Access Board and serve as the basis for the standards used to enforce the law. The Board enforces the ABA by investigating complaints concerning particular facilities. Four Federal agencies are responsible for the setting the standards: the Department of Defence, the Department of Housing and Urban Development, the General Services Administration, and the U.S. Postal Service. These federal agencies are responsible for ensuring compliance with UFAS when funding the design, construction, alteration, or leasing of facilities. Some departments have, as a matter of policy, also required compliance with the Americans with Disabilities Act accessibility guidelines in addition to UFAS.

With the scope of Convention on the Rights of Persons with Disabilities, prepared by United Nations, The idea for a design manual for disabled people first came to surface in early 1994 during meetings that were held with a number of government officials and representatives of organizations concerned with disability in Lebanon. This design guidebook “Accessibility for the Disabled A Design Manual for a Barrier Free Environment” is made for the purpose of providing architects and designers with the basic information and data necessary for a barrier- free environment.

The first regulation on accessibility for disabled people in our country is development plan law 3194. With Law 3194, in order to make the physical environment, accessible and habitable for disabled people, urban development plans, social

and technical infrastructure areas and buildings must be standardized according to rules of Institute of Turkish Standards.

The regulations mentioned in the Institute of Turkish Standards, parts of which directly related to the accessibility of disabled people are;

"TS 9111: Rules of Regulation in Buildings That Disabled People Live", "TS 12576: Roads of inner city- Rules of Structural Precautions design about street for disabled and Elder people, Avenue, Square and roads", "TS 12460: Roads of inner city- Rail Transportation Systems Part 5: Design of public service areas for disabled and Elder people.", "TS 12527: Roads of inner city- Rail Transportation Systems Part 14: Seating Elements of Station Platform.", "TS 12694: Railway Vehicles: Passenger Wagons- Regulations on wagons for wheelchair users."

We can summarize the design rules for disabled and Elder people at Rail Transportation Systems (TS 12460: Roads of inner city- Rail Transportation Systems) as follows;

1. Architectural Design at Metro Stations must prevent short walk and barrier free circulations for disabled passengers.
2. Between Rail System and highway traffic, metal handrails must be used along the side of the road to ensure the safety of disabled people.
3. Service areas (ticket sales, information desk, etc.) at stations should be constructed according to disabled people.
4. Platforms should be designed for making wheelchair users easily to move and manoeuvre. Safe line on platform ground must have proper colour, texture and pattern which can be easily seen by visually impaired
5. In emergency, warning alarms and lights must be working together. Warning alarms should be heard and the flashes should be higher than the current lighting.
6. Guide dogs of visually impaired should be allowed to train stations.

However, despite of ensuring laws, regulations and standards on accessibility, as we mentioned above, lack of reglementation and enforcements, as well as insufficient user's knowledge cause our cities inaccessible.

Rights of disabled people monitoring report which was prepared in 2014 by Association of Toplumsal Haklar ve Araştırmalar, noteworthy outcomes have been obtained. The case study, conducted within the framework of accessibility at public transportation systems in Turkey, asking a question "Have municipalities been ensuring their new accessible public transportation vehicles which were equipped and prescribed by the law 5378 for disabled people since 2005?

According to case study; it is identified that only 52,36% of public transportation vehicles were bought after 2005. And 41.02% it have ramps or elevators, 26,02% only have audible warning system and 29,60% have visual warning system. And 52,36% of vehicles. (Akbulut, 2015) If we consider the results of this case study, we may say that municipalities in Turkey don't take the law of accessibility on public transportation vehicles into account.

Similar to that case; informative, stimulating and guiding regulations, horizontal and vertical circulations at buildings, public spaces and transportation systems don't display the same sensitivity for all disabled groups.

Another subject that needs to be addressed on this paper is; due to insufficient periodical maintenance of current regulation and implementation. Deterioration can be seen in process of time, become unusable or subsequent additions cause damages on building, unsafe for disabled people.

Therefore, we have to increase the awareness of our community on accessible city life and transportation systems rather than make laws and hope for recovery. In this context, a case study is intended to examine the approaches on barrier-free design and level of accessibility at metro stations in Turkey.

CASE STUDY: METHOD, SCOPING AND LOCATION

With the scope of this case study, current informative, stimulating and guiding regulations, vertical and horizontal implementations on circulation areas at metro stations are examined by an accessible design control list.

This accessible design control list was created by Comparative analysis on manuals, design guides, and catalogues of institutions, NGO's, or national control boards of different countries which are played important roll on the realization of accessible, barrier-free architecture design. Thus, Turkish Ministry of Family and Social Policies-People with Disabilities and Elderly General Service Accessibility check Lists, European Conference of Ministers of Transport- Improving Transport Accessibility for All Guide to Good Practice, Americans with Disabilities Act Standards, U.S. Architectural and Transportation Barriers Compliance Board (ATBCB)- The Uniform Federal Accessibility Standards (UFAS)-Retrofit Manual and Turkish World Handicapped Foundation- Outdoors and Indoors Accessibility Check Lists were discussed.

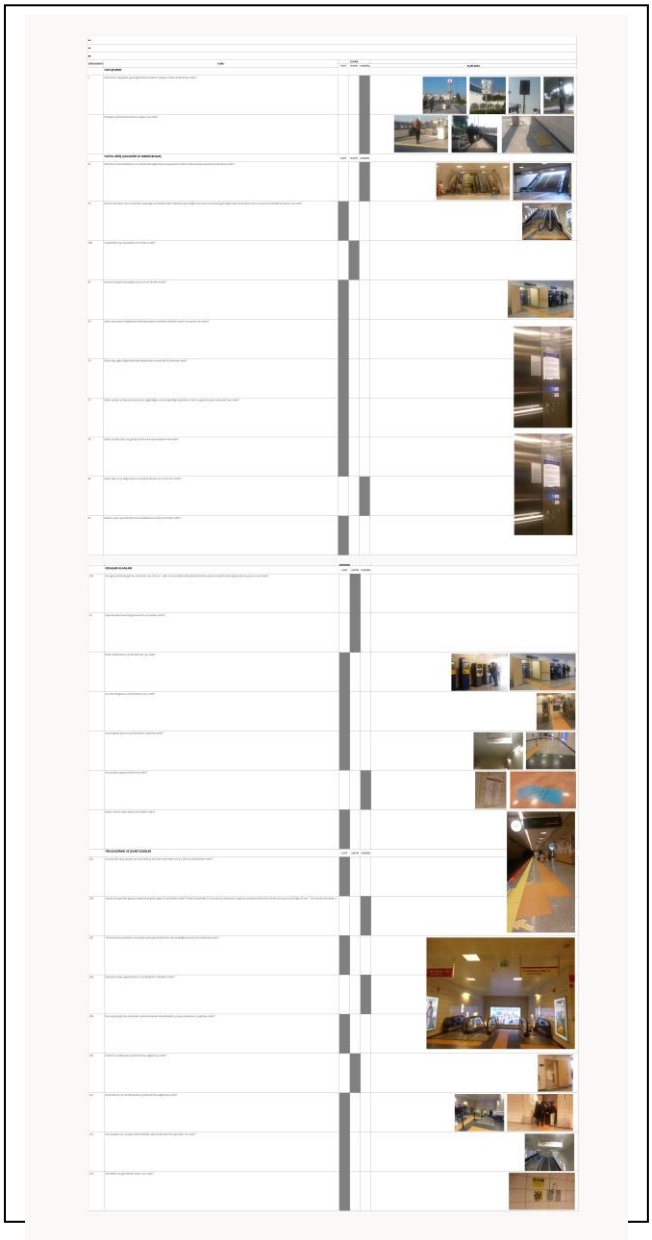

Figure 1. Accessible design control list consists of 28 questions on four subjects; building surroundings, entrance to building, circulation areas and stimulating and guiding signs.

But only the questions from Turkish Ministry of Family and Social Policies-People with Disabilities and Elderly General Service Accessibility check Lists and Turkish World Handicapped Foundation- Outdoors and Indoors Accessibility Check Lists have been selected to detect the accessibility problems at Istanbul metro stations.

Accessible design control list consists of 28 questions on four subjects; building surroundings, entrance to building, circulation areas and *stimulating and guiding signs*, to examine the passengers' expectations on the quality of informative, stimulating and guiding signboards at entrance, circulations and surroundings of metro stations; except the legislations related to the product sizes and constraints that designers or professionals have to obey.

The questions are answered as YES-NO-PARTIALLY by disabled passengers (as subject group), not by professionals. There are two subject groups. First subject group consist of 5 visually impaired and partially impaired people. The second subject group consist of 7 wheelchair users.

Kadıkoy Ayrılıkcesme main transmission metro station in which Marmaray and Istanbul Metro lines join was chosen for the case study. To arrive Marmaray train platforms or Istanbul Metro lines, passengers firstly have to go downstairs from one of two entrances to toll bar floor. Then go upstairs to Marmaray train platforms or go downstairs to Istanbul Metro lines. And also train platforms, ground and toll bar floors are all linked with elevators.

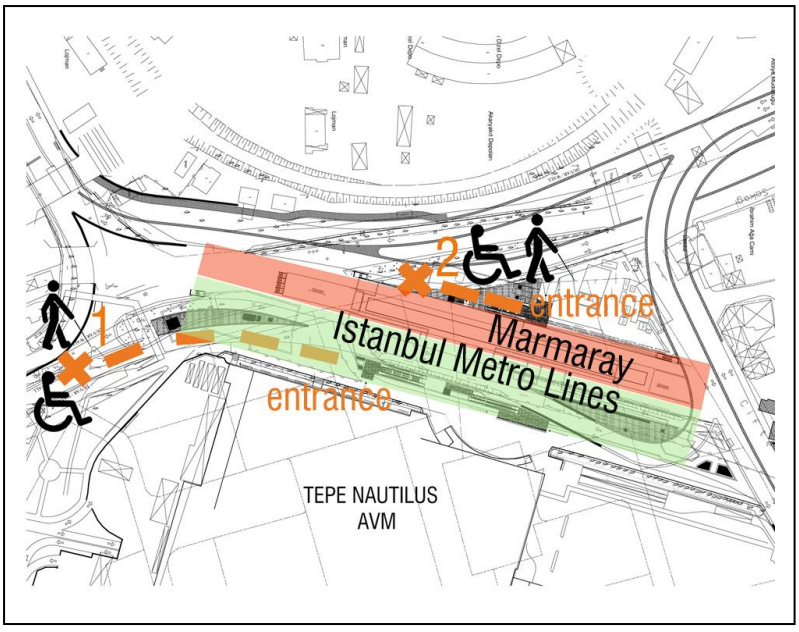

Figure 2. Entrances of Kadıkoy Ayrılıkcesme main transmission metro station.

Experimentally, asked all the subject groups to make a journey beginning from the entrance of metro station to the train platforms without getting any help. And let participants to decide their own routes and stops inside of metro station.

So that each of them has lived different spatial experiences at main hall, toilets, box-office, toll bars, elevators and escalators. After they completed their routes, they were requested to answer the questions of control list and describe the positive and negative situations from their experiences. And also all descriptions were photographed.

RESULTS AND DISCUSSIONS

According to the result of examining the approaches on barrier-free design and the level of accessibility at Ayrılıkcesme main transmission metro station, there are distinctive data detected which are inacceptable accessible solutions for wheelchair users and/or visually impaired people.

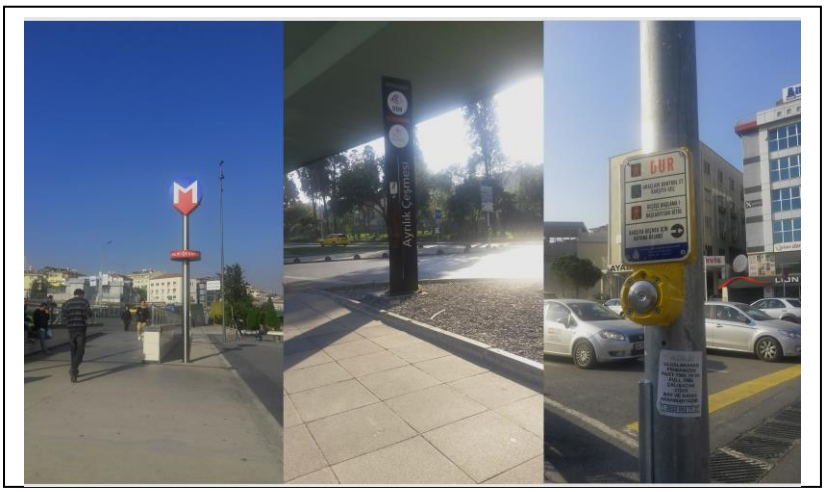

Figure 3. Informative, stimulating and guiding signboards, traffic signals.

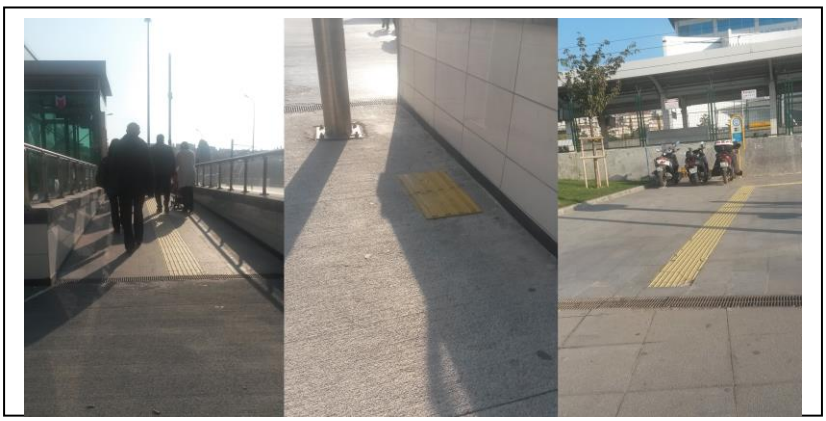

Figure 4. Unequipped or unfixed guiding paths

Arrive to entrance of metro station: Signboards used by wheelchair users, are available. They can easily find the entrance and elevators. But informative, stimulating and guiding signboards are insufficient for visually impaired people. There is no braille signboard and also guiding paths for visually impaired people are mostly unequipped or unfixed. The distance from parking area to entrances is not quite acceptable.

Stairs, escalators and elevators: Colored tactile paving as detectable warning surfaces are used at initial and final steps of stairs and escalators. But along the side walls the handrails with contrasting colour are not considered.

Numbers and letters in embossed and Braille alphabet are used at buttons and signboards of elevators. Audible and visual warning systems, warning buttons and symbols are all in contrasting colour with surface of the cage and the floor. But elevator users can't go to the train platforms directly. They have to stop at toll bar floor and get on another elevator to reach the platforms. This is not acceptable for the rule of TS 12460: Roads of inner city- Rail Transportation Systems "Architectural Design at Metro Stations must prevent short walk and barrier free circulations for disabled passengers."

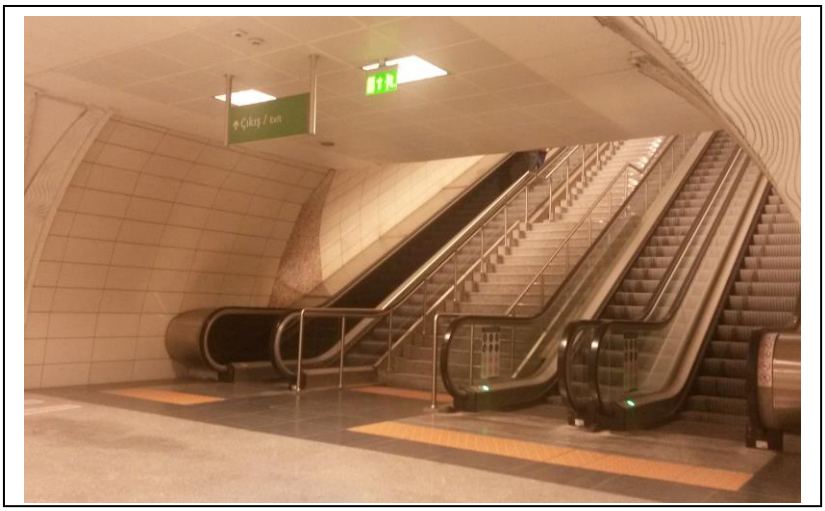

Figure 5. Detectable warning surfaces are used at initial and final steps of stairs and escalators.

Main hall and circulation areas: Passengers can easily percept the emergency exits. Warning and informative signboards with contrasting color are all setting up minimum height 220 cm from floor. But for visually impaired people, there is no braille and embossed warning and informative signboards at the height of 120-160 cm. And also door frames don't have contrast colors with their walls.

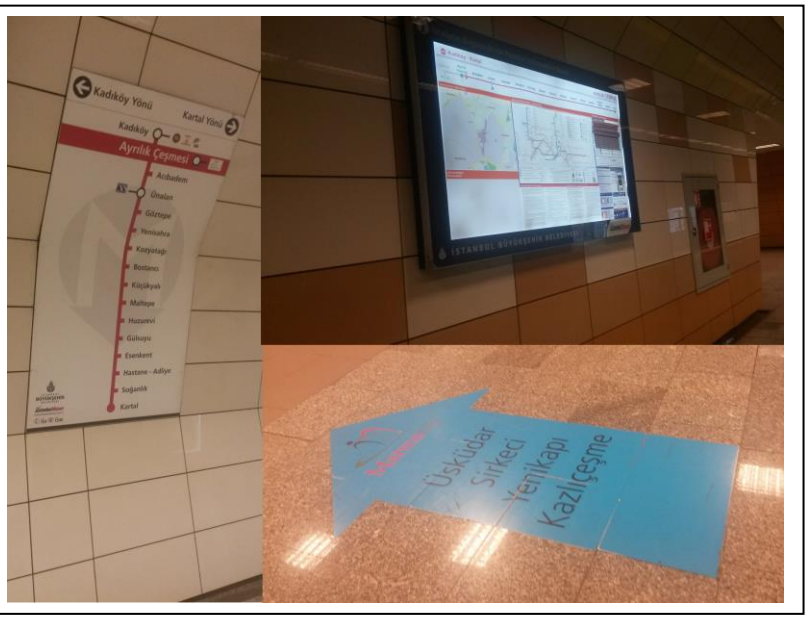

Figure 6. Warning and informative signboards.

Figure 7. Guiding paths on the toll bar floor.

Toilets, box-office, toll bars: Guiding paths for visually impaired people are partially fixed at metro station. Not only for visually impaired people but also for wheelchair users, there is no signboard to guide to the accessible toilets.

Arrive to train platforms: Coloured tactile paving surfaces for warning are used in border of platforms. But because of partially fixed guiding paths, visually impaired people cannot easily find the way of platforms without getting help from other people.

Figure 8. There are partially guiding paths to train platforms.

As a result of examining on the level of accessibility at Ayrılıkcesme Station, it can be said that there is a positive act for barrier free design and accessibility. But as it stated at the determinations, accessibility of metro stations do not reach to the desirable level that visually impaired people are being able to move individually as wheelchair users do.

CONCLUSIONS AND RECOMMENDATIONS

Currently, Istanbul metro system rapidly becomes a primary public transportation against increasing density of traffic. The efforts of making the metro system accessible will also help in connecting all the parts of Istanbul for disabled people in the near future.

But generally in our county; laws, legislations and regulations for accessibility and barrier-free design in public space and public transportation are not enough to realize our hopes. It is seen that care, expectations and awareness on accessibility become more important to emerge these difficulties.

In this context, we have to take some significant decisions on training well-informed professionals, constituting the common shares on standardization of construction and production industry, increasing the community awareness on accessibility and barrier free city life, innovating technologies and alternative solutions for all disabled groups as follows;

Accessibility in Architectural Education: To increase the number of well-informed professionals, accessibility, universal and barrier free design must be practiced in theoretical lectures and studio works in architectural education. Universities must organize seminaries and workshops in order to educate architects, designers or staffs working at public services or municipalities.

Avoid faults or shortcomings in constructions by ensuring collaboration between universities, NGO's, local governments, municipalities and public services: We have to make laws to legislate local governments or municipalities to consult with universities and/or NGO's in applications that require special knowledge and experience on accessible and barrier-free design.

Increasing awareness of architects, designers, professionals and all members of our community on accessibility by making workshops and activities: Enable the community to understand the idea that disabled people are not different from others, just have special cases. We can generate informative projects to show the technologies, innovations and spatial solution for all disabled groups. And also we can encourage making researches on experiencing the accessible life and architecture.

We will increase the awareness of next generations by participating to workshops and activities where they can experience the disabled life.

Innovative technologies and alternative solutions on accessibility: According to data from case study, we may say that there is an extremely need of alternative and innovative technologies for accessible transportation systems instead of conventional solutions. Accessibility, for visually impaired passengers and for all passengers, at underground closed spaces will be solved by using smart mobile technologies with audial or/and visual perception technologies.

As a result, we can say that, accessibility depends on supplying the physical and social requirements of disabled people as the healthy people do. And also opportunities to live independently in a community are up to people to know and care the accessibility and remember that everyone has equal rights.

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The Concept Of "Disability" In Architecture As A Power And Ideology Problem

Selma SALTOĞLU,
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Abstract

The concept of disability, which is well accepted around the world and seems to be a statement of positive discrimination at first, requires becoming a current issue as an equality problem in architecture and society today. In fact, the definition of disability and its intellectual basis are major and still invisible obstacles to obtain equal rights for everyone regarding architectural accessibility and participation in social life.

In this study, the intellectual basis of the concept of disability in social understanding has been explored to identify the main problem. It has been realized that this understanding, which is to be seen also in architectural practices, has occurred as an issue of power and ideology. On one hand, the society itself generates the definitions, classifies people and creates hegemony based on

Keywords:
Power, Ideology, Disability, Accessibility.

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consent, and on the other hand speaks up for resolving the problems caused by this classification with a total inactivity. Strong ideologies, which ignore the problems of existing definitions, forms absolute truths and minds unable to question. Therefore, the definition of "disabled" becomes approved by the entire society, although it does not include inseparable parts of society such as children, patients or elderly. These ideologies result in a communal power created by free will instead of enforcement. In this manner, even individuals classified as "disabled" accept the legitimacy of this authority. However, existing of such an accepted definition causes etherizing and ignorance in society. It also affects architectural perception and plays a significant role in creating isolation projects such as "disabled-friendly houses" or "libraries for disabled". These projects show that people defined as "disabled" are the dark sub consciousness of society willing to be forgotten.

When it is realized that the unity of differences creates the society, the classification will be forgotten, environments and mentalities will be shaped accordingly and designs will be created for everyone instead of designing for disabled. Bringing an accurate and fair point of view into existence, which is based on the mentioned facts, is the only way to solve the current problems in architectural practices and social inequalities.

INTRODUCTION: THE CONCEPT OF "DISABILITY"

Public Perception

In order to understand the concept of disability and being restricted generally in our country, the current dictionary of Turkish Language Institution, as being one of the basic sources provide us with important data. In online dictionary, the word "disabled" is explained as "someone having something missing or defected in his body" and in public language the word "crippled" that is used as having the same meaning with "disabled" means "someone having some diseased or missing part in his body, disabled" and "defected or missing". These definitions are the outcome of seeing one type of human model as normal while seeing all other varieties as "other". In other words, the concept of "disabled" does not reflect the situation of the individuals but reflects the approach of public to the subject matter. The publishment made by Turkish Standards Institute as dated for year 2011 also reflects this opinion: "Being disabled is the condition of a person's not being able to fulfill his public roles as regards to age, gender, social and cultural factors and the condition of being restricted." (TS 9111, Article 3.2). As this definition is truly analyzed, the concept of "disabled" also changes. Pregnant women or women having children, people carrying loads, sick or old people, or children are also included in

this group. Therefore, the definition of a healthy individual needs to be reviewed once again.

Relationship of a Healthy Individual and Disability

As per the definition made by World Health Organization which is also being used as current, health is defined as: "not only the situation of not having any disease or weakness but also being in good condition physically, mentally, and public wise." (1948). But this definition which is also used by Turkish Language Institution for the word "Health" has been subject to many debates from the beginning. As the Netherlander researcher Machteld Huber has stated on his article titled as "How should be define health?", this explanation requires a new formulation and especially with the expression of "a complete state of wellness", most of the people are included in the "unhealthy" classification (2011).

In line with the definition of "health" worldwide, in our community there is also an acceptation subject to debates relating to the concept of "healthy individual". In the researches made by Turkish Statistics Institution in the field of health, a relative concept of "healthy individual" attracts our attention. Because it is seen that the criterion set as part of the researches conducted cannot be clearly specified due to the requirement to revise the definitions. In many tables provided in Health Statistics Annual, the percentages of individuals with good and bad health situation are given but it is not defined as per which criteria they are seen as good or bad and it is not clear as to which factors who shall be seen as having good or bad health and this situation creates ground for debates. (2013)

The concept of "disabled" which is used together with the concept of "Health" symbolizes people using wheel chair and people who are visually or aurally disabled. The definition of "Health" remains mainly within the limits of physical health. At this point, it is crucial that many topics to be analyzed should come out. For example, isn't a woman having children who need to get outside with a pushchair also faced with similar disabilities that a person using wheel chair faces? Is it possible to evaluate an individual who does not show up in public life because of his phobias as being healthy? Similarly, if a person who does not have any physical problems takes part in public life but disturbs others because he cannot control his anger, won't this create a disability to himself and his surroundings? As Prof. Dr. Mehmet Özyürek has stated in his book, an individual using wheelchair has defined being disabled with the following

statement: “An individual is disabled for the things he cannot do. For example, if a person cannot turn a lathe dog, then this person is disabled for this task. For example, selfish acts of a teacher are the signs of his being disabled. With this idea in mind, there would be very few people left who can be seen as healthy.” (1988) As a simple example that explains the cliche and limited perception, when we write “disabled” in the search motor of internet, we are faced with numerous pictures of wheelchairs. (Look at Figure 1) In this way, a community that cannot realize that similar problems are faced with either permanently or temporarily is seen through a mind reflecting itself as being “abled” or “normal”.

With this respect, the infrastructure of the concept of “disability” that is rooted in public perception needs to be reevaluated and interpreted with a new point of view.

Figure 1.
A segment showing the visuals obtained from the searches made in Google for the word “Disabled” (Date obtained: 30.05.2015)

MENTAL INFRASTRUCTURE OF THE CONCEPT OF “DISABILITY”

On the basis of view point for the perception of disability lies a dense and tight conceptual network. This trisome network composed of power, ideology, and hegemony gets linked with the concepts of othering and neglecting while remaining in our minds as such. Concepts that are formed with a conscious reflex as reflected through the public shape up the attitudes and social relations of individuals.

Power, Ideology, and Hegemony

The concept of power is described as “the ability to conduct a work” in its most plain form. Even though this concept is linked with politics by the public as linked to an institution or an individual, it is also used in different areas in literature. Foucault, who has made notable studies has said : “Power can be seen everywhere and power relations are valid in all areas of life”. According to Foucault, power is not a capacity, a situation to own something or to extort a commodity. (Merquior, 1986).

Hardy & O'Sullivan state that power can be attained by "directing the meanings shaping the lives of others in a deep level" (1998). This dominant power named as power can only get activated with the ideology it is linked with. Because what forms the meanings shaping lives is in fact ideology.

Ideology is a concept to which very different meanings are attached as per the areas for which it is used. Eagleton has mentioned sixteen different meanings attached to this concept in his book titled as "Ideology". One of these definions is "ideas legitimating the ruling political power" while another definition is "a set of ideas belonging to a specific public group" (1996). As these definitions show it is not possible for an individual, a community, an institution or an action to exist without any ideologies. This set of ideas, in other words ideologies, to which positive or negative meanings could be attached, support potencies as independent from the definitions made.

The concept of "hegemony" which is directly linked to power forms the third component of conceptual network. Hegemony which means the dominance or pressure a person has on another one, is also seen as "natural dominance myth" or "legitimation of a status organisation". In fact, hegemony means "creation of consent"(Marshall, 1999). In other words, the difference of this concept which does not have any force or pressure :" with independence is its being conditional and not institutional and its difference from dominance is establishment of power in less precise form having more ideology and convincing instead of military intervention or force." (Gümüş, 2011). In this organisation, there is a segment that forms power and there is another segment seen by them as the secondary party who themselves accept this situation either consciously or unconsciously.

In the light of these concepts, the formation of the concept of "disability" is being made clear. The community that strongly emphasize the right for equal reachability for everyone as one of their most powerful ideologies, has established a hegemony over the people described as "disabled". In other words, one segment of the community gets in power being supported by the ideologies not rejected by the others while directing the lives of the other segment. Although there is no party that is oppressed or complaining, this system supports one-sided advantages. Despite the fact that individuals are aware of the problems trying to put their efforts in, since they can not reach the roots of the problems, ideology to be based on uniting principles and not othering to come to power is left uneffective.

As stated by Hardy & O'Sullivan, the current conception that :"creates information while establishing a structure to use this information for controlling, managing or disciplining others" show up as a power characteristic (1998). But this power problem expressed lightly also blocks the way for critisizing the system and for changing it from the roots. In fact with a mind that is correctly shaped, it will be clearly seen that the most plain truth in the community is variability. In this way, all of the definitions and classifications made for people will be lost and each individual from architectural point of view will be seen as "abled". The way to get these architectural practices into life is not to be realised by the laws or rules but by creating an awareness as regards to this ideological problem. Or else it will be inevitable to be faced with social ruptures arising from discrimination.

Othering and Neglecting

As regards to classfying the community relating to the health status, the leading power forces part of the individuals to obey with a polite and refine language. As no other option can be seen, the situation is accepted voluntarily which gives rise to another concept named as "Othering"

The insufficiencies in social system and/or the system itself gives rise to discrimination. As a result, the community which makes up a whole with its varieties gets disintegrated as "we" and "them". As per the quotation of Marilyn Fyre mentioned by Levent Şentürk, all of the people in the community look at where they stand so very closely that they can neither see that they are in a cage nor can they see their surroundings: "Cages. Think of a bird cage. If you look at one of the wires of the cage closely, you can not see the other ones." (2008). Şentürk stated that the cage example of Fyre marks to: "the existence of a network which serves to diactivate, degrade and reshape the lives of others. And this opinion causes the community to get blind, to get standardized, and for the varieties to be seen as others. In architectural sense, establishing a logic as "designing for the disabled" is by itself a way of creating social discrimination with the assertion of making a useful work.

The habit of othering is growing in the public mind just like an insidious disease. Even the associations whose main purpose of existence is to enable people to carry out their lives under equal conditions, accept and declare othering even without being aware of it (Look at Figure 2-3). For an individual who sees such visuals not to feel himself as "the other" is not possible. Groupings made as "We" and "them" are the reflection of discriminating and othering language.

Figure 2.

Figure 2,3.
Another example of othering (Campaign visual for Turkish Paraplegia Association).

Figure 3.

Figure 4.

Figure 4.
A "Social Responsibility" Project Advertisement (with the contribution of Turkish Paraplegia Association and Istanbul Metropolitan Municipality)

Classification of community brings with it problems to be solved. Ideologies that are expressed intensely in the speeches are not actually applied as seen to require a lot of effort, which leaves the problems as unsolved. At this point, keeping the people who are discriminated away from us looks like a wise and pitiless solution. Wheelchair entries and elevators built away from main entry points, ramps built just because of legal obligations that have no possibility to be used are all examples that one segment of the community sees the other segment as if it is nonexisting. Similarly, in the field of football which attracts a

lot of attention, while all kinds of details relating to league matches can be easily available, the name and achievements of Turkish aurally disabled Football A National Team have not been heard of. These people who are seen as a different class by the community have been completely left aside by their isolated schools, teams, libraries, and hospitals. On the advertisements and campaigns made in the name of social responsibilities the the expressions and the body languages used are as if there is a fear about wheelchair and a desire to escape from it. (Look at Figure 4) This shows that the people defined as "disabled" reflect the dark subconscious mind of the community which they don't want to remember. In other words, the individuals who are restricted and discriminated reflect "the area of differences and the place of fears and worries." (Sönmez Selçuk, 2012)

DISABILITY AND ARCHITECTURE AS REGARDS TO REACHABILITY TYPES OF PAPER

"Why are we creating designs if they are not made for the people? Let's design everything for everyone at all times. This is the point where we are. This last stage is a design policy that is extremely logical and more humanitarian." (Dunlap, 1997)

In 1997 during the Global Reachability Conference organised in Washington, Ronald L. Mace, who is an architect himself, has spoken about the basis of the subject matter by using a very plain language. If we will talk about a search for an honest way of reachability, realistic and required designs should be shaped just at that stage. Because all of the places in our social life and the social life itself are directly related with architecture. Only in this way it can be possible to compose a social community with the contribution of each and every individual. But in today's world, when places, buildings, and even furnitures are designed, only a single type of consumer is in the minds. As a reflection of a perception which downgrades, discriminates and neglects, the community design which comes out could only be described as "Utopia".

Utopia

Platon, who is said to be the originator of utopia also reflecting the modern utopic literature, presents us with an ideal city definition in his expression of an ideal state. This city is where there is a big variety.(1988) Social varieties began to exist starting from the early stages of the concept of utopia. In the part of this period which is reflected in our time, a desire to change the community structure from its roots is also seen so as not to be limited with the spaces. On the other hand the concept of utopia in architecture is mostly related with the spaces and environment and not with the community.

When utopia and architecture are used together, most of the time they reflect something positive. "Establishment of an ideal life where everything goes well on its way, where each detail is thought of, the actions of people are foreseen, determined and designed and where nearly all of the problems are solved is being the subject matter." (Alver, 2012) "Anti-utopia on the other hand is the architecture of discomfort or the architecture designed not to be realized at all as reflecting the mission and ethics of architecture." (Riot-Sarcey, Bouchet & Picon, 2003). In this respect, establishing an architecture that separates the community from its unique varieties and creating a single type of individual, is more of an anti-utopia rather than utopia. The designs created today are in fact the reflection of a discomforting architecture. Architectural features created just for a single user profile eliminating the old people, the people using wheelchairs, mothers walking with pushchairs, people who are over weighted, and even children, either knowing or not knowing assumes as if all of these people are no existing. At this point architecture turns to be functionless except for a single segment in the community. As long as there won't be designs having titles as "for children, for the disabled, for the old people etc), they will be places that cannot cover the whole community. In this way "disabled projects" in terms of architecture appear like "library for the disabled" and "school for the disabled". To put it in other words, all of the architectural designs in general are created for "normal" individuals having no physical restrictions and only some additions are included for the "others" like entries or sections. To say it in a simple way, while the target group of the designs is (A), the real community is (B). (Look at Figure 5)

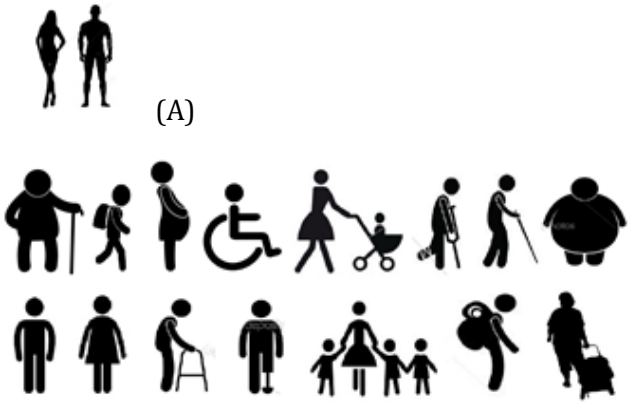

Figure 5.
As per the current architectural understanding: (A) Utopic public perception and (B) Real community profile (Saltoğlu, 2015).

Disabled Architecture

It is possible to see the perception of "disabled" as reflected on the architectural understanding. In almost all of the different projects in different fields, it is clearly seen that there is a discrimination starting from the first design stage till the application.

Architectural design competitions to support creativity are good examples. In these competitions there is a discriminated section as "disabled category" and unique competitions are organized with the title as "design for the disabled". The fact that bigger awards are given for these categories is as if architects are trying to cover for their sins.

In addition to the competitions, designs with titles like "Disabled friendly architecture" or "Disabled friendly projects" are discriminating but are reflected to the community as the fulfillment of social responsibilities. Instead each project needs to be "human friendly" not targeting at some specific segment. These projects aiming not to unite the whole community but to unite the so-called "disabled" individuals among themselves get positive critics from the majority. Another similar example could be given from a news provided by RAF product magazine: "RAF product magazine began working for creating an environment for the disabled where they can live better lifes". With this expression, it is accepted that the environment is not suitable for the so-called "disabled" individuals to live and it is as if it is aimed to grant "a little bit more space for them to live" with the project mentioned. If the word "to the disabled" was omitted from the news and if only "an environment that is more suitable for living" was stated, the project to be started would be a more humanitarian one.

Architects and designers who are the creators of many structures and environmental organizations, are not aware of the social problems this perception creates although they are part of the whole process. This subject matter to which no search to find a solution exists for it is not thought of, should be the agenda of both the designers, the community, the administrators, and the authorised parties.

As long as the designers themselves see children, sick people, old people or the so-called "disabled" people as the minorities, it is impossible for this design perception and the project concepts realized to change. All of these examples give support to disabilities being disabled projects themselves instead of intending for the support of disabled individuals.

CONCLUSIONS AND RECOMMENDATIONS

In the light of the information and findings reflected, it is seen that the definition of "disabled" is in fact a power and ideology problem. This definition is the biggest but the least visible disability in front of creating an environment and architectural structure that is reachable by everyone. In order to change the current perception, it is obvious that awareness should be created in the minds of the public. As it is the individuals making up the community who create this differentiation and discrimination, the change in the perception can only be done by changing the mental status of the individuals rather than making a change from the very top. Any efforts in this respect are to be supported and widespread. For example, in the project named as "I was restricted here", the architectural disabilities faces in daily life are determined and photographed by the people witnessing them. These kinds of studies are important for the establishment of control and awareness in the community. In this way, a perception like "global design for everyone" will be established and the architectural designs will be shaped in this line.

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Changing Spatial Perceptions of Museums

Mutlu ERBAY

Abstract

Exhibition venues convenience in buildings owns areas are important. Exhibition venues' being authentic, mysterious, attracting and practical carries a big importance with regard to exhibition culture. Also interior areas' convenience for exhibition and visitation is substantial for planning exhibition areas. Historical museum buildings and modern buildings are always compared to each other. For example, a modern technology or science exhibition is expected to be held in a museum building associated with technology. When colors picked for venue background or plinths, even the frame of the art work, color of the wall, resting areas, sitting groups, shape and color of seats is directly proportional with the material, audience will intensely

Keywords: Museum architecture, exhibition, art work, changing museum, modern museum

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enjoy the exhibition. This issue and the solutions to be find for the problems occurring belongs to interior venue designators of the museum. In museum and gallery exhibition expert should spot the problems related to exhibition beforehand and aim to find solutions for these.

INTRODUCTION

Art works belonging to the museum affects the situation of exhibition. When high buildings are made museums it is troublesome to lift large art works from staircases and weight load the building and floors face is yet another problem. It is important if there are buildings around to be added to the museum. Urban development plans, urban projects for 10 years and urban transformation projects affect museum studies. When making forward planning for the requirements of 5-10 years from today, buildings necessity of enlargement with additional buildings is considered as well. Environmental planning of outer space is evaluated together. Planning of museum exhibition venues should be considered together with planning of outer spaces. This is very important for publicity and advertisement companies. Museum logo in modern museology is dealt together with brochure, catalogue, flags and outer space initial advertising (G. Camin).

Are projects for the next 10 years such as construction and placing projects, city plans, plans for future, car parking area, areas closed to traffic, hotels, business districts, cultural centers, marketplaces, metro and stadium exits and ports affect planning of museum and exhibition areas' planning. Museum planning shall be conducted with groups planning cities, engineers, architects, sociologists, museologists and designers.

CHANGING FUNCTION -OLD AND NEW MUSEUM

With development of technology and new ideas, exhibition venues started to change and develop. Sometimes an old abandoned building may lose its function and may be used for another purpose. Transportation cabinets, hospital buildings, warehouses, jail houses, power plants, train stations, old factories, airplanes, trains and historical architectural buildings are used as museums and various exhibitions are held in these places. Exhibition designs are organized in many different ways in history, science, art and cultural centers, public spaces, parks, shopping centers, botanical gardens, universities, industrial commercial buildings, commercial demonstration areas. Areas like Akmerkez, Profilo, Capitol, Galeria, Nautilus, Cevahir shopping malls and new exhibition areas like stations, hotels,

metro, have been participating in the new culture of the exhibition spaces.

Architecture of Station Building designed as Musée d'Orsay (Orsay Museum) along the Seine belongs to Victor Laloux designer of Villa Hotel in Paris. In this Station Museum, collection is exhibited chronologically. Technological buildings of the time remain idle as a result of developments and these magnificent buildings are turned into museums.

Figure 1. Musée d'Orsay Outer Space (http://www.musee-orsay.fr/)

Project of Haydarpasa and Sirkeci Train Stations turning into museum is still proceeding.

Famous pop artist Andy Warhol all identifies today's American museology as "today all big museums ate turning into culture centers and shopping malls and one day they all are going to become shops".

Ali Artun has the thought that, inspiration from exhibition culture lies in the basis of many similarities between museum and shops. According to him, when they are isolated from the environment they were produced in and utterly different meanings and values are loaded to art works, they turn into images. Art works fold into other meanings in shopping malls. Although the exhibition changes according to the type of museum, museums doesn't have the luxury of replacing the art work sold with another commercially. Exhibition areas may only

increase their charm (A. Artun). Also exhibiting art works in popular places like shopping malls or entertainment centers allow them to reach audience easily.

In 2006, New York Guggenheim Museum consisting of 40 flats had four restaurants, four boutiques, two congress halls and a skating ring. Besides this, Guggenheim Museum administrators who adopt carrying museum activities outside of museum structure as a principle have opened branched out museums in various places of the world since 1996. Just like Madame Tousseau, Moma and Tate Modern Museums.

The areas picked by Tate Gallery Museums built by Sir Henry Tate -a sugar merchant in London are important examples demonstrating the development of exhibition venues in time. In 2000 some pieces of Millbank Jail House has been transported to Tate Modern which is an old electricity factory building placed in down River Thames. With a donation equal to the amount of 50 million Pounds from London Lottery, old power plant has been changed completely under the condition that steel and bricks remained the same and it has been opened as Tate Modern. Tribune hall of 3300 m^2 has been enlarged as forming both entrance and exhibition area. Original roof has been disassembled and replaced with a glass arch with two layers and high narrow windows has been placed in the north side of the 7 floor gallery building with a length of 200 meters. One of the novelties of the gallery at the exhibition venue is rearrangement of the collections. In 2000, art works has been rearranged under the name "Representing Britain 1500/2000". In Tate Modern, art works are not exhibited chronologically but they are exhibited by grouping thematically.

Figure 2. Tate Modern New Building (http://www.arkitera.com/haber/19453/tate-modern-ileri)

When New York Guggenheim Museum hosted an exhibition for motorcycles it was became a huge issue in United States of America. What should the museums exhibit? Are the museums places for fairs? Is it normal for an innovational museum like Guggenheim which is an example of architectural genius to become the host for an exhibition for modern motorcycles? Museums of the future should only exhibit art works or industrial products of the time could be accepted as art works? Are there going to be 3-D museums? Should the museum building be opened to design object? Questions like these are becoming more popular among museologist and architectures day after day (Shaw M. K. Wendy).

Figure 3. New York Guggenheim Museum (www.guffenheimmüzesielitsitil.com)

Besides the arguments about the art works to be exhibited in the museums, the art works to be exhibited under the roof of shopping malls is a question of debate among museologists. As is known, objectives of people coming for a museum visit and objectives of people coming to a shopping mall is totally different (M. Schwarzer).

Paris Center Pompidou Shopping Mall is designed as a culture and shopping center. George Pompidou Culture and Art Center was opened in 1977. The museum named after French President is a host for exhibition of various modern art, architecture, photography and graphical design pieces. Shopping malls became places such as galleries and auction companies where art buyers meet with sellers and they are aiming to reach consumer thereof (P. McKenna Cress).

Figure 4. Paris Center Pompidou Shopping Mall (www.hdimagegallery.net)

It is possible to open exhibitions with various content in airplane hangars, antique caves, idle coal mines, salt mines, idle military zones and sanctuaries. Shopping malls have concert halls, movie and theater houses and all kinds of exhibitions (exhibitions such as development of evolution, coffee culture, Mevlevi material, sharks dinosaurs, human body muscular system, princeling imaginary hero, star wars heroes) can be held in these areas (M. Erbay).

Today places widely used by citizens and beaten tracks are used as exhibition areas by museologists and curators. This change in venue also changes the presentation techniques of the exhibitions.

In recent years exhibition's harmony with inner and outer spaces gained importance as well. In planning of exhibition area, as convenience of inner venues of the building for exhibition is important, organizing illuminated high resolution projection demonstrations on the facade of the building carries importance as well. In the opening of Athens Acropolis Museum in 2009, a parade of statues present in the museum has been projected on the walls of the museum. This new presentation technique has impressed the visitors intensely and has a broad repercussion in press as 'Goddesses are Awaking'. Making exhibition areas attractive for visitors and increasing their impressiveness by using charming and innovational technologies are important for modern museum understanding. Thus, image of the museum building has been recreated in 2009 by using the facilities of technology.

Figure 5. New Acropolis Museum Outer Space Projection and Acropolis Ancient Greek Temple (youtube the opening of new museum: Acropolis)

CONCLUSION

Both new architectural materials and the images projected on these materials help preserving the sustainable interest with regard to museum visitors. They reach lazy and pushed consumer citizen mass of this century by visiting them personally. Internet networks seem to converge people however authentic uniqueness principle of the museum is also emphasized at the same time. In our time museum venues become smaller and number of boutique (small scaled) museums increase rapidly. Primary duty of the governments is to preserve the art works of the future in government museums. Governments either back out of this duty or they assign it to special museums, foundations and municipality museums (M. Erbay).

As seen in this limited article which aims to narrate story of the changing spatial perception of museums, museums and gallery buildings change with developing technological facilities and as there is a sense of threat for the future of museums, they spread towards shopping malls. Also government museology - which was prevalent in Turkey until 200- faced with the concept of private and boutique museums and industrial society areas being used as a museum. Just like the instances observed in England, France and Greece. Museum venues are the temples of our history of humanity which we created together.

In reality museums shall continue to seek more authentic and newer venues for art works thereof. Museums open to innovational ideas will be redesigned with archaeological sites

may be, and they will become new museum venues. Traditional museologist will stand against these new ideas. May be with its opportunities of marketing, internet museology will stand as the biggest threat with the rising values thereof. May be we will be running to the innovative museums to see art works produced in 3-D printers exhibited in museum venues printed in 3-D printers. May be museums will start working as partner institutes with university research foundations and they will produce and process information? Future is to come later or is it just now? Museums are the venues to show us who we are, what is important for us and our technological development, in national and universal scale.

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Resume

Mutlu ERBAY has been working in Boğaziçi University as an academic staff of department of fine arts since 1989. She has been head of the department of fine arts since 2010.She got her B.A from Marmara University in faculty of education – art education in 1989. She got her master's degree in Boğaziçi University- history department with her thesis study about "The investigation of Turkish Art Policy in the Republican Period"She attended to The Museum Management and Studies Program of Leicester University in 1994.She completed her doctorate in Faculty of Education of Marmara University with her study about "Investigation of Higher Level Art Education in International Grounds.She got her second doctorate from İstanbul Technical University, Architecture History, Art history with the thesis study of "Preparation of Yildiz Palace for 21th century and its analysis in terms of modern museology.

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New Designs in the Museums

Nuri Özer ERBAY

Abstract

When building the relationship between human being and art work, designs aimed at protective and redemptive measures are needed in museum venues. Many museum buildings used today are not planned in a way to provide a safe service for collections and visitors. Most museum buildings have adaptation problems in performing safety measures and technology based transformation. In museum exhibition venues, exhibition areas convenient for characteristics of the visitors shall be designed while building the relationship of the art works with each other.

Keywords: Protective, Mueum Venues,Building,Safety,Security,Museum visitors,

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INTRODUCTION

Architectural structure of the museum shall be designed in an accessible way regarding safety. In these designs special needs of visitors shall be taken into consideration according to types thereof. Architectural structure, topography and natural presence of the museum increase visitor accessibility. Exhibition venue, showcases and platforms, staircases providing access to upstairs, stairs, slippery rugged surfaces and entrance and exit to the exhibition venue from the same door form inaccessible areas. It mustn't be forgotten that special disabled visitors can create an unsafe environment for others. Existing designs in museums shall be redesigned to be made accessible by disabled persons. Museum venues must be redesigned ad made accessible by disabled persons. All characteristics of visitors in museums should be taken into consideration and universal living spaces addressing integral attitude should be designed. Museum environment designs with regard to visitor safety must be steady. Ramps shouldn't be unnecessarily steep and slippery. Floor tiles, carpets or other ground coatings must be attached each other in a safe way. Gaps in ground coating shouldn't exceed the radius of 13 mm. Grounds with different colors should be used for highlighting the ground odds and drawing visitors' attention. A distinctive environment requirement should be provided for visitors especially who use walking sticks, crutches and wheelchairs and warning signs shouldn't be forgotten.

Protective and redemptive safety measures, patrolling security guards, security cameras, fire alarm systems, automatic fire extinguishing systems, electric generators, electricity supply and emergency exit doors are the things to be present in museum buildings. An audible and optic warning system to direct the visitor to the exit in case of emergency must be present as well. This emergency exit directive system must be placed on a location so that everyone can interpret them easily. Emergency exit doors of museums must be designed in a way which is visible easily in emergency cases like fire or earthquakes. Nothing must be placed in corridors and gates which has the potential of toppling and avoiding exit. Passage to venues and exits must be marked in museums in order to eliminate unsafe conditions. Door opening to the exit in exhibition venues must be side hinged openable and closable to both sides. In museum venues that host more than 50 visitors and in venues which have high risk of danger, exit doors must be openable outwards. In places where there is potential for exposure to danger with fire and smoke, there must be at least two exit doors which are away from each other.

Visitor walking tracks of the museum must be marked and stumbling on must be avoided. Stairway banisters must be fastened. Polished surface of stairway banisters mustn't be slippery for hands. Stairways must be in standard size and they must be produced from standard material with standard color and height. Tapes in remarkable colors avoiding slipping must be used in stairways and ground sills. Measures for making slippery grounds nonslip must be taken. Rough surfaces and damaged stairs must be fixed quickly. They must be made with safety signs until repair is completed.

While relationship of the exhibitions with venues is planned, this must be convenient with the protective and redemptive measures regarding work safety. Inner and outer lightings must be placed perfectly. Implementing burglary detection systems, detector systems, earthquake and shock detection systems, fire and smoke detection systems, air conditioning systems and temperature, humidity and pollen filtering control systems are the most important tasks of the museums regarding protection and redemptive.

Dense crowdedness in museums may cause accidents. In museum exhibition venues with excessive crowdedness, art works cannot be observed conveniently and therefore pleasure found will be reduced. Crowded exhibition venues may also create dangerous situations for the art works. When it is overcrowded, visitors must be taken into exhibition venues by groups with limited numbers. Some museums accept visitors in a limited number. They provide periodical tickets and accept visitors in a certain amount in certain hours. Dolmabahce Palace Museum, Hermitage Museuma and Andalusia Emevi Palace Museum are examples of this. Appointment system may be implemented in order to keep visitor numbers within certain limits.

Figure 1. Louvre Museum Glass Pyramid Visitor Exit (1995)

Controlled venues must be created in order to ensure connection of the museum with outside. Fences and walls around museum and buildings with different purpose utilization may cause outer fields of the building become defenseless. Walls, roofs, grounds and ceiling of such buildings cause problems regarding safety. Window and door numbers on building exterior surfaces must be limited to a number which is sufficient for ensuring safety. While determining the location of the doors, general entrance, personnel entrance, disabled persons entrance, good entrance and emergency case entrances and exits must be taken into consideration. Personnel and visitors must not be allowed on luggage elevators. Visitor elevators must be designed in a way to let in groups and disabled persons. Windows and roof lights must be adjusted for required day light level. All doors and windows and the roof must be resistant to a physical attack. Besides, external walls of the museum, vegetation, veranda, recessed doors and projection of neighbor buildings, concealing areas of the museum buildings are important as well in terms of safety works. External walls of the museums must be designed in a specific way. Museum buildings must be designed in way which is inviting for the visitors to enter in and see what is inside. Concept of accessibility to museum environment and venues are among museum protective and redemptive work safety measures.

Commentary by Accessibility Guidelines prepared by Chamber of Architects stating that "All government offices, local administration buildings, schools, recreation areas, gymnasiums, shopping malls, health facilities, culture and education institutions and public institutions must be designed in a way to allow persons on wheelchairs entering into these buildings

easily. Accessibility of these buildings is a sign of mature architectural comprehension and developed social organization" must cover museums as well. Conducting studies directed to accessibility of society to the museums is a must.

Museums must have designs for allowing disabled and old persons having a visit there comfortably and basic standards allowing this must be implemented in all designs. Pavement heights must be between 6-15 cm. Ramps must be built on convenient positions of the pavements for allowing wheelchairs to climb on. Slopes of these must be about 8%. If width of pavement ramps is 140 cm, two persons walking side by side may pass through these. It is desired that persons using wheelchair are able to reach building main entrance from the parking area without any help (longest distance preferred is 50 meters). Museum building entrances must be convenient for direct access of disabled persons from ground level. Main entrance for persons on wheelchair is desired to be the main entrance of the building. Buildings must allow entrance without sills. Enough elbow room must be present for wheelchairs in entrance halls. Venues must be designed as bigger than the radius of 150 cm which are not hindered by any bumps or door openings.

Fixed ramps must be placed in entrance areas of the museums and exhibition venues for disabled visitors. Building of these ramps with inconvenient materials increase the risk of accident. Slope of the ramps must be maximum 8% and their width must be minimum 90 cm. Ramp length must be maximum 9 meters and ramp surface must be coated with soft nonslip material with too little roughness and protection border must be present as well. This border must be 150 cm in length and must be flat with a different texture. It must be positioned at the end of the ramp. Mobile ramps must be placed at the entrance of some exhibition venues. Disabled visitors must avoid parquetry tracks, steep exits and cornered turns. Pursuant to the laws, museums must provide complete accessibility for disabled persons to museum exhibition venues.

Many historical museum buildings at use in country today are not designed in a way to provide a safe service to collections and visitors thereof. Many museums having historical venues have problems of transformation and adaptation. Restoration of museum buildings having specific architectural structures and historically important buildings requires special permissions. Within transformation process of buildings with specific historical architecture into museums, special permissions must be acquired from Preservation Boards. Performing acceptable

safety works under spatial constraints in these type of historical buildings is difficult and expensive. Interventions that historical building allow can be performed. Old wooden frame construction building may not support these new systems. Fixation of motion sensor systems for burglary, face recognition systems, persuader alarm systems, police station linked systems and day and night vision camera systems to the venue brings problems such as intervention to the building. Planning implementation of so many important measures such burglary detection systems, detector systems, earthquake and shock detection systems, fire and smoke detection systems, air conditioning systems and temperature, humidity and pollen filtering control systems at the same time is very difficult task. Interventions allowed by the historical building can be performed. Characteristics of the building may not stand such systems. Lots of museums has been exposed to fire outbreaks caused by electric contact.

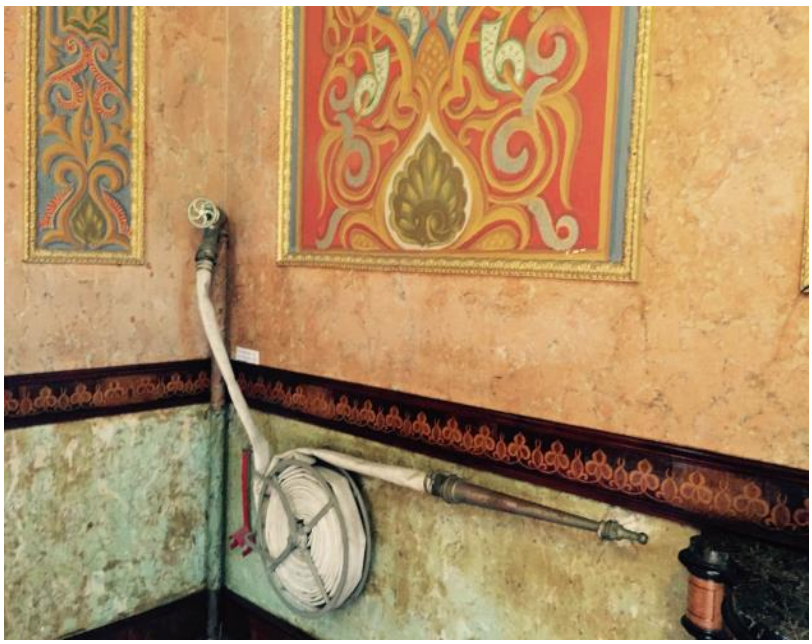

Figure 2- Dolmabahce Palace Fire Prevention System

Structural particulars of historical buildings must be taken into consideration. No interventions over these particulars must be performed. Although it is not easy to install elevators and staircases for disabled persons, there are among measures to be implemented in museum buildings. Visitor entrance and exits are from the same door mostly.

Figure 3. Restoration of Historical Eyup Turkish Bath

Essential rule of protection during construction in museums is to protect workers, visitors and art works from danger. Occupational safety specialists must make detailed plans for protection of environment during preparation for demolition and construction. Employees and temporary workers should be supervised all the time. Before the start of the construction, Museum Director responsible for protection must prepare action plans. All measures to avoid burglary during construction must be implemented. The procedure to be followed after a burglary must be predetermined. Control and supervision must continue during construction. In spots with safety hazards, more workers must be employed and a mutual responsibility field must be created.

CONCLUSION

In our day using security systems as a persuader with an audible alarm is not enough. Construction material must be picked wisely against the possibility of public and collection materials getting damaged. Usage of nonhazardous materials inside and outside of the museums to avoid chemical leakage is a common implementation. Museums must implement systems identifying the attack rapidly and acting accordingly. Museum administration must develop designs and build physical defense line to avoid crime.

Accessibility comprehension of the society means additional expenses. Existing designs must be rearranged for adapting to accessibility. To arrange these inaccessible areas for disabled persons requires extra costs. Meeting special needs of visitors always means non-proportional expenses. Volume of

these expenses increase according to the construction of the buildings or form of the environment accessibility provided. An interdisciplinary study is required for creating professional designs allowing meeting of everybody's needs.

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Resume

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