

LIVENARCH IV

(RE/DE) CONSTRUCTIONS
IN

ARCHITECTURE

4th INTERNATIONAL

C O N G R E S S

livable environments
&
architecture

Karadeniz Technical University

Faculty of Architecture

Department of Architecture

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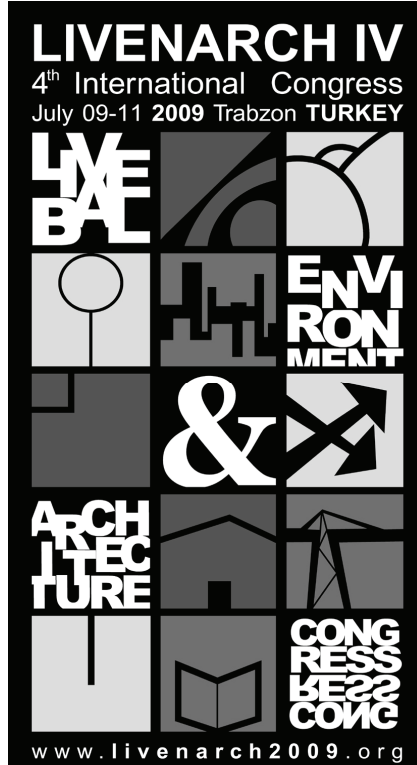


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LIVable **EN**vironments and **ARCH**itecture
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“Reconstructing” Architectural Education for an Interdependent World

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Gocha Mikiashvili

“RECONSTRUCTING” ARCHITECTURAL EDUCATION FOR AN INTERDEPENDENT WORLD

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ABSTRACT

The challenge of addressing ***Livable Environments and Architecture*** is an in depth examination of critical global issues that impact every society. We now live in a totally interconnected and complex world that entered the previous century with only two billion inhabitants and this century with over six billion inhabitants. Ethically, each and every individual deserves a humane quality of life.

This exponential growth in our global populations is unprecedented in human history and the projections are for the population to reach nine billion by mid century. Already over half of the population is located in cities and emerging mega cities placing extreme pressure on all infrastructure and support systems.

The past century has also seen unprecedented invention and innovation in every sector of development involving food, clothing, shelter, technology and consumer goods and services. This includes everything from agricultural production to transportation, digital technologies and communications. Virtually every individual has now been exposed to the possibilities and limitations of global interdependence as resources are extracted from every corner of the world, manufactured in another country and transported to yet many other countries for use and consumption based on fossil fuel resources.

The location and distribution of these resources alone has defined areas of poverty and wealth and placed exceptional stress on all social, economic, political, military and environmental systems. Today, these patterns are rapidly changing with the realization that we must reconsider all of these systems and transition to a post fossil fuel age. The challenge for our professions is to consider the ***“Reconstructing” of Architectural Education for an Interdependent World...!!!!***

GLOBAL CULTURES IN THE CONTEXT OF CHANGE

The events of the past few years have demanded our full attention as the forces of nature have devastated the entire coastal regions of our world. We have been even more riveted by the devastating realities of life that the aftermath of the storms and floods have revealed the impact of climate change. From a personal perspective

none of these events are a shock or even a surprise. I was born just “up river” from New Orleans in a hospital that was literally less than three hundred yards from the levee systems of the Mississippi River. The responsibility of our planning, architecture, design and engineering professions as well as our systems of government have never been more evident as one of the world’s great cities was devastated.

Our social, economic, and political responsibilities to conceive, develop, maintain and nurture each individual citizen within sustainable communities that provide equitable educational and economic opportunity were also never more clearly demonstrated. Again on a personal note, I had the opportunity to observe the riots that tore apart the fabric of our society in the United States and our cities in the summer of 1967 while studying in France. This global perspective ethically required that I return to work in many of the similar neighborhoods that were also impoverished and devastated. The incredible irony of today is that we are also appalled by the nightly protests and conflicts around the world. In these of communities of limited opportunity, no matter where they exist, little has changed in almost four decades and the last four months of the crisis in global economic systems is socially devastating

For a world that entered the last century with less than two billion citizens and this century with more than six billion, we, as design professionals, have an enormous responsibility to respond to the dramatic environmental, social, political and technological changes that confront our societies. Perhaps none of us will individually impact these fundamental forces of global change, however, collectively we must make every possible effort. All of the programs of the international schools of architecture have a fundamental responsibility for the stewardship and sustainability of the land and environment. Architecture, Interior Design, Landscape Architecture and Community and Regional Planning must be expanded by the inclusion and integration of related professions which has as their core mission the nurturing of all environmental design and stewardship of all natural systems.

We have clearly seen the consequences of inaction and abuse of the environment with all of its meanings. These are indeed challenging times just as it has been for all previous generations, however, we must provide a legacy of stewardship and social justice for future generations to inherit and enjoy. As educators we must assume the responsibility to change our educational systems by “Reconstructing Architectural Education for an Interdependent World”.

EMERGING TRENDS IN ARCHITECTURAL EDUCATION

We are very fortunate that worldwide, our professional programs in Architecture are now emerging as interdisciplinary professional programs including Architecture, Interior Design, Landscape Architecture, Urban Design and Community and Regional Planning. Our long overdue role as public policy leaders and engagement in critical research issues such as housing, urban centers, sustainability and environmental climate change has clearly begun to evolve. Some nations have had in place for several decades national centers for public policy and scientific research. In the United States we are at last in the process of creating a new National Academy for Environmental Design. These discussions provide the opportunities for all of our

related professions to provide national and international leadership in the development of fully integrated curriculums and research centers reflecting the collaborative nature of our professions that engenders trust and mutual respect.

Each of our academic and research institutions have leaders in their respective educational and professional communities. For example, just within the profession of architecture within each nation are organizations that focus on these multiple relationships. Over the past three years, I have had the specific privilege of serving on the National Architectural Accrediting Board in the United States and the honor of serving as the President. This organization consists of members from the four collateral organizations: the AIAS, ACSA, NCARB, AIA and the public. All of these organizations are focused on the development of our collective professions through the innovative educational concepts of the fundamental ethics of environmental sustainability. By participating in many sessions with the leadership of our professions and related professions several critical factors have become exceptionally clear with regard to preparing young professionals for the complex, competitive and yet potentially collaborative environment that will characterize their careers.

Imbedded Intelligence will continue to increase in the software of the digital technology that has become so globally omnipresent within all of our professions -- from powerful Geographic Information Systems for environmental and planning systems to interior design software lighting, spatial, structural, energy and environmental simulations. The most powerful and rapid of changes is the emergence of Building Information Modeling software (BIM) that is based on three dimensional parametric modeling to include the capacity to include concurrent design costs and construction simulations as well as operational software for the lifetime sustainability and management of the buildings. Clearly, these systems are being adopted worldwide by the educational institutions and professions and it is imperative that innovative digital concepts in professional education are required.

Inter-operability of Systems is a major focus of the entire planning, design, construction and management professions. At present, the emphasis has come from national, industry-wide studies such as in the United States from the National Institute of Standards and Testing and has concluded that there are enormous value-added opportunities possible with BIM technologies. However, while some professional offices have fully adapted, the vast majority of our professionals are still "piloting" selected projects and transitioning their skills. It is imperative that all digital systems used from design and conception, including professional consultants, through general and specialty contractors develop compatible and interoperable digital systems. This will also be true of manufacturing and management professionals for the construction and lifelong performance of the buildings and environmental systems.

Integrated Practice has already become the focus of our professions as worldwide the institutional and professional organizations have developed special working task forces to address this aspect of our professions. While the current focus is on the numerous engineering and construction professions, this effort must extend its focus from initial environmental and planning issues throughout the full development of interior systems and product design. Given the expectations of the clients responsible

for the initiation of the built environment, the accomplishment of a fully integrated practice is critical to the future development of our professions and to the sustainable design and development of the built environment.

International Collaboration is imperative if this aspect of our professions is to become fully operable through our design professions as professional work is being accomplished on a true interactive and international scale. This process has been developing for generations. However, with the advent of the digital technologies and integrated practice, this has become a global opportunity and ethical professional responsibility if we are to accommodate the world's burgeoning populations with the quality of life that is required to be fully sustainable -- this must be achieved through a fundamental shift in our educational systems as we prepare future professionals for practice in this interdependent world where the flow of people, goods, funds and information is now virtually instantaneous.

Substantial Equivalency is an ethical educational concept that requires the quality and recognition of professional programs throughout the world. The old model was to develop centers of competitive and exclusive excellence. However, we now have larger challenges such as those defined by environmental sustainability and it is now our obligation to share critical information in order to develop high performance buildings and systems on a global basis.

The concept of formal recognition of substantial equivalency has been in place in engineering disciplines for several decades. There are emerging intentions of a number of countries that are working hard to develop accreditation standards for architectural education on a multilateral basis to develop this concept. These initial efforts include educational agencies the United States, United Kingdom, Canada, Mexico, Australia, Korea and China. Initial protocols have been established in the "Canberra Accords" and the refinement and inclusion of additional systems are being explored. Initial visits are emerging as the program is critical to realizing the full potential of our worldwide network of mutual interest in architectural education and environmental responsibility.

ARCHITECTURAL EDUCATION AND DESIGN VALUES IN A DIGITAL WORLD

As a young Associate Professor thirty years ago I presented a lecture at an international university. The topic was titled "Architecture as Information Management" and it included the full spectrum of information from design concepts to cost control in the creation and construction of meaningful architecture. Construction alone does not define architecture as it must embody the true values and aspirations of our institutions and society. Indeed the architecture of today will be the subject of archeologist and anthropologist for many future generations to come. The digital age is already having an incredible impact on design education; however, the most dramatic changes are yet to be realized as we move into the rapid information technology developments of the twenty-first century.

The recent history of our professions has been one of separation and competition rather than integration and collaboration. The competitive edge of compensation and competitive professions emerged to limit and to protect. The legal and contractual

responsibilities of the professions were constrained giving rise to the entrance of others into the field of design, construction and facilities management. The seventies saw the rapid rate of inflation, fast track design and construction, and the emergence of project and construction managers. The period also saw the rise of litigation as our consumer societies sought litigation and compensation for any perceived or real lack of performance of professionals and products.

The emergence of "Building Information Modeling" should be expanded to "Environmental Information Modeling" to more accurately reflect our full range of concerns. These digital technologies are presenting new opportunities for the design professions to regain the central role of responsibility for evidence based design, conceptual and detailed design, construction and life long management of the built environment. The concept of "imbedded intelligence" into these new software systems provides the designer with design information previously left to the fragmented professional specialist that have emerged over the past three decades. Imagine software systems that contain simultaneous information regarding the spatial, material, technical, economic, maintenance, and management information required to allow the design professional control of all of those variables while concentrating on the conception, configuration and construction of the architecture.

The future of our global environment is too complex and too valuable to be conceived and constructed within the limits of our current educational and fragmented professional structures. What was a conceptual idea of "Architecture as Information Management" some distant thirty years ago is emerging as today's reality and it is our responsibility to reinvent design education as the foundation for the quality of the built and natural environment of the twenty first century.

MODELS OF ARCHITECTURAL EDUCATION

As mentioned above, I had the privilege of serving as the President of the National Architectural Accreditation Board (NAAB) in the United States and previously serving as the President of the Association of the Collegiate Schools of Architecture. During these past years, educators and professionals placed in motion one of the most positive and comprehensive discussions on the critical issues of architectural education and professional practice in the history of the NAAB and the ACSA. The mission was to assimilate the hundreds of critical and constructive issues that have been identified by all of our collateral organizations and related professions. These discussions focused on the concepts of "integrated practice" and "sustainability," and they will have a major impact on all of the programs of Architecture. The recommendations will provide a framework that will be "future oriented" and project these issues into "Emerging Accreditation and Educational Models for the 21st Century!"

LONG TERM FRAMEWORK

The Emerging Accreditation and Educational Models were developed as a system that recognizes not only the short term cycles between accreditation visits, but also the critical educational foundations and "core values" that will serve our students

throughout their professional careers. In essence, we were seeking Emerging Accreditation and Education Models that will recognize the long term stability of educational traditions, concepts, values, and principles of the discipline of architecture and our related professions while recognizing the constant nature of change and innovation within our rapidly changing academic and professional world.

STABILITY AND CHANGE

The Emerging Accreditation and Educational Models must have the capacity to assure the schools of stability and predictability of the long term accreditation process while also reflecting the potential emergence of issues that will require appropriately rapid educational responses. This dual mission of stability and change is very critical as the Emerging Accreditation and Education Models must also encourage maximum responsibility, flexibility, creativity and innovation. The models must emerge from within the academy and also provide appropriate public assurances, encouragement, and recognition for educational and professional advancement.

EXISTING MODELS OF ARCHITECTURAL ACCREDITATION

The current NAAB Conditions and Procedures are considered by many as an exemplary model and have had a significant influence on architectural education on a global basis. For example Korea is now the KAAB and China is the NBAA and it has been an open model to be shared where desired and appropriate. Sharing systems is also being explored on the basis of individual institutions such as MIT where their "open platform" web site allows access to each course in the curriculum. The NAAB is currently engaged in refining the development of the Accreditation /Validation Roundtable to establish the "substantial equivalency" of individual institutions and accreditation/validation systems on a global basis. The signing of the Canberra Accord in April of 2008 is a major step in establishing equivalency in international educational recognition in the digital age of information.

EXISTING EDUCATION ACCREDITATION MODELS

A major critical task has been to document and explore relevant accreditation models for higher education in any academic or professional field from the Arts to Zoology. The specific focus has been on desired peer professional disciplines such as Law, Medicine, and Engineering. Again, future Accreditation and Education Models must incorporate the findings of research that defines "Professional" and "Global" change as critical concepts.

One of the primary focus issues is related to the rapidly growing demand for Integrated Practice Delivery within the immediate circle of related professions from urban planning, economic and ecological development, landscape architecture, all engineering disciplines and construction management, digital and fabrication sciences, as well as interior and industrial design. The resolution of globally complex issues such as "sustainability" requires a fully integrated, multi-disciplined approach to leadership in professional education and our professions.

MODELS OF INNOVATION AND EVALUATION

There are educational concepts and accreditation models that challenge us to think broadly about our mission and that are embedded in previous studies such as McQue's "Creating the Human Environment", Geddes's "Princeton Report", Boyer's "Scholarship Reconsidered" or "Building Community: A New Future for Architecture, Education and Practice."

These documents suggest we explore the role that scholarship, research and creative activity as well as "social responsibility" plays in having our schools become much more central to the clearly defined missions of their home institutions in terms of scholarship, teaching, service and sponsored research.

Given this mission, we need to critically reconsider our current levels of performance evaluation. We must ask questions about a full range of criteria from "awareness, understanding and ability" to new levels that should include "mastery and expertise" to become central to the major missions of the institution. These criteria have clear implications and application to the long term view of education trends. For example, in architectural education where the Master of Architecture is the terminal professional degree. Current trends in emerging doctoral programs worldwide are beyond the accreditation criteria of each of our related professions are now being developed that have implications for "mastery and expertise" in the creation of new knowledge through significant research. Every nation has its own academies of scientific, evidence based design. In the United States is being called for in ACSA's new multi-disciplined initiative to create a National Academy of Environmental Design, a long overdue goal for 21st Century Professional Design Education.

CRITICAL ENVIRONMENTAL RESEARCH AND PUBLIC POLICY

The fundamental issue is that "it is time for economic and intellectual investment." This opportunity for intellectual investment remains despite the condition of today's international economic condition. It is indeed time to invest in the College of Architecture, its students, faculty and programs. The challenge for all of our educational institutions is to respond to these global reductions in funding by redefining its educational mission for delivering design, innovation and research skills for highly interactive, multi-disciplined professional education.

Design and innovation in education are the hallmarks of our times as institutions seek innovative ways to maintain the core values of their mission, to resolve the challenges they are confronting, and to embrace the dynamics of change that will continue to define the future. Worldwide, each College of Architecture must re-examine each of its academic programs in Architecture, Interior Design, Landscape Architecture, Community and Regional Planning; engineering and construction systems. There are opportunities within each of these programs to be fully integrated and to create the synergy required of our future professionals.

Collaboration and consolidation will be required to deliver these professional programs with the highest levels of performance and will require redefining administrative and organizational roles. For example, the consolidation of Landscape

Architecture and Community and Regional Planning is an obvious possibility, however, to fully develop their potential requires their full integration with all the programs including Architecture and Interior Design. These relationships are required to develop the full spectrum of research, planning and design skills required to address the critical issues of an explosive global population, their demands on the environment and the creation of a sustainable environment through a comprehensive and integrated curriculum.

Worldwide many architecture programs are currently engaged in the creation of the Centers for Design, Innovation and Research to further the mission of generating new knowledge through sponsored research funding. These new centers -- that focus on Sustainability, Community Housing, Health Care, Digital Design and Research Education -- are critical to achieving the full potential of architectural education and our responsibility to each university and society as a whole. The creative and innovative energy that exists within our colleges must explore new configurations and relationships within the college, the university and institutions worldwide. Clearly the ability to achieve these dramatic and dynamic changes will require investment of time, energy and resources of all engaged in ***“Reconstructing” Architectural Education for an Interdependent World...!!!***

RESEARCH FROM PRACTICE

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The contemporary principles of cultural heritage preservation were defined and legalized by Venice Charter in 1964. Up to today, numerous international scientific and professional symposiums and congresses have taken place resulting in several charters, declarations, recommendations and conventions. There are precise methodological procedures, goals and guidelines defined in those documents. They are necessary for a thorough research and analyses, essential for an appropriate preservation and protection of the cultural heritage and its integration into a contemporary life and sustainable development. [1]

The methods of partial reconstruction and restoration are used in attempt to return integrity, significance, formal grace and beauty to degraded and damaged cultural and historic heritage. Valuable cultural and historic artifacts should not lose their authentic values- therefore methods of reconstruction should be used very carefully and in moderation. Using a total reconstruction method we create a forgery with pseudo attributes. Although, its use is sometimes justified, newly created product does not have an authentic character and can never be compared to a destroyed original. [2]

Despite the existence of several elaborate charters, declarations and conventions, a cultural heritage is often neglected, improperly preserved and poorly integrated into contemporary life. Archeological excavations are sometimes consciously omitted, therefore causing our knowledge about cultural heritage development to be rather incomprehensive.

A preservation of cultural heritage is sometimes placed in a subordinate position to some individual interests and profit gain, therefore resulting in its deconstruction and degradation.

Several examples from Bosnia and Herzegovina illustrate well those problems. Despite the adoption of the Convention for the Protection of Cultural Property in the Event of Armed Conflict at the international conference at The Hague in 1954- ratified by the former Republic of Yugoslavia on December 29th 1955- we have witnessed that during the war (1992 to 1995) the cultural heritage was ravaged, degraded and partly demolished.



A good example is the city of Počitelj. The greatest damage to the Hadži Alija Mosque was caused by an explosion of dynamite that had been placed at its base. A study carried out in July 2001 reported the following damage:

- The main cupola had completely collapsed into the praying area, and only parts of the tambur, which had supported it, have remained;
- The porch under the cupola, had partially collapsed (1 ½ small cupolas, broken arches, 2 columns with bases and capitals). Consequently, the deformations of porch's iron joists and shifted weight have caused some serious damage at the base and capital of the middle column (left of the entrance to the mosque);
- The minaret had almost completely collapsed. Only one polygon-shaped foundation stone of the turret, along with a few stone steps have remained;
- Extensive and dangerous cracks could be found in the walls, trompa, embrasures and windows adjacent to the minaret;
- The stone window frames had been broken and displaced;
- The mahvil had collapsed, the mimber had been partly demolished and the tranzenas had been broken;
- Wall decorations from 1988 had been damaged;
- The crown of the centuries-old cypress in front of the mosque had been significantly damaged;
- As a result of a long exposure to rain, sun, wind, frequent earth tremors, growing weeds and thefts of stones from the building and surroundings area, levels of damage have increased since the area was filmed in 1995.

In July 2001, with the possibility of mosque being put to use again in mind, the Programme for its rehabilitation was drawn up. The principles and guidelines for the

process of renovation were precisely defined. They were based on widely recognized international recommendations, including:

- The conservation, restoration, recomposition, partial reconstruction and structural improvement implementations were to be supported by a structural evidence and proper documentation;
- Extensive research, analysis and documentation of the building and its original fragments were to be carried out;
- All tests regarding construction and structure, as well as a laboratory analysis of the original fragments were to be carried out;
- A detailed technical study of the building's existing condition was to be carried out, showing all relevant damage;
- During a restoration process, the original ruined stones and other materials were to be utilized as much as possible;
- During a restoration process, all authentic materials and techniques were to be used;
- Horticultural improvements were to be carried out and the centuries-old cypress needs to physically protected;

It was anticipated that the restoration of the monument would be carried out in several phases. In each phase implementation quality much depended on available financial means and the current legal tender process.

It was necessary to avoid certain conservation and restoration mistakes from the past; individual improvisations and free style interpretations were their main causes.



The damage caused to the Hadži Alija Mosque required extremely complicated and delicate work. The implementation of the renovation process required a great expertise.

Every restoration process can provoke certain debate, especially when society in question does not possess an adequate knowledge of modern attitudes regarding cultural/historical inheritance and the principles and criteria of its protection and reconstruction. The main goal is to assure the unity of a building by combining saved and new elements, and to present all phases of its development without creating false artistic or historical conceptions. These falsifications are detrimental to an integrity of a building and could reduce its beauty.

In order to preserve the unity of numerous development phases of the centuries-old mosque, it was decided not to plaster both cupola and walls, but only to point them. The same principle was to be applied while reconstructing the cupola above the porch. Painting the interior of the mosque would be a false, pseudo-historical interpretation of its decoration (as in the case of the refurbishment carried out in the 1980s). Such a procedure would lessen the value and authenticity of the Hadži Alija Mosque.

Despite all these problems the Hadži Alija Mosque deserves attention of general public, particular conservation and restoration experts. At the end we should be very satisfied with the achieved results. The reconstructed mosque will, in its beauty, bequeath a particular spirituality and comfort to its many visitors and to those who worship there. The desired unity was achieved through the use of new understandings and techniques. Considering many instances where cultural and historic heritage destroyed by the war is being renovated and transformed in a quite amateurish way, we believe that this example will have a positive influence for the establishment of correct criteria regarding the implementation of conservation, restoration and in particular reconstruction work.



Even though archeological excavations are crucial in scientific research, they are often purposely omitted in Bosnia and Herzegovina. Likewise, the project of Kulina restoration in Počitelj did not anticipate them. Although archeological excavations had never been conducted in Počitelj, it was always assumed that all historic facts about its origin and evolution have already been well known. However, during the process of Kulina restoration, it became obvious that archeological excavations are essential and could not be omitted. Their absence would cause a great loss to our knowledge about Kulina, its origin and development within Počitelj's fortification system, its transformations and building additions during the Ottoman reign. Excavations conducted so far testify that Kulina, a three stories high structure, had been build in pre Ottoman period. It connected two perpendicular fortification walls, had a wooden roof and many loopholes positioned only on one side, away from the settlement and towards direction of anticipated military attack.

The authentic entrance that was positioned high above the ground, was also discovered. It is believed that one would enter Kulina using moveable, wooden ladder. After Ottomans conquered Počitelj the fortification system was adjusted to their new customs of warfare using firearms. They built a new wall structure that was much higher and completely encompassed Kulina, creating parapets on the top. This new addition entirely blocked old medieval loopholes while interior of Kulina was filled with soil to create plateau needed to situate canons. Also, solid stone staircase was constructed to access Kulina. It is very important at the moment to properly restore and conserve all these recently discovered artifacts.



Similarly, plans to conduct an archeological research during the reconstruction of the Old Bridge*** in Mostar have never existed.

Fortunately, archeological excavations became a necessity due to some unplanned difficulties that occurred during constructive consolidation of preserved Old Bridge's

foundations. Their result was a big discovery: found artifacts provided evidence of existence of two wooden bridges built in pre Ottoman era. Those new revealed historical facts have an enormous significance for the city of Mostar itself, as well as for the Old Bridge which immediate surroundings will be turned into an exhibit area open to public. The conservation of those artifacts in situ provided an additional dimension to the process of the Old Bridge reconstruction.

The reasons and needs for the Old Bridge reconstruction are all well known as well as are all techniques of the reconstruction implementation and its methodological approach. However, several errors that have occurred during this process, are not known to public. I would like to address all the omissions that had happened and are considered to be significant mistakes in this challenging process.

- International forces were assembled in order help collect all authentic fragments of the Old Bridge from river Neretva. This was a difficult and demanding task. A special platform was build along a riverbank where all saved and gathered pieces were left to dry. Later they were dislocated to the old Muslim cemetery where they remained until "a need" occurred to desecrate this burial ground and transform it into a parking lot.
 - All found fragments are labeled, photographed and documented in order to create a Project documentation necessary for an implementation of anastylosis. Unfortunately, this documentation have not served its purpose since a planned anastylosis have never occurred. The constructed bridge is entirely new and only two authentic fragments were imbedded into its fence. It is apparent that resulted damage is immense and irreparable from a historic, aesthetic and documentary standpoint.
 - There was a plan to create The Old Bridge Museum where all authentic fragments were to be exhibited as the most important artifacts. Unfortunately, there is a possibility that this project will never be realized.
- Again, the authentic stone fragments were dislocated from the old Muslim cemetery to the riverbanks of Neretva and Radobolja. There is a risk that they will be destroyed or swept away by raised waters. This kind of neglect and indolence cannot be tolerated and experts should raise their voices against it.
- Valuable natural cliffs are part of the Old Bridge's immediate surrounding. During the reconstruction process a right riverbank, downstream from the Bridge, is greatly devastated. It was covered with soil and rocks in order to create a construction site. The natural cliffs are also covered with a mixture of soil and rocks.

Finally, several terraces were built on the same spot as a stage for the bridge's opening ceremony therefore continuing a devastation of valuable natural surrounding. The experts insisted the riverbank to be returned to its original state, however this have not been done yet and chances of that ever happening are very slim. Now an appearance of artificial, ugly right riverbank dominates over the beautiful arc of the reconstructed bridge.



The case of hotel EVROPA will serve as an example of historic building deconstruction. It was the oldest and most significant object of its kind in Sarajevo built in 1882, under Western influences. As a very popular gathering place for Sarajevo citizens it was a highly prized building-standing witness of the past times. It was upgraded several times. First in 1910 [4] a section of the third floor was added. A planned art deco corner tower, was not erected then. Before the WW2, a smaller addition, located on hotel's north side, was completed. The biggest addition was built in 1960s, its style reflecting the period. [5] Upgraded annex's mass, shape and building composition was not well attuned with hotel's surroundings, particularly with the old čaršija.

During the 1992 the hotel stopped performing its original function and served as a refugee center. Then its devastation have begun. Unfortunately, it continues long after the war ended in 1995.

In 1998 a hotel's rehabilitation became an imperative and therefore, in the same year the preservation Office created Elaborat [6] defining necessary means of its protection. This Act considered the 1960s additions to be valuable witnesses of the past era – it respected numerous building layers added during several different time periods.

However, although the Office for protection have provided very precise instructions for hotel's rehabilitation, the 1960s addition was destroyed and replaced by a new glass and panels facade. A constructive consolidation using reinforced concrete (ferroconcrete) structure was performed on the Old Hotel. The original support structure was completely replaced by a new one that was not in harmony with an

authentic rhythmical placement of the old historic windows. The corner tower, planned but never constructed in 1910, was now erected in pseudo style. Also, two mansards for hotel rooms were added. As a result the size of this historic building was increased. Still a devastation process was not complete: building of two stories high underground parking lot followed (100 parking spots). It was partially constructed on a ground of the known archeological site – Tašli han, despite the fact that required project documentation did not satisfy any requirements requested by law.

In order to start building the underground parking lot it was a necessity to dislocate the archeological remains of Tašli han. After the completion of garage's reinforced concrete ceiling they have been returned to its original location - an inapprehensible act. This degradation will be continued by building two levels of store fronts adjacent to the old western wall of Gazihusrevgeg's bezistan. The storefronts will over tower the historic bezistan and block the view from and towards it.

From all the examples it is obvious that a severe deconstruction of the historic building and its Ottoman and Austro Hungarian surroundings is performed. The old hotel is now reduced to its modest authentic remains: only two original facades have been preserved. Its bearing structure is utterly new – made out of reinforced concrete. The considerably enlarged dimensions of the old – new hotel are attack on its surroundings, both from North and East sides.

It cannot be denied that there is a magnificent view towards čaršija from the newly added part of the hotel. However, it is quite obvious that the architect did not consider a scenery view from čaršija towards the hotel.

Some chosen examples well illustrate mistakes and accomplishments done by the restoration experts. They have been selected to serve as a lesson for all future activities. That lesson needs to ensure a proper preservation and conservation of our inherited artifacts. A deconstruction of our heritage needs to be immediately stopped. A destroyed and devastated heritage will be lost to the future generations forever.

ENDNOTES

- [1] Petzet Michael, Principles of Preservation, An Introduction to the International Charters for Conservation and Restoration 40 Years after the Venice Charter
- [2] Sanković Simčić Vjekoslava, Revitalizacija graditeljske baštine, Integracija staro-novo, Sarajevo, NNP Naša riječ d.o.o, 2000.
- [3] The Old Bridge was designed by Ottoman architect Mimar Hajrudin in 1566, and built by the stonemasons of the region. The bridge itself is a 27,8 meters long white stone arch, rising twenty meters above the lovely river Neretva. It crashed into the river on the morning of the November 9th 1993.
- [4] Građevno poduzetništvo Horvat i Šajdig
- [5] Arhitekt Milivoj Peterčić
- [6] Zavod za zaštitu kulturno-historijskog i prirodnog nasljeđa Kantona Sarajevo, Sarajevo

Photo: Vjekoslava Sanković Simčić

INTEGRATED RECONSTRUCTION AND REHABILITATION OF HISTORICAL TOWN SIGNAGHI

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ABSTRACT

The aim of the theme is to get the international architectural society acquainted with the experience of reconstruction of the historical town Signaghi in the eastern province of Georgia. The interest namely in this town is due to the high artistic value of the architecture and unique urban structure of old town.

The research theme is the methodology of integrated reconstruction and rehabilitation of small historical towns. The disintegrated approach and partial reconstruction, which earlier had a place, was the reason of appearance of different social, utilitarian and other kind of problems in small historical towns of Georgia.

The goal of the presented project of reconstruction and rehabilitation was to preserve the architectural and historical image of the town, converting it as a cultural center of the region. The settlement, located on the hill slopes, from where sights of the snowy Caucasian Mountain range and vast expanses of the River Alazani valley lie, was formed as a town at the end of 18th century.

During the Soviet period lot of original buildings were ruined. Faceless, ugly and featureless buildings were built instead.

During the process of reconstruction, the architectural style and original appearance of the houses were preserved, which were specified by their multiple (not only dwelling, but trade and industrial as well) functions. Particular attention was paid to even small details, such as lighting, fountains, squares, urban sculptures, lamps, street signs, all of which were worked out in an integrated, unified "Signaghi" style.

The reconstruction program of Signaghi, which started in spring 2007, in reality, constitutes a socially important large-scale project by Governmental structures and the Georgian Fund of Preservation of Cultural Heritage in collaboration with private and public sectors. The significance of research is determined by the principles and recommendations for the reconstruction of small historical towns, which can be considered as an outcome of enquiry.

Keywords: Integrated reconstruction, Rehabilitation, Preservation, Cultural heritage, Historical towns

INTRODUCTION

Georgians distinguished by its complicated and changeable history, huge cultural diversity and incredibly rich cultural heritage. This country is still in the critical stage of political, economic, social and procedural changes and is now developing its political structure and market economy.

Signaghi is a Georgian provincial town situated about 115 kilometers to the east of capital Tbilisi, in the Kakheti region. The town is surrounded by a large fertile countryside and connected with good asphalt road from Tbilisi and further on eastern Georgia [IMAGE 1]. This region is rich with relics of oldest dwellings that have incessantly existed from Palaeolithic and Neolithic ages through Hellenistic, Roman, Byzantine, Ottoman periods and further on, until now.

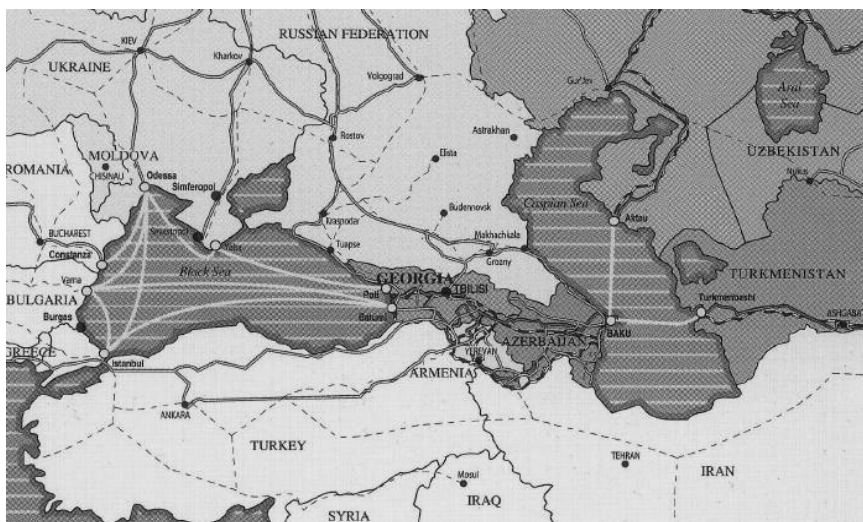


Image 1

The interest namely in this town is due to the high artistic value of the architecture and unique urban structure of old town [IMAGES 2, 3]. Historically Kakheti was something of a buffer region whose economic stability was determined by the trade roads unifying Europe and Asia that passed through. In 1104 the King David the Builder joined Kakhet-Hereti to the whole of Georgia. The 17-th century was almost fatal for Kakheti, when Shah Abas from Iran totally devastated this prosperous land, which was followed by the exile of 200,000 people to Pereidan, Iran. Only in the 18th century, during the rule of the King Erekle the Second, was it possible to establish the political and economic stability in Kakheti. Signaghi was founded in 1772 as a fortress [IMAGE 4], that was to serve as a barrier against the raids of the Lezghins of Dagestan. At the end of XIX century Signaghi became a cultural center of region and the local music troupes soon became well-known in the whole Caucasus region.



Image 2

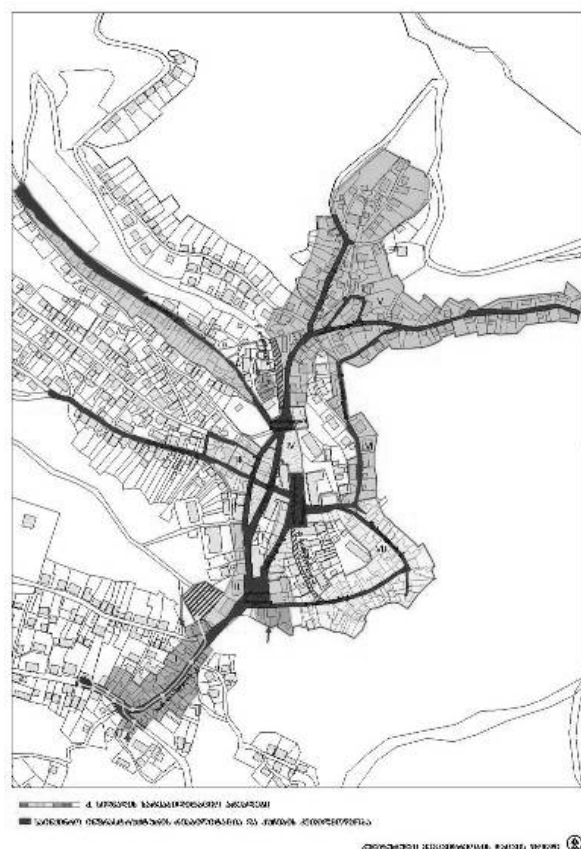


Image 3

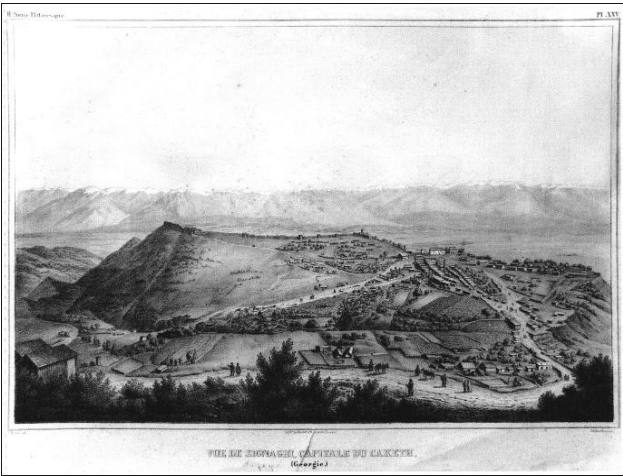


Image 4

Now this is the town-museum and each of Signaghi visitors at once becomes the part of the ancient civilization with the architecture of varying styles and quality. Like many other cities of Georgia the local type of dwelling was influenced by the late medieval architecture and inspiration from classical elements brought from Russia. There are few houses of exceptional quality and many houses are modern, but in general the town is typical for a small provincial town [IMAGES 5, 6]. Additionally Signaghi has a very beautiful location with a splendid view to the surrounding landscape where the local Kachketian wine is being produced. There is about 3.100 inhabitants in the town divided into approximately 900 families, now occupying their own flats or houses [IMAGE 7].



Image 5



Image 6



Image 7

The primary strength of the Signaghi historic town project is specifically centred on the local interest to improve living conditions through integrated development and preservation of the urban qualities of the historic centre of the town.

The goal of the presented project of reconstruction and rehabilitation was to preserve the architectural and historical image of the town, converting it as a cultural center of the region.

The Fund for the Preservation of the Cultural Heritage made a decision on what kind of architectural image the city should acquire in the future. Having elaborated the concept of the rehabilitation program, the Fund has undertaken the responsibility for coordination and supervision of works.

As is known, cultural heritage is the basis of national identity [1] and that why the creative team working on Signagi reconstruction and rehabilitation project approached the distinctive features characteristic of Signaghi architecture showing the subtle feel for the setting with great responsibility and caution, trying to create a renovated harmonious environment with deep understanding of the past.

Such approach is fully compatible with the Declaration of Cultural Diversity adopted by the Council of Europe in December 2000, in which the Committee of Ministers calls upon member states examine ways of sustaining and promoting cultural and linguistic diversity in the new global environment.

Investigation and preservation of past artifacts are always accompanied by the threat that their identification and protection measures can be viewed as complete actions with a clearly set goal; however, the practice shows that both the action and the goal, given the possibility in general, can be determined for a short term. Identification of the heritage develops alongside with interest changes, new discoveries, rejection of former views and their revision. Besides, it should also be taken into account that neither architecture and nor our attitude to it is unchanging. The build and its perception by us are both conditioned by cultural and historical circumstances that are constantly prone to changes.

The creative team has entirely shared the idea proposed by the Council of Europe which envisaged the wider promotion of the importance of heritage on the basis of stock-taking of architectural heritage. The activity went beyond the idea of identification and preservation, being valuable by itself, and has successfully become the integrated part of a democratic process which is aiming at the enhancement of overall standard of life through participation of every member of the public.

Architectural heritage strengthens our understanding about our social development. Via its identification and preservation we are able to better determine our place in the world. Preservation and rehabilitation of buildings enable us to maintain not only historically and architecturally important specimens of the past but we can also reinforce their relevance in the present life. Thus we determine not artifacts but our own values.

Â In this respect, architectural heritage is associated with not only physical preservation or development but it becomes fundamental for the planning of all

processes or any aspect affecting the on going process within the framework of social and political evolution of democratic societies.

Introduction of the idea of integrated heritage emphasized its importance as of a social investment which is the key component in the process of evolution being the basis for the steady development of peaceful, open and democratic society.

By its scale, the structure of street network, the terraced principle of alignment of buildings, Signagi represents a single artistic-urban fabric.

Signaghi owes its distinctive character to a 4,5 km fortress wall with 23 towers and 7 arched gates. The fortress wall has resisted the time and along with the expansion of the town it has become the part of its structure.

In Signaghi architecture there are elements characteristic solely for this town: unlike Tbilisi, Signagi has no courtyards with balconies surrounding them from all sides. The houses stand in line along the streets making up an accomplished architectural entity. The facilities with shutters accommodated studios, stores and taverns here were walls with flat carpet like brickwork, bow-backed windows, entrance doors and metalwork [IMAGE 8]. The architectural image of houses was conditioned by their function, as they were devised not only for dwelling but for trade stores and workshops as well, as Signaghi, in the first place, was the town of skilled artisans and craftsmen.



Image 8

All this has revealed even more distinctly in the process of reconstruction and rehabilitation and certainly, it has been wholly preserved.

Prior to reconstruction and rehabilitation works, architectural and archaeological heritage had been studied during which the questionnaire of heritage evaluation was employed, the list of priorities of intervention was determined and preliminary technical evaluation of buildings was made with respect to the feasibility of the implementation of works. It was determined which building would be subject to restoration and rehabilitation, which was to build anew to retain the same function considering social requirements as to what kind of new functions and relevant buildings were necessary to bring in.

Thus the projects of hundreds of residential houses were developed and implemented. There appeared the buildings of public designation: small private inns, banking establishments, cafes and restaurants, stores, workshops that promptly promoted the distinctive character, talent and hard work of local craftsmen. Not only buildings but the entire infrastructure of the town has been reconstructed. The network of underground communications such as rainwater pipes, sewage system, water and gas supply systems has been replaced. Power transmission and telephone posts have disappeared from the streets. The town has acquired a clean, modern image. The traffic-ways have been laid with cobblestone; central roads were laid with granite slabs and lower roads with whinstone [IMAGE 9].



Image 9

During the process of reconstruction, the architectural style and original appearance of the houses were preserved, which were specified by their multiple (not only dwelling, but trade and industrial as well) functions.

Particular attention was devoted to the elements of the town improvement: there appeared new green spaces, squares, small urban statues, lighting, lamp posts, fountains, urban sculptures, street signs, all of which were worked out in an integrated, unified "Signagi" style. The rich local archaeological heritage has found a particular reflection which has been filled with new discoveries in the process of implementation of reconstruction works within the framework of the project.

The so called Bebrebis Baghi (The Garden of the Elderly) was a famous place in Signaghi located in the city centre. During the reconstruction of the square, old basements with brick arches, niches and brick floors were uncovered. The Architects have fitted these historic buildings into the composition of the square.

The fountain built in the main square has not only acquired the discharge function of transport hub, but it also obtained artistic and utilitarian function - a great number of people enjoy themselves in the splashes of the fountain on hot summer days. In our opinion, the forms and various types of archaeological materials preserved in Signagi museum were successfully used in the decorations of the fountains.

Particular significance has the Signaghi museum building, which is the first post-Soviet period building in Georgia of such function.

The museum is equipped with all the elements that the latest museum should possess and the collections are kept in accordance to the latest technologies including climate control, touch-screens as well as the modern security equipment. It will be distinguished from other Georgian museums by the public places that will be included on its premises, including a cafe, information center, souvenir shop, and a hall for temporary exhibitions that will also serve as a temporary conference hall. It has also a wonderful location with a view of the magnificent Alazani Valley that is one of the main natural attractions for the tourists visiting the country.

Archaeology is the major branch of the history section, featuring the most remarkable artifacts that have been found in the region. The archaeological section is divided into two parts pre-Christian (before 326 B.C) and post-Christian Georgia. In the artistic part, the most interesting Georgian primitive artist Niko Pirosmi (Nikala) is presented in the permanent display. It was chosen for two main reasons: because he is from Kakheti and, more importantly, because he is the artist who very vivid depicts the life of the cities of Georgia.

Some of the small scale sculptures, which appeared in Signaghi streets, have been created on the motifs Pirosmi works. An interesting piece of work belongs to sculptor Gia Japaridze.

A new building of local government (town hall), which clearly bears the element of European style, deserves a special interest. The architect attempt was to express the aspiration to sharing best traditions of European self - governance. The old, commonplace Soviet building was redecorated in such a way that the new town hall

with its tower has become the embodiment of the headship of self-governance. Such approach was reflected in similar features in Europe too, following the principle that no buildings could have been higher than the cathedral church or the town hall in a city.

In the urban landscape of Signagi, St. George's church with its tall bell-tower has always been dominant [IMAGE 10]. These buildings played an important role in creating the artistic image of Signagi, as they have often been the source of inspiration for artists for as long as they have existed and determined a cultural identity of the site.



Image 10

Council of Europe considers its main principle to promote cultural identity of diverse European culture. This was the baseline for the above mentioned Declaration on Cultural Diversity, 2000. Identification of cultural heritage of all countries and territories, recognition, conservation and preservation is the major basis for the process of development of mutual respect and understanding. This was the conviction of the Council of Europe which it expressed through declarations, resolutions, conventions and recommendations. All the above documents have been published in 2 volumes: European Cultural Heritage (volumes I and II, Strasbourg, 2000), supplemented by comments and overviews of policies and practical activities.

Later, the significance of rich and diverse cultural, religious and humanistic heritage of Europe was underscored in Warsaw declaration (May, 2005). According to this declaration the Heads of state and government of the member states of the Council of Europe emphasized the universal and common values of democracy, human rights and the rule of law.

For us it is especially important that the declaration points out the development of a sustainable community; fostering European identity and unity based on shared fundamental values; maintaining our common heritage and cultural diversity; supporting political inter-cultural and inter-religious dialogue.

As reconstruction and rehabilitation works carried out in different cities of Georgia have shown, separate, non-integrated approach often created a number of social, economic, technical problems, among them utilitarian ones. That is why reason that the approaches declared by the Council of Europe were fully recognized, especially that this has been the central issue in the directions and recommendations of the Council of Europe for half a century.

Several resolutions [2,3] and declarations [4,5,6,7,8] have been adopted in connection with this issue. Great importance of rehabilitation in integrated conservation and its accompanying social and financial effects were emphasized in the Amsterdam declaration which was adopted at the congress of architectural heritage in 1975 [9].

The concept of integrated reconstruction and rehabilitation is characterised by multidisciplinary approach of management towards heritage, it considers heritage to be a more dynamic value rather than the impediment for modernization and development and includes physical, sociological, economic, cultural and religious elements.

In the process of integrated reconstruction cultural heritage occurs within the framework of sustainable development and is viewed as one of the concerns of territorial planning, urban development and environmental studies. This concept is so closely connected with the principles of sustainable development that it can be determined as the development which meets modern requirements without taking the opportunities away from future generation to satisfy their demands; however, it is not always easy to predict them.

Below is described the methodology of implementation of Signaghi reconstruction-rehabilitation project which consists of four parts and is directed from general to concrete. It gives the comprehensive evaluation of the heritage identification and management strategy as well as the detailed overview of the possibilities of restoration and rehabilitation of individual buildings and sites.

The first stage was the evaluation of the heritage. This was the initial stage when the specialists filled in the questionnaire about heritage. The account on the state of heritage is made together with local experts regarding legislation, mechanisms, management and other aspects.

At the II stage the list of intervention priorities was determined. Experts came up with the list describing the monuments which, in their opinion, needed rehabilitation and restoration in the first place.

For the reconstruction and renovation of those buildings were prepared appropriate technical documentation. The group of Georgian architects - Nino Bagrationi, Giuli Gegelia, Giorgi Gogolashvili and Dato Givishvili, in coordination and leadership of Vajha Orbeladze, has created during an unbelievable short period of time hundreds of architectural sketches, drawings and designs, which became the bases for the rehabilitation of each building of the town [IMAGE 11].



Image 11

Buildings and monuments were widely represented: churches, archaeological sites, houses, urban and rural buildings, ensembles. The range of potential levels and rehabilitation expenses of intervention was also wide starting from most expensive projects to the ones of relatively reasonable cost. The criterion of assessment was the importance of the site itself, its present state and the anticipated threat.

At the III stage preliminary technical evaluation took place. According to expert recommendations, preliminary evaluation of necessary works and strategy for the rehabilitation of buildings had been made. The expected threats and expenses were estimated and potential function in the future was proposed.

At the IV stage feasibility study was carried out. This implies thorough research which is necessary to conduct before the restoration and rehabilitation works are carried out on a full scale. This is the final phase of the integrated rehabilitation project. Feasibility study is linked with many different factors: the types of buildings, general situation, condition of the building, accessibility to expertise means, stages of funding, demands of funding bodies, etc.

In the course of the reconstruction and rehabilitation project of Signaghi, harmonization of public, private, municipal and state interests became apparent. The Fund for the Preservation of Cultural Heritage of Georgia is the author of the project concept as well as the coordinator and supervisor of works. The state and regional authorized bodies took part in the project at its initial stage; therefore these institutions were considered to be co-participants in this common cause. During the project implementation, public-private partnership played a serious role as well. For example, the new hotels, representations of the leading banks of Georgia, cafes,

restaurants and shops that have appeared in Signaghi lately well prove the above. It is noteworthy that the prices on private property have risen dozens of times in an extremely small period.

The responsibility for national heritage has been shared between the state and private property. Some owners of historic buildings have become donors themselves. However, in this respect it is necessary to reconsider the legislative basis which obviously is in need of certain types of changes, for instance, in tax administration. The proprietors, for example, can be given tax or other kinds of benefits so that they could themselves take care of buildings of historic or cultural value. When dealing with archaeological sites, the constructor may become a potential partner, a donor who will cover research expenses as part of the construction cost.

It is quite obvious that Signaghi reconstruction-rehabilitation project has been very successful and provided the grounds for applying the achieved results to other cities of Georgia. These results have been developed into certain types of recommendations:

- The success of preservation and development of heritage as of the most important and cognitive part of the country life depends on one hand on public support who has to be aware and equipped with sufficient information and on the other, the government, who needs to be constantly urged and reminded that heritage and issues related to it have to be on the top in the list of priorities.
- The unity of education, public support and political will is the necessary continuum for the preservation of heritage.
- Cultural heritage has to be recognized as the vital state budget filling phenomenon not only in the context of tourism, but it is also necessary to make efficient economic use of the rehabilitated historic buildings with their new function.
- Preservation of cultural heritage and development must be the primary demand of urban and territorial planning. Controversies between preservation of heritage and essential development have to be reconciled at an early stage so that it does not become an obstacle in the urban development of a bigger area.

Heritage requires the involvement of numerous trained and constant workers. Attracting young people and their education is the future investment. Training is needed in all spheres but it should be noted that it is especially important to have specialists in the fields such as new technologies in document procession, project management, restoration and craftsmanship skills.

To make conclusion, the reconstruction and rehabilitation project of Signaghi, which started in the spring 2007, in reality, constitutes a socially important large-scale project, the principles and recommendations of which could be useful for the reconstruction of small historical towns not only in Georgia, but in the countries with similar historical, cultural and economic prerequisites as well.



Image 12

REFERENCES

- [1] Guidance on Heritage Assessment, 2006.
- [2] Resolution of European Council N (68) 11; On the principles and the practice of the active preservation and rehabilitations of groups and areas of buildings of historical and artistic interest.
- [3] Resolution N (68) 16; Organisation of a Conference of Ministers most directly responsible for the preservation and rehabilitations of groups and areas of buildings of historical and artistic interest.
- [4] Convention on preservation and rehabilitation of cultural heritage of monuments and sites, Brussels, 1969.
- [5] Convention for the protection of the architectural heritage of Europe, Granada, 1985.
- [6] European Convention on the protection of the archeological heritage (Revised), Valletta, 1992.
- [7] TheHelsinkiDeclaration on the Political Dimension ofCultural Heritage, 1996.
- [8] Cultural heritage, Portorose declaration, 2001.
- [9] European Charter of the Architectural Heritage, Helsinki, 1975.

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THE PROBLEMATICS OF RECONSTRUCTIONS IN ARCHITECTURE: IN CONTEXT OF MONUMENTS AND HISTORIC BUILDINGS

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ABSTRACT

There has been an intensive debate in the last few years about the difficult relationship between reconstruction of (long)-lost monuments and monument conservation, especially in Germany, after the Reunification, where numerous reconstructions took place and still take place. This paper will investigate the legitimacy of the reconstruction and the position and principles of monument conservators.

Keywords: Reconstruction, Historic preservation, Historical corrections, City beautification, Identity?

THE PROBLEMATICS OF RECONSTRUCTIONS IN ARCHITECTURE: IN CONTEXT OF MONUMENTS AND HISTORIC BUILDINGS

At the beginning of the 21st century an increased interest in general and local historical research can be observed. This tendency is also evident in the edificial testimony to history. Apparently, the need of numerous people for the unambiguous and the "authentic" is growing (Rauterberg, 2001: 1; Rauterberg, 2002: 317). At the same time, the desire is inexorably arising to have the monuments that have been destroyed by war, political and religious ideologies or natural catastrophes rebuilt.[1] Thus, reconstructions are built in place of the structures that have been destroyed in order to convey to the visitor an immediate impression of a monument's original appearance. It seems that with every new reconstruction the boundaries of the acceptable are lowered for the next. (Wohlleben, 1997: 147). Certain edifices which have been lost are perceived as formative for the identity of a place and residents identify these edifices as an indispensable part of their city ([http://de.wikipedia.org/wiki/Rekonstruktion_\(Architektur\)](http://de.wikipedia.org/wiki/Rekonstruktion_(Architektur))).

D. Plank (1997: 137) asks: "Can the ruins of a Roman villa rebuilt in 1988 to the best of one's knowledge be a cultural monument as specified by the laws for the protection of historical monuments?" The answer is clear: it is a reproduction and definitely not a monument. For a monument is not only defined by its external

appearance, but also by the history of its origin in an epoch featuring specific historical and economic conditions and circumstances; this means it is first and foremost a document. Accordingly, once a historical monument is destroyed it should not be rebuilt based on its former appearance.

It is said that we live in an era pervaded by belief in the feasibility and availability of all things (Meier, 2006: 170; Rauterberg, 2002: 317-322; Rauterberg, 2001: 2; Fischer, 1997: 122; Gebeßler, 1997: 101). M. Wohlleben (1997: 151) sees the populist desire for beautification which is prioritised, publicised and promoted behind this. In this regard, values such as history, age, dignity, patina and simplicity are perceived as unpleasant or disruptive and remain misunderstood. Broad public acceptance serves as the legitimation for the reconstruction of monuments obliterated long ago (Gebeßler, 1997: 87). But public needs are directed almost without exception at the appearance of places and edifices (Schmidt, 2008: 69). At the same time historic preservation is viewed as "the never-despairing enchantress who heals what is injured and summons up what has been lost again as if out of a stage trap." (Jatho, 1986: 98) E. Bacher (1993: 269) writes about the problem that today historic preservation is preferably understood as the "professional production of a past which surpasses the real past in its splendour and attractiveness," only "this has nothing to do with historic preservation." (see also in Meier, 2006: 164)

H. Rauterberg (2001: 2) elaborates on the position of historic preservation. "Reconstructions, neohistorisms of every kind should be the enemy of every reasonable effort at historic preservation, for they suggest the complete availability of everything that once was. Yet it is precisely the unavailable, the unique and the irrecoverable which are the greatest capital of preservationists." In many cases the interests and needs of curators of historic monuments and lay people who are interested in historic monuments are fundamentally different. Indeed they share the quest for the real, the essential and the authentic, and in the monument both hope to encounter history as immediately as possible. For such an encounter, the expert considers the original inalienable in all its complexity, the lay person, on the other hand, by no means. He is interested less in the object than its appearance, less in the substance than the image. In other words: for him the impression suffices, he relies on atmosphere, appearance, his grasp of sentiment. And the original is enough, but not obligatory for the sentiment he wants the monument to evoke in him. It can also be a replica[2] or reconstruction (Rauterberg, 2001: 2).

The availability of graphic documentation, the fascination of rediscovered plans and old images, for instance, has often been the catalyst for reconstruction (Gebeßler, 1997: 100). Architect J. P. Kleihues sees the problem of authenticity in the rebuilding of Schinkel's Academy of Architecture (see Fig. 6), but neglects it, stating: "We have to admit that architecture is reconstructible as long as we have precise plans and documents of a building that has been destroyed available to us" (Kleihues cited in: Gebeßler, 1997: 100)[3]. According to H.-W. Krufft, in its respective historical dimension, however, the reconstruction is far less a technical problem than an ethical and moral one (Krufft, 1993, cited in: Schäche, 2000: 1; Wohlleben, 1997: 148). This poses the question of a reproduction's merit or lack of merit in such a way that it could be found through the falsification of history or the precision of planning documents (Gebeßler, 1997: 94-95).

The meaning of monuments lies primarily in their “irreproducible” historical testimony. The fact that M. Sack (*Die Zeit*: 15.12.1989) can say “it looks as if nothing ever happened” about the reconstructed Butcher’s Guild Hall in Hildesheim (Fig. 4) is a devastating judgement for the efforts of historic preservation. Reconstruction may do much as a bearer of symbolic and ideological values, but it bears no equivalence to the original. To this effect, as a strategy associated with the concept of historic preservation reconstruction can also only be an exception (Hanselmann, 2005: 19).

In accordance with international standards developed by Ruskin, Morris, Gurlitt, Clemen, Dehio and Riegl and others over 200 years, the task of historic preservation lies in the preservation of historic substance (Schmidt, 2008: 69; Wohlleben, 1997: 150-151). In no later than 1900 the importance of the authenticity^[4] of the original as a document was appreciated and the transformations which a historical monument undergoes in the course of time recognised as worth preserving. At that time this was directed against the widespread tendencies toward the purification of style and the attempt to re-establish the original condition. Such an act, according to G. Dehio in 1901, is the attempt “[to] turn back the course of history, and almost always on an uncertain basis” In the event of rivaling monument-related values – particularly when it concerned artistic quality - historic value was accorded the greatest status, for as G. Dehio stated in 1905, it represented an “immutable standard of value”, while artistic appreciation was subject to fluctuation. In terms of historical value the monument is viewed as a document, a testimony to history, and requires its unaltered preservation (Hanselmann, 2005: 6). On the other hand, in the course of the 20th century the avant-garde of western Modernism established a concept in art, the core of which was the originality of the respective idea (Marquart, 1997: 81). A. Gebeßler (1997: 103) states that for those who first consider the idea, the architectural draft and consequently the building plan as the essence of the historical monument, and not its materialisation as the bearer of the historical, historical monuments can continue to be reconstructed as often as they want. For the field of historic preservation, that which no longer exists of the original monument cannot be the object of preservation activity. Every reconstruction of a lost monument which is not justified as a conservationally necessary, substantive and aesthetic repair contradicts the essence and empirical value of material heritage (Gebeßler, 1997: 86-87). A crucial question in the protection of historic monuments is that of original substance. Based on a variety of perspectives on the concept of “original” it must be clarified that: “...in the association of historic monuments “original” can only refer to the inherited assets – the testimony to history as we encounter it, with all its merits and weaknesses, with all its additions, alterations, ingredients and the signs of age with which it tells of its passage through time” (Gebeßler, 1997: 104). It is precisely this complexity of the original which characterises this “historically evolved state of development.” A reconstruction never bears any complexity, nor does it have the history of the original at its disposal, thus its authenticity fails to represent it, even in the greatest fidelity to the original ([http://de.wikipedia.org/wiki/Rekonstruktion_\(Architektur\)](http://de.wikipedia.org/wiki/Rekonstruktion_(Architektur))). For this reason there is no doubt that only the “original findings” can be viewed as a “historical source” (Plank, 1997: 138) and as a historical monument.

In the history of architecture as well as art it is neither the first edition nor the most splendid or most popular of the time, or the last that is established in memory: “If an object were to be returned to its original condition, there could be no justified decision as to which. The relevant procedure is stipulated in the Venice Charter (1964) – in

which the scholarly and dominating conceptions of historic preservation that are valid today are defined – as follows: “...When a building includes the superimposed work of different periods, the revealing of the underlying state can only be justified in exceptional circumstances and when what is removed is of little interest and the material which is brought to light is of great historical, archaeological or aesthetic value, and its state of preservation good enough to justify the action. Evaluation of the importance of the elements involved and the decision as to what may be destroyed cannot rest solely on the individual in charge of the work” (Art.11).

Every attempt at reconstruction must ask which of the histories narrated in the structure is to be prioritised. Does the valorisation of one layer not inevitably lead to the devalorisation of another?

There are hardly any cases in which reconstruction can do entirely without hypotheses. For this reason one of the criteria for the registration of cultural property on the UNESCO World Heritage List in accordance with the Convention of 1972 is that “reconstruction is acceptable only on the basis of complete and detailed documentation and to no extent on conjecture.” Thus to this effect reconstruction is basically possible, but it requires a solid scientific basis.

The Venice Charter rejects “reconstruction” for archaeological restorations.[5] “All reconstruction work should however be ruled out “a priori.” Only anastylosis, that is to say, the reassembling of existing but dismembered parts can be permitted” (Art. 15). Article 9 says on restoration: „The process of restoration is a highly specialized operation. Its aim is to preserve and reveal the aesthetic and historic value of the monument and is based on respect for original material and authentic documents. It must stop at the point where conjecture begins...”

The reason for this is the danger of the assumption of the hypothesis – at least for the details- (Machatschek, 1996: 358 fn.2). Concerning the issue of additions, which “must be distinguishable from the original” (Art. 12), it is obvious that the writers of the internationally recognised Venice Charter were basically highly sceptical with regard to reconstructions.

Representing this line of opinion, K. Kraemer, president of the Federal Office for Monument Protection in Germany, commented in the debate on reconstruction of the Berlin City Palace (Fig. 1). “Reconstruction devoid of any reason” deprives history of an independent testimony to the present and contributes to the “impoverishment and corruption of our European urban culture.”

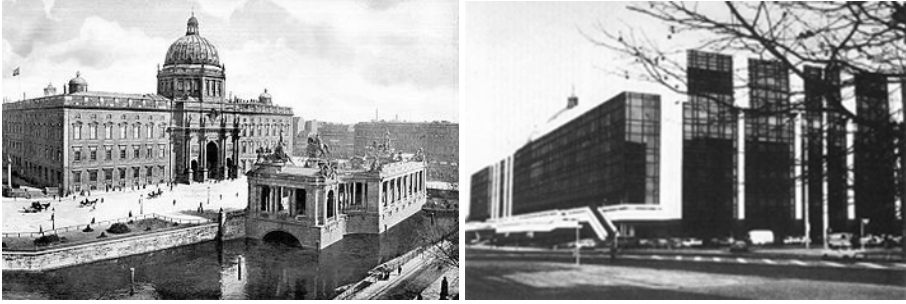


Figure 1, 2. Berlin City Palace, ca. 1900, destroyed in 1945; Palace of the Republic built in 1976, cleared away in 2006, to make room for the palace (Fig. 1)

In 1986 N. Huse (FAZ: 7.5.1986) wrote that reconstructions had become fashionable and that despite this the majority of experts still ranged from being critical of to fully opposed to them. When contrary to the conviction of the majority of experts reconstruction – or new construction based on a historical model – still takes place, then non-professional motives have to be assumed: in addition to the expectation of greater tourist and consumer figures and their associated material profit, these are primarily reasons of prestige – personal, commercial or official. Thus it is about the image (of a region, a place, an enterprise), whose value is said to rise through the reconstruction of an earlier edifice. Where questions of image are or appear to be at stake, the temptation is obviously great to produce a desired new building in old rather than in new forms (Fischer, 2005: 45; Wohlleben, 1997: 146-147). Experiences of loss probably play the slightest of roles (Gebeßler, 1997: 106). There are also preservationists who frequently view reconstruction as an enticing and defensible opportunity, a way out or compromise to find an “elegant” solution to difficult architectural situations, to take back in the sense of reclaim using justifications that are historicising, nostalgic, promotional or which promise an anticipated new identity (Gerner, 1997: 142; Wohlleben, 1997: 146).

The desire to close the gaping wounds in urban development is understandable, says M. Wohlleben (1997: 148), but the question of with what awareness and means the task of repair is to be approached must be discussed. Creating something new in dialogue with what has been destroyed can occur with respect for what exists as well as for the fate which has befallen it; many architects demonstrated this after the war, he adds. N. Huse (FAZ: 7.5.1986) criticises that the field of historic preservation has frequently publicised and carried out its task of preservation with too little energy in opposition to the desire for beautification (see also Posenenske, 1986: 573). Furthermore, many experts agree that the desire to reconstruct the old represents primarily the rejection of contemporary architecture and the need for the repression of unpleasant memories (Mörsch 2005a: 397; Mörsch, 2004: 71; Posenenske, 1986: 573; Wohlleben, 1997: 147; Huse, 1997: 34). Here preservationists have to be detached, W. Pehnt (1993: 109) says. Many reconstruction measures are in fact supported by the field of historic preservation, but the reconstruction of the Butchers’ Guild House in Hildesheim (Fig. 4) and the buildings on Römerberg in Frankfurt took place in opposition to the overwhelming majority of experts (Hanselmann, 2005: 13)



Figure 3, 4. “Hotel Rose” built in 1964 after an architectural competition, cleared away for the Reconstruction of Butcher’s Guild Hall (Fig.4); Reconstruction of Butcher’s Guild Hall in Hildesheim built in 1529, destroyed in 1945, reconstructed between 1983-1989

Supporters point to the frequency of the use of reconstructions and base their arguments on the experience that these examples were wanted and that they proved their worth when they became architectural works integrated into the building stock and society (Petzet, 1997: 110). A. Gebeßler (1997: 86) finds this observation opportunistic as an argument because it disregards the supporting motive in all these efforts and in doing so the specific historically justified concerns of the 19th century as well. Under these circumstances, concerned experts gave serious consideration to providing a technical framework to the issue of reconstruction in its dichotomy between delight and transgression and establishing at least some form of scholarly framework – that is, didactic clarification of the fundamental reservations and the exceptions.

In the professional parlance in the field of historic preservation, reconstruction exists where a necessary reconstruction of a monument is based on a fragmented original, but primarily on scholarly material such as the evaluation of old plans or images, on the research of multiple sources or on the interpretation of findings (Gebeßler, 1997: 87). Another prerequisite for reconstruction is: no loss of substance. In the guidelines of the German National Committee for Monument Preservation for the capital Berlin it says. “No reconstructions at the expense of historical substance” (in *Deutsche Kunst und Denkmalpflege*, 1991: 96). How are we to understand the fact that the Ministry of Foreign Affairs in the GDR (Fig. 5), which is a testimony to history, had to vacate the

premises for reconstruction of the Schinkel Academy of Architecture? (Fig. 6) (Tietz, 2006: 113; Gebeßler, 1997: 107).

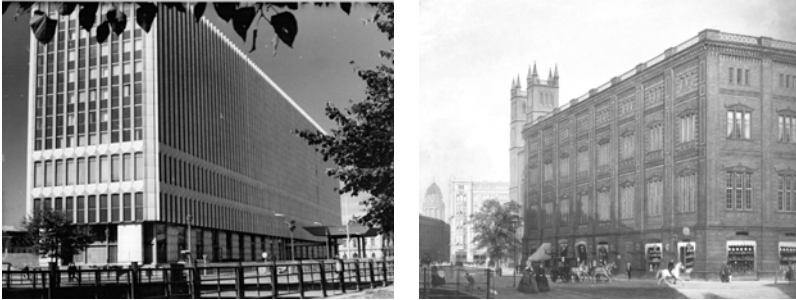


Figure 5, 6. GDR – Foreign Ministry built between 1964-1967, removed in 1996 for the Reconstruction of the “Bauakademie” (Fig. 6); “Bauakademie”, built in 1836 burned in 1945, cleared away in 1962

After the destruction of the Second World War numerous damaged monuments were reconstructed. The principles were the exact partial reconstruction of parts of buildings which were destroyed and simplifications of contemporary reinterpretations of historical forms. In contrast to this, total reconstructions of completely or partially destroyed buildings claiming fidelity to the original tended to be an exception (Mörsch, 2004: 69). The most prominent example of these exceptions in West Germany was the reconstruction of the Goethe House in Frankfurt am Main in the 1940's. n passionate debates opponents to reconstruction demanded the “courage to take leave” (Dirks, 2005: 88)[6] and the supporters' counter-solution was the “courage to have fidelity” (Hartmann, 2005: 100). This was the post-war debate about continuity or a new beginning (Hanselmann, 2005: 9). Architects and preservationists together were opposed to reconstructing the destroyed house as an ostensibly timeless symbol and image.[7] At that time the rupture permeated the ranks of writers, most of whom were in favour of reconstruction (Mörsch, 2004: 69).[8] Between preservationists there was as little ideological rupture after 1945 as between architects and preservationists. (Mörsch, 2005b: 34). One of the reasons for this was a profoundly moral and socio-political stance in favour of restraint regarding reconstruction. Another reason was the doctrine of the irreplaceability of the original established around 1900, which had preserved its place as the paramount approach to historic preservation (Mörsch, 2004: 70). Another perhaps greater obstacle to reconstruction was the triumph of modernist architecture after 1945. Many architects, urban planners and policymakers saw the destruction of large spaces as a chance for a new beginning without regard for historical structures or for a higher quality of life (Bartetzky, 2006: 64). After all, the more important task was also the affordable production of new mass housing rather than the costly reconstruction of buildings based on the original.

For ideological reasons, in the GDR hostility prevailed with respect to castles, palaces and churches. Thus the approach to historical monuments varied widely.

Many buildings were meticulously reconstructed, but many destroyed despite well-preserved substance (Bartetzky, 2006: 64).

Reunification changed the events of reconstruction, W. Nerdinger (2008: 19-20) summarises: "...Now the question of recovering previous historical conditions, particularly in view of the loss of architectural identity and the "inhospitable nature" in most German cities, could be re-asked with a certain justification". In contrast, M. Wohleben (1997: 146) says "...neither the destruction of the Second World War nor German-German unification justifies a change in paradigm in historic preservation, a departure from the principles of the preservation mandate or the significance of original substance and authenticity."

When in Germany the desire to recover lost architecture through reconstructions was expressed, in 1992 M. Metschies (cited in: Nerdinger, 2008: 20), the winner of the German Prize for the Protection of Historical Monuments, wrote ironically: "A spectre is haunting Germany - the spectre of reconstruction. Like a slow poison it is conquering the hearts of people, eliciting storms of enthusiasm from citizens and politicians, rather than filling them with revulsion and horror" Yet the wish for reconstruction has prevailed in numerous examples.[9]

As considerations were made to reconstruct certain monumental edifices including the Berlin City Palace that were destroyed out of ideological reasons, German preservationists wrote a statement in 1991 on the issue of reconstruction in which it says: "As historical testimony the material form handed down to us is as irretrievable as history itself. Thus the construction of reproductions of lost monuments can only carry meaning as an activity of the present. Monuments which recall the achievements of the past and keep the memory of the process of history with its highs and lows alive cannot be such reproductions. The obligation of preservationists is solely toward irreproducible historical testimony and to sound a warning when the possibility of memory is threatened in public space" (in *Deutsche Kunst und Denkmalpflege*, 1991: 96)

This scepticism of preservationists concerning any form of reconstruction is based on the knowledge that history cannot be undone. Even the monument which has been completely destroyed is a witness to history, and through "reconstruction" it would likewise be eliminated (Petzet, 1997: 17). Opponents observe that every reconstruction is based on hypotheses of reconstruction and for that reason from the very start the objective of reconstruction is invalid and in fact leads to the structural manifestation of interpreted history, thus the assertion of it as fact (Hilman, 2008: 5).

Examples of reconstruction are not only restricted to Germany. Since the dissolution of the Soviet Union several hundred churches and other places of worship destroyed in the territory of the former Soviet Union during the Stalinist era have been realised recently as reconstructions (Fig. 7-8).[10]



Figure 7, 8. Reconstruction of St. Michael's Golden-Domed Monastery in Kiev, built in 1713, destroyed 1930, rec. in 1999); Reconstruction of Redeemer Cathedral in Moscow, built in 1881, destroyed in 1931, (rec. in 1999)

Under certain circumstances reconstruction can be wholly interpreted as a “recovery” of a damaged identity – an identity, however, that is primarily imagined and done so as belief in an originally intact form. But reconstruction also serves the preservation or evocation of the “intellectual” (Marquart, 1997: 81).

The justifications for the new reconstructions that have turned up since the seventies and which preservationists have to some extent – but only to some extent – vehemently opposed can best be summed up as the “visual need for harmony,” if the indications of creative marketing are to be disregarded (Tietz, 2006: 113; Mörsch, 2005a: 396; Mörsch, 2004: 71). Reconstructions for purely commercial purposes which even destroy the symbolic value are “devoid of reason” and “perverse” reconstructions – such as the Braunschweig Palace “Temple to Consumerism” (Bartetzky, 2006: 82) (Fig. 9) or the Thurn and Taxis Palace (Fig.10) in Frankfurt.[11]



Figure 9, 10. Reconstruction of Brunswick Palace, built from 1718, damaged in 1944, raised in 1960, reconstructed in 2007; Reconstruction of Thurn und Taxis Palace, built 1729-1739, damaged in 1944, raised in 1951, reconstructed in 2010

On the one hand the events of history and on the other the dissatisfying results of “modern architecture” and “historic preservation” are blamed for the growing number

of reconstruction plans (Bartzky, 2006: 82; Meier, 2006: 161; Meier, 2005: 322; Huse, 1997: 16). R. Haubrich (Die Welt: 30.11.07), who was a member of the Berlin Heritage Council for several years, states the following as a reason for the continuous increase in the desire for reconstruction: "If our reconstructed city centres were wonders of aesthetics and taste, hardly anyone would be interested in the previous structures of feudal society. This corresponds to the longing for an architecture which is beyond cool rationality or superficial sensationalism." W. Nerdinger (2008: 20) is also of the same opinion when he says: "...In half a century modern architects, urban planners as well as preservationists have failed to provide citizens with cities which are accepted and liked by them"

In this regard reconstructions garner the greatest amount of criticism from "modern architects": in their approach, which requires a relation to the present and a rejection of historical forms, it is not worth the effort to carry out reconstructions rather than to build a new building. In this sense every new building is "truer to history" because even the buildings that were destroyed were an expression of their time. When, for example, in the reconstruction of the Bauhaus University in Dessau they considered whether and how Director W. Gropius's residence, which was destroyed in the war, could be rebuilt (Markgraf, 2007: 1-5), reconstruction was largely rejected by "modern architects"[12] R. Piano (cited in Schäche, 2000: 1) warned of reconstruction of the palace in Berlin, saying. "Copying the past would be suicide for me"

As prime example, critics of this position of "modern architects" mention the reconstruction of the Goethe House in Frankfurt, the fact that almost all of the architects were against it, but that the majority of the country's elite was in favour of reconstruction. The reason was that in their conception of nothing less than a moral obligation to contemporary representation, architects were biased toward a purported "fidelity" in building and would not have allowed themselves to be the least bit influenced by arguments from non-architects (Nerdinger, 2008: 20).

Architectural historian W. Nerdinger (2008: 20) says that the enormous public acceptance which these examples of reconstruction as well as the reconstruction of the Frauenkirche in Dresden (Fig. 11-12) found should prove there can be a value greater than the almost indefinable "quality of keeping with the times" which cannot be conveyed through ideologically rigid architects. Like architects, preservationists become entrenched in dogma rather than understanding themselves as a system of thinking which is integrated into historical developments, the conceptions and theories of which change with time and context. For A. Gebeßler (1997: 103) preservationists have become prisoners to their terminology "basically overnight."



Figure 11, 12. Church of Our Lady (Frauenkirche) in Dresden, built 1726-1743, destroyed in 1945; Reconstruction of Frauenkirche in Dresden, reconstructed in 2005

On the other hand, D. M. Steiner (2002: 343-345) says Germany is plagued by a continuing and profound architectural identity crisis and that following reunification the available history and values of GDR architecture were destroyed in the shortest amount of time; (Steiner, 2002: 343-345; Rauterberg, 2002: 32) for example, an important cultural monument, the Palace of the Republic (Fig. 2), was forced to make way for the Berlin City Palace (Fig. 1).[13]

The reconstruction of the Old Town in Warsaw which took place from 1946 to 1953 and was praised as an outstanding achievement and which is recognised as a World Heritage Site by UNESCO today, is often drawn on for comparison or justification (Lupfer, 2006: 42). Yet Polish experts have proven how many remaining monuments had to make way for this reconstruction and how much fiction was built. From these experts there are clear expressions about how much Polish society has forgotten to distinguish between monument and reconstruction (Konstanty, 1993: 342-344). Supporters of reconstruction view the region in which the structure stood as a whole and the reconstruction of the intended building as a necessary repair in order to experience and understand the meaning and impact of the ensemble as a total work of art (Markgraf, 2007: 5).

The “readability” of a historic monument depends nowhere near on the additions and reproductions that are loyal to the original, but there are certainly ways to plausibly enhance historical substance or even accentuate it in contrast using the contemporary means— for example, with modern architecture (Marquart, 1997: 83). It is important to “preserve what is available to the extent possible, to recall what has past, but to manage the present with the means and powers of our time,” said journalist W. Strodthoff (1992: 45-47).

Supporters of reconstruction want reconstruction to be recognised as a method of historic preservation which represents at least one possibility among others in legitimate cases (Petzet, 1997: 116). It is time for a new approach in historic

preservation, and in this regard the heading “from the modern to postmodern cult of preservation?” suggests that efforts at “modern” historic preservation, those from the start of the 20th century, have become obsolete while “postmodern” historic preservation, or the undoctrinaire and pluralist form of historic preservation, is the one that expresses the current *zeitgeist* (Lipp, 2008: 174-175).

The fact is that the majority of experts agree that reconstructions actually represent a falsification of history, which is not in compliance with the task of historic preservation. For this reason the preservationist must participate in the development of alternatives for partial reconstructions and formulate criteria and develop strategies for their realisation and social acceptance (Wohleben, 1997: 148). The concept of “reconstruction” and its content must be reconsidered, rethought and possibly restricted in relation to today’s standards, objectives and priorities for the protection and preservation of historical monuments (Gerner, 1997: 142).

An acceptable reconstruction in professional terms can only occur at the historic location, as much as possible using original pieces (Glaser, 1997: 119). In addition to the complete documentation of the edifice, the preservation of original substance is required. Furthermore, the situation in the urban setting should not have changed or have been replaced by that of the new, that is, the interval of time between destruction and reconstruction must be considered in relation to one another (Fischer, 2005: 43; Glaser, 1997: 119-120; Fischer, 1997: 123).

Reconstruction dissolves the relationship between people and monument because it denounces the preciousness of the monument through its apparent recoverability (Mörsch, 2004: 74). Even if reconstruction as a new building were theoretically right, every act of reconstruction places actual monuments at risk because it alienates the perception of them, suggesting that reproductions are everywhere (Mörsch, 2004: 71). Moreover, funding, capacities and the allowances expended on building new “monuments” are no longer available for their preservation (Wohleben, 1997: 148; Huse, 1997: 28). Reconstructions bear dangerous repercussions for the entire world of monuments inasmuch as they demonstrate that history can also be corrected and improved, if need be (Huse, 1997: 30).

In Turkey reconstruction is even anchored in a regulation dated 05.11.1999, No. 660, in the laws on the protection of historical monuments in which the following is stipulated: “For a building registered as a form of immovable cultural heritage which is to be protected or also for one which meets every criteria for registration as such, but for whatever reason has not been registered and/or for any reason has disappeared, it shall be unconditionally guaranteed that on account of its distinctive cultural features on the one hand and historical contributions to the cultural environment on the other a reconstruction based on the available documentation (structural remnants, inventory, photographs, any form of authentic written, verbal and visual archival documents, etc.) shall take place on the original property using facades of identical appearance in identical dimensions and identical volume according to the original plan using the identical materials and production technologies on the basis of an extensive graphic reconstruction” (<http://www.yapirestorasyon.com>)

Moreover, law No. 5366 published in the "Official Gazette" on July 5, 2005 states: "The preservation and use of immovable historical and cultural heritage is to be guaranteed through renewal" (<http://www.mevzuat.adalet.gov.tr/html/1509.html>). It is specified that worn monuments are to be restored depending on the degree of their dilapidation and in accordance with the needs of their environment or built anew in necessary cases.

Of course this form of creating new monuments places genuine monuments at risk by relativising them and declaring their histories of origin "insignificant." Public awareness is shifted in an undesirable direction, as if the "identical" appearance was of utmost importance. If this act of justification is legitimated with the shaping of identity, the newly built monuments will disappoint us because they themselves are the victims of instrumentalisation. Without theoretically or methodologically substantiated action, reconstruction is doomed to fail with respect to ideal expectations. The technical and artistic awareness of reality must be linked to professional responsibility for historically, artistically and/or culturally meaningful edifices. To this effect it is desirable that reconstruction not serve the instrumentalisation of political and market-oriented interests and that it remain a definitive measure of exception which is to be justified anew for the respective case.

ENDNOTES

- [1] see periodicals „Architekt 2008/1“ dedicated to the topic „Ästhetik des Widerspruchs, Strategien des Bauens im Kontext“, „Architekt 2005/3-4“ dedicated to the topic „Gegenwart der Geschichte“, „Archithese 1998/3“ dedicated to the topic „Berlin im Zeichen des Rekonstruktivismus?“ and „Bauwelt 2004/1-2“ dedicated to the topic „Rekonstruktion“.
- [2] Replica or reprise as "the most contemporary secondary condition through the artist himself or members of his workshop" (Döhmer, 1978: 76).
- [3] J. P. Kleihues introduced the term "critical reconstruction" that implies to step with courage towards the bygone with the present in mind and constructive contradiction against the existing (Pehnt, 2006: 397; Siegel, 2006: 23).
- [4] In a conference in Nara (Japan) in 2004, the attempt was undertaken to clarify the concept of internationally connected manner, but quickly came upon the problem that the conference participants from around the world had brought along obviously very different exhibitions about it: configuration, samples, materials, substances, traditions, technology, needs, functions, places, contexts, spirit, feeling, etc. (Schmidt, 2008: 80).
- [5] M. Petzet (1997: 108) argues that reconstruction according to the Charter of Venice is not in anyway explicitly forbidden, but rather the respective passage references itself exclusively on the archaeological excavation. That would anyway challenge the reason of formulation of the Charter, which troubled itself to place all monuments under protection.
- [6] W. Dirks (2005: 88) challenged with this famous quote against the planned reconstruction and warned, "What started on as an exception, was able to become custom and rule"
- [7] The clearest phrasings actually came from monument preservationists and art historians. As H. Schnitzler, one of many art historians, formulated in 1946-47, "What is destroyed, that is what we want to deplore. In its place, we will not tolerate any ghost of a monument" (1986: 62).
- [8] Also today, the writing of H. Hesse about the endorsement of the reconstruction is made into propaganda as an example in <http://www.stadtbild-deutschland.de/>. Another example that is again and again brought into play as a justification of the endorsement is Dehio's endorsement at the time for the reconstructed rebuilding of the 1906 burned down late Baroque Michael's Church in Hamburg (Petzet, 1997: 116; Nerdinger, 2008: 21). Opposing him M. Wohlleben meant that Dehio had cheapened with the often-cited sentence, "You are also tolerant once from time to time!", and therewith postulated a clear principle for

maintenance, from which he would never deviate. That should be well kept silent from those, who think about Dehio's sentence incoherently as a charter with every near (reconstruction-) opportunity

- [9] The commander's house in Berlin, the city library and the complete old city in Frankfurt, the City Palace and the Garrison Church (Garnisonkirche) in Potsdam, the Paulinerkirche in Leipzig, the city hall in Wesel, the Frauenkirche, Kosel- und Taschenberg Palace, the New Market, Hotel de Saxe and Salomonis Apothecary in Dresden, Ulrich's Church (Ulrichskirche) in Magdeburg, Herrenhausen Castle in Hanover, the Brunswick Castle, the Butcher's Guild Hall in Hildesheim were constructed. In construction are the Thurn und Taxis Palace in Frankfurt, the Weigel House, the Hotel Stadt Berlin, the House "Zum Schwan", the House "Zur Glocke".
- [10] Numbering among them is the Transfiguration Cathedral in Odessa, the Redeemer Cathedral (rec. 1995) and the buildings at Red Place, the Cathedral of Our Lady Kazan and the Resurrection Gate in Moscow, the House of the Blackheads in Riga, St. Sophia's Monastery and St. Michael's Golden-Domed Monastery (rec. 1999) in Kiev.
- [11] The reconstruction of the palace should be open in 2009. But no authentic reconstruction is planned, but instead a smaller copy of the original building.
- [12] Of 40 questioned famous architects – among them Rem Koolhaas, Peter Eisenman, Oscar Niemeyer, Oswald Mathias Ungers, or Matthias Sauerbruch, not one advocates for a reconstruction of the Gropius House and therewith for the restoration of the Ensemble of the Master's Houses (cited in Nerdinger, 2008: 20).
- [13] Lastly, there was a scathing critique from 1 January 2009 by M. Kimmelman in "The New York Times" with the title "Rebuilding a Palace May Become a Grand Blunder".

REFERENCES

- Architekt, 2008/1 topic „Ästhetik des Widerspruchs. Strategien des Bauens im Kontext“, Bund Deutsche Architekten (ed), Berlin, Germany: Nicolaische Verlagsbuchhandlung
- Architekt, 2005/3-4, topic „Gegenwart der Geschichte“ Bund Deutsche Architekten (ed), Berlin, Germany: Nicolaische Verlagsbuchhandlung
- Archithese, 1998/3, topic „Berlin im Zeichen des Rekonstruktivismus?“, Verband Freierwerbender Schweizer Architekten (ed), Zurich, Switzerland
- Bacher, E. 1993 "Kunstwerk und Denkmal – Distanz und Zusammenhang Kommentar" in: Denkmal, Werte, Gesellschaft: zur Pluralität der Gesellschaft, W. Lipp (ed), Frankfurt/New York, Campus Verlag, 260-270.
- Bartetzky, A. 2006 "Gebaute Geschichtsfiktionen: Architektonische Rekonstruktionsprojekte der letzten Jahrzehnte in Mittel- und Osteuropa" in: Konstruktionen urbaner Identität P. Sigel and B. Klein (eds) Berlin, Germany: Lukas Verlag, 63-86.
- Bartning, O. 2005 "Entscheidung zwischen Wahrheit und Lüge" in: Baukunst und Werkform 1/Heft 2, 1948, 28-31. Reprint in: Rekonstruktion in der Denkmalpflege Texte aus der Geschichte und Gegenwart J. F. Hanselmann (ed) MONUDOCthema⁰⁴, Stuttgart, Germany: Fraunhofer-IRB Verlag, 95-98.
- Bauwelt 1-2, 2004" topic „Rekonstruktion“, Berlin, Printed in Germany
- Dirks, W. 2005 "Mut zum Abschied. Zur Wiederherstellung der Frankfurter Goethehauses" in: Frankfurterhefte, 1947/2, 819-828. Reprint in: Rekonstruktion in der Denkmalpflege Texte aus der Geschichte und Gegenwart J. F. Hanselmann (ed) MONUDOCthema⁰⁴, Stuttgart, Germany: Fraunhofer-IRB Verlag, 88-94.
- Döhmer, K. 1978 "Zur Soziologie der Kunstfälschung" in: Zeitschrift für Ästhetik und allgemeine Kunstwissenschaft, Band 21/1, 76-77 – in: [http://de.wikipedia.org/wiki/Kopieren_\(Kunst\)](http://de.wikipedia.org/wiki/Kopieren_(Kunst))
- Fischer F. M. 2005 "Das Original und seine Reproduktion. Ist Geschichte Wiederholbar?" in: ZeitSchichten erkennen und erhalten - Denkmalpflege im Deutschland, I. Schurmann (ed) Catalogue for the exhibition in Dresden 30.07.2005, München, Berlin, Germany: Deutsche Kunstverlags, 36-45.
- Fischer F. M. 1997 "Rekonstruktionen? Ein Debattenbeitrag und zwei Fallbeispiele" in: Denkmalpflege im vereinigten Deutschland, Stuttgart, Germany: Deutsche Verlags-Anstalt, 122-129.

- Gebeßler, A. 1997 "Rekonstruktion in der Denkmalpraxis" in: Denkmalpflege im vereinigten Deutschland, Stuttgart, Germany: Deutsche Verlags-Anstalt, 87-106.
- Glaser, G. 1997 „Möglichkeiten und Grenzen der Rekonstruktion: Versuch der Formulierung einiger Kriterien“ in: Denkmalpflege im vereinigten Deutschland, Stuttgart, Germany: Deutsche Verlags-Anstalt, 118-121.
- Hanselmann, J.F. 2005 Rekonstruktion in der Denkmalpflege Texte aus der Geschichte und Gegenwart J. F. Hanselmann (ed) MONUDOCthema04, Stuttgart, Germany: Fraunhofer-IRB Verlag, 5-18.
- Hartmann, G. 2005 "Rede zur Einweihung des Goethehauses in Frankfurt a.M." from: Einweihung des Goethehauses. Ansprachen, Frankfurt a.M. 1951, 5-11. Reprint in: Rekonstruktion in der Denkmalpflege Texte aus der Geschichte und Gegenwart J. F. Hanselmann (ed) MONUDOCthema⁰⁴, Stuttgart, Germany: Fraunhofer-IRB Verlag, 99-102.
- Haubrich, R. Die Welt, 30.11.07
- Hillmann, R. 2008 „Das Prinzip Rekonstruktion“, Review of the congress ETH Zürich 24.-25. Januar in: kunsttexte.de, 1/2008, [Online] Available at: <http://www.kunsttexte.de>.
- Huse, N. 1997 *Unbequeme Baudenkmale: entsorgen? Schützen? Pflegen?* München, Germany: Verlag C. H. Beck.
- Huse, N. 1986 „Schein von Altertümern – Die Mode der Rekonstruktionen und die Denkmalpflege“ in: Frankfurter Allgemeiner Zeitung (FAZ) (07.05.1986).
- Jatho, C. O. 1986 "Die romanischen Kirchen in der Diskussion 1946/47 und 1985", H. Kier – U. Krings (eds) Stadtsuren - Denkmäler in Köln 4, Köln, 97-105.
- Kalinowski, K. 1993 "Der Wiederaufbau des historischen Stadtzentren in Polen mit Kommentar" in: Denkmal, Werte, Gesellschaft: zur Pluralität der Gesellschaft, W. Lipp (ed), Frankfurt/New York, Campus Verlag, 342-344.
- Kimmelmann, M. 2009 "Rebuilding a Palace May Become a Grand Blunder" in: The New York Times (01.01.2009), in: [Online] Available at: http://www.nytimes.com/2009/01/01/arts/design/01abroad.html?_r=2
- Krufft, H.-W. 1993 Rekonstruktion als Restauration. Zum Wiederaufbau zerstörter Architektur in: Der Architekt Heft 9, Berlin, Germany: Ernst&Sohn, 522-526.
- Lipp, W. 2008, *Kultur des Bewahrens. Schrölgansichten zur Denkmalpflege*. Böhlau Verlag Wien, Köln, Weimar.
- Lipp, W., 1994 "Vom modernen zum postmodernen Denkmalkultus? Aspekte zur Reparaturgesellschaft" in: Arbeitshefte des Bayerischen Landesamtes für Denkmalpflege, Heft 69, Petzet, M. (ed) München, Germany: Lip Verlag, 6-12.
- Lupfer, G. 2006 „Dresdner Imitationen im Schatten der Frauenkirche“, in: Konstruktionen urbaner Identität P. Sigel und B. Klein (eds) Berlin, Germany: Lukas Verlag, 33-49.
- Machatschek, A. 1996 "Erste Methodische Restaurierungen an Baudenkmälern der Antike im Zeitalter des Klassizismus", F. Blakholmer at. (ed), Fremde Zeiten. Festschrift for J. Borchhardt II, Wien, Austria: Phoibos Verlag, 358 fn. 2.
- Markgraf, M. 2007 "Rekonstruktion? Das Gropius-Haus in Dessau" Vortrag anlässlich des Symposiums «Nachdenken über Denkmalpflege» (Volum 6): «Denkmale nach unserem Bild? Zu Theorie und Kritik von Rekonstruktion» Bauhaus Dessau, 31. March, in: kunsttexte.de, 3/2007, [Online] Available at: <http://www.kunsttexte.de>.
- Marquart, C. 1997 „Erleben – Erfahren – Eine Vorbemerkung“ in: Denkmalpflege im vereinigten Deutschland, Stuttgart, Germany: Deutsche Verlags-Anstalt, 79-86.
- Meier, H.-R. 2006 „Stadtentwicklung zwischen Denkmalpflege und Geschichtsfiktion“ in: Konstruktionen urbaner Identität: Zitat und Rekonstruktion in Architektur und Städtebau der Gegenwart“ Berlin, Germany: Lukas Verlag, 161-175.
- Meier, H.-R. 2005 „Dehio 2000! Paradigmenwechsel in der modernen Denkmalpflege?“ in: ZeitSchichten erkennen und erhalten - Denkmalpflege im Deutschland, I. Schurmann (ed) Catalogue for the exhibition in Dresden 30.07.2005, München, Berlin, Germany: Deutsche Kunstverlags, 320-329.
- Mörsch, G. 2005a "Denkmalpflege nach der 'Denkmalpflege'" in: Die Denkmalpflege vor der Denkmalpflege, Neuer Berner Schriften zur Kunst, V. Hoffmann, J. Schweizer, W. Wolters (eds) Akten des Berner Kongresses 30.06.1999, Bern (u.a), Printed in Germany; Peter Lang, 377-398.

- Mörsch, G. 2005b "Fremd, vertraut oder entbehrlich. Die Denkmale in der neuen modernen Gesellschaft" in: *ZeitSchichten erkennen und erhalten - Denkmalpflege im Deutschland*, I. Schurmann (ed) Catalogue for the exhibition in Dresden 30.07.2005, München, Berlin, Germany: Deutsche Kunstverlags, 29-35.
- Mörsch, G. 2004 "Rekonstruktion zerstört" in: *Denkmalverständnis, Vorträge und Aufsätze (1990-2002)*, Zürich, Schweiz: vdf Hochschulverlag AG an der ETH Zürich, 63-74.
- Nerdinger, W. 2008 „Rekonstruktion, ein Reizthema in historischer Perspektive“ in: *aviso, Zeitschrift für Wissenschaft & Kunst in Bayern*, 1/2008, [Online] Available at: <http://www.stmwfk.bayern.de/aviso/index.html>.
- Pehnt, W. 2006 *Deutsche Architektur seit 1900*. Wüstenrot Stiftung Ludwigsburg München, Germany: Deutsche Verlags-Anstalt, 2. Edition.
- Pehnt, W. 1993 „Dagegen aus Respekt“ in: *Das Schloß? Eine Ausstellung über die Mitte Berlins*, Förderverein Berliner Stadtschloß (ed), Berlin (u.a), Germany: Verlag Ernst, 109-112.
- Petzet, M. 1997 "Rekonstruieren als denkmalpflegerische Aufgabe?" in: *Denkmalpflege im vereinigten Deutschland*, Stuttgart, Germany: Deutsche Verlags-Anstalt, 107-117.
- Piano, R. cit. from Schäche W., "Für ein Recht auf Rekonstruktion", in: [Online] Available at: <http://www.neumarkt-dresden.de/prorekonstruktion.html>
- Plank, D. 1997 „Denkmale als historische Dokumente und Quellen“ in: *Denkmalpflege im vereinigten Deutschland*, Stuttgart, Germany: Deutsche Verlags-Anstalt, 137-138.
- Posenenske, P. 1986 "Denkmalpflege über alles – z.B. Schloß Wilhelmshöhe" in: *Bauwelt Heft 16*, Berlin, Printed in Germany: Wilhelm Möller KG, 566-573.
- Rauterberg, H. 2002 "Geschichte – das war gestern: Die Deutschen bauen an einer Normalität. Sie wollen Vergangenheit, doch bitte ohne Erinnerung" in: *Neue Deutsche Architektur: Eine Reflexive Moderne*, Martin Gropius-Bau Berlin, Ausstellung 11.07.2002. U. Schwarz (ed), Stuttgart, Germany: Hatje Cantz Verlag, 312-323.
- Rauterberg, H. 2001 "Echt unecht. Über die Bedeutung der Denkmalpflege in Zeiten der Künstlichkeit", in: *Kunsttexte.de* 1/2001, [Online] Available at: <http://www.kunsttexte.de/download/denk/rauterberg.pdf>.
- Sack, M. 1989 "Ein großes Haus, so alt wie neu" in: *Die Zeit* (15.12.1989).
- Schäche W., Für ein Recht auf Rekonstruktion, [Online] Available at: <http://www.neumarkt-dresden.de/prorekonstruktion.html>
- Schmidt, L. 2008 *Einführung in die Denkmalpflege*, Stuttgart, Germany: Konrad Theiss Verlag GmbH.
- Schnitzler, H. 1986 "Die romanischen Kirchen in der Diskussion 1946/47 und 1985" in: *Stadtspuren - Denkmäler in Köln* 4, H. Kier and U. Krings (eds), Köln, Germany: J.P. Bachem Verlag, 56-62.
- Siegel, P. 2006 „Konstruktionen urbaner Identität“ in: *Konstruktionen urbaner Identität: Zitat und Rekonstruktion in Architektur und Städtebau der Gegenwart*, Berlin, Germany: Lukas Verlag, 13-31.
- Steiner, D. M. 2002 "Neue Deutsche Architektur" in: *Neue Deutsche Architektur: Eine Reflexive Moderne*, Martin Gropius-Bau Berlin, Ausstellung 11.07.2002. U. Schwarz (ed), Stuttgart, Germany: Hatje Cantz Verlag, 343-345.
- "Stellungnahme der Vereinigung der Landesdenkmalpfleger", 1991 in: *Deutsche Kunst und Denkmalpflege* Vol. 49-1, Berlin, Germany: Deutsche Kunstverlag
- Strodthoff, W. 1992 "Festrede Anlässlich der Verleihung DAI Literaturpreis 1992 an Dr. Werner Strodthoff" in: *Baukultur* 1992 Heft 2, 45-47.
- Tietz, J. 2006 „Berliner Wechselwirkungen: Überlegungen zu den schwierigen Beziehungen zwischen Geschichte und Gegenwart in Berlins Mitte“ in: *Denkmale in der Stadt – die Stadt als Denkmal: Probleme und Chancen für den Stadtumbau*, H.-R. Meier (ed), Dresden, Germany: TUDpress Verlag der Wissenschaften, 111-116.
- Traeger, J. 1994 "Zehn Thesen zum Wiederaufbau zerstörter Architektur" in: *Bauwelt Heft 8*, Berlin, Printed in Germany: Möller Druck und Verlag GmbH, 352-353.
- Wohlleben, M. 1997 „Es sieht so aus, als sei nichts gewesen! Gedanken zur rekonstruktiondebatte“ in: *Denkmalpflege im vereinigten Deutschland*, Stuttgart, Germany: Deutsche Verlags-Anstalt, 146-152.

IMAGE CREDITS

Figure 1. http://de.wikipedia.org/wiki/Berliner_Stadtschloss

Figure 2. <http://www.pdr.kultur-netz.de/>

Figure 3. <http://www.berliner-schloss.de/start.php?navID=99>

Figure 4. http://www.fachwerk.de/fachwerkhaus/Fachwerkhaus_8.html

Figure 5. http://upload.wikimedia.org/wikipedia/commons/f/f9/Bundesarchiv_Bild_183-L0927-0305%2C_Berlin%2C_Aussenministerium.jpg

Figure 6. Steffens, M. 2003: 72

Figure 7. http://de.wikipedia.org/wiki/Klosterkirche_St._Michael

Figure 8. [http://de.wikipedia.org/wiki/Christ-Erl%C3%B6ser-Kathedrale_\(Moskau\)](http://de.wikipedia.org/wiki/Christ-Erl%C3%B6ser-Kathedrale_(Moskau))

Figure 9. http://de.wikipedia.org/w/index.php?title=ECE_Schloss_06u07_1b.jpg&filetimestamp=20080518105043

Figure 10. <http://palaisquartier.de/hotel-am-thurn-und-taxis-platz/index.php>

Figure 11. Huse, N. 1997: 29, Fig. 8

Figure 12. [http://de.wikipedia.org/wiki/Frauenkirche_\(Dresden\)](http://de.wikipedia.org/wiki/Frauenkirche_(Dresden))

A SURVEY OF PEOPLE'S ATTITUDE LIVING IN URGUP-MUSTAFAPASA (SINASOS) TOWARDS THE PROTECTION OF HISTORICAL AND CULTURAL ASSETS

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ABSTRACT

This study investigated the levels of awareness of the people living in Urgup Mustafapasa town (Sinassos) towards the protection of the historical and cultural monuments by conducting a public survey assessed by means of SPSS software. The results show that the levels of awareness of the people of Mustafapasa on the existence, services and role of civil society organizations need improving.

Keywords: Natural and historical assets, Preservation, Mustafapasa (Sinassos)

INTRODUCTION

According to the Venice Charter 1964, "The notion of historic monument comprehends the isolated architectonic creation, as well as the town or landscape environment constituting the testimony of a special civilization, of an important evolution or an historic event."

In the general conference of UNESCO's meeting in 1976 definition of an historic asset described as "Every historic area and its surroundings should be considered in their totality as a coherent whole whose balance and specific nature depend on the fusion of the parts of which it is composed and which include human activities as much as the buildings, the spatial organization and the surroundings. All valid elements, including human activities, however modest, thus have significance in relation to the whole which must not be disregarded."

Fich (1982) described the main aim of preservation as conveying physical and cultural heritage to next generations.

Similar description of an historical asset is also accepted in Turkey's regulation on preservation of cultural and natural assets. (Official newspaper number 2863)

In Turkey, the topic of a question of how these assets should be protected becomes current issue because of rich cultural heritage and the rapid urbanization, disappearance or inevitable destruction of historical and cultural assets (Sokmen 1992).

In Turkey, there are a number of problems in the protection process. These problems have been stated by Tankut (1997) that include lack of technical applications, protection plans not yet being settled by a rigorous methodology, unsolved urbanization rant, not completely constituted boundaries of feasibility, ignorance of essence of sustainable protection and not completely considered public profits.

The main aim of protection is, unlikely to conserve the historical and cultural monuments possibly forever without their condition changed, to keep the effects of wear out and their disappearance under control, to provide continuous maintenance for them, and to convert their functionality into a suitable way of service back to the public, if necessary. In these kinds of applications, the originality of the monuments has to be considered (Diker 1998).

Unwillingness of local governments to approach the problems encountered, lack of public knowledge on the protection, and insufficient economic conditions make the protection attempts impossible. In addition to these, in the application processes, misuses, false assessments, ignorance of revision and restoration plans necessary to apply to historical environments designed by conducting researches are among the main problems (Akin 1998).

In today's world, not only legislation is sufficient in protecting of the historical and cultural monuments but also public's adoption, support and taking part in the application of protection plans are required. Such a support lays behind making the public consciousness or knowledge raised (Hersek 2001:234).

The qualitative and quantitative studies about the duration of protection of the historical and cultural monuments, and studies that examining the government's roles are relatively abundant in the literature(Keane 1993; Bobbio 1993; Çaha 1997; Bostancı 1997; Ozuerman 1998; Kalaycıoglu 2001; Ak 2003; Icduygu & Keyman 2004).

Although studies those state qualitative statuses of civil societies are found in excess in the literature, there exist few studies that discuss the roles of civil societies in the duration of the process.

In this study, levels of awareness of the public living in the texture of historical city, Nevsehir-Urgup Mustafapasa (Sinassos) were investigated towards the protection of the historical and cultural monuments.

Mustafapasa was selected for the survey because the city has rich in historical and natural monuments including Monastery of St Nicolas, Cave Churches, underground

cities, historical Marasoglu Bridge, historical houses and natural assets such as fairy chimneys, in need for protection.

MATERIALS AND METHODS

In the district and streets of Urgup-Mustafapasa town having 'oldest' city texture properties, the field work of the public survey focuses on two aspects. The first concentrates on whether the people of Mustafapasa are adequately aware of the knowledge of historical and cultural environment while the second on whether historical and cultural environments are adequately protected.

The survey conducted in Mustafapasa containing 21 questions asked to 103 people, 88 of which were used, consists of four sections; 1) Socio-economical situations, 2) Perspective on protection awareness on the historical texture in an environmental scale 3) Perspective on the historical texture in a single building scale, and 4) Perspective on the definition of civil society.

The questions were prepared according to literature (Ozturk 2007; Giritlioglu et al. 2006; Kiper 2006).

The questions on socio-economical situation include sex, age, education level, occupation, and monthly income. In the second section, the views of the participants on the district and town in environmental scale were taken while third section includes those in a single building scale. In the final section, participant's awareness of the existence, the services and the role of the civil society organizations have been questioned.

The collected data were then analyzed by using SPSS 11.0 software package. In the analysis the sample grouping method was used.

RESULTS

The responses of the participants to the survey are as follows;

Socio-economical status of participants

Of the 83 total participants, 51.1% are female and 48.9% are male. Education level of participants consists of 48.9% primary school, 22.7% high school, 12.5% middle school 9.1% not educated and 2.3% university graduates. Occupations of the participants include 31.3 % housewife, 18.0% tradesmen, 16.9% self-employed, and 13.3% official employees. Of the participants, 79.5% own the house they live in, 20.5% tenants, and 8.4% live in their parent's house.

The average monthly incomes of the participants is \$500 and their average age is 52,73 years. The number of people living in a property on average is 4 and average number of years they reside in is 21 years.

Perspective and protection awareness of participants on the historical texture in an environmental scale

The responses of the question “what do historical and cultural environments mean to you?” are tabulated in Table 1.

Table 1. The views of participants on the historical texture in an environmental scale

What do historical and cultural environments mean to you?	Number of people	%
The places that reflect history, customs and habitual attitudes	62	70,5
The places that indicate old properties and not suitable for residence.	4	4,5
The places that attract tourists	14	15,9
Other	8	9,1
Total	88	100

The question “what do historical and cultural environments in Turkey mean to you?” was asked to participants and 92.0 % responded as Cappadocia, 8% said “no idea”. And the responses to the question “what do historical and cultural environments in Mustafapasa bring to your mind?” consist 90.9 % of Urgup, 8.0% of Avanos and 1.1 % of others.

Participants were asked to characterize the historical places in Mustafapasa and 24 people stated them as abandoned places, and 63 people said they are just historical places.

Of the participants, 94.3 % are content in living in Mustafapasa, and 5.7 % are not. Of those who are not content in living in Mustafapasa, only 1.1 % stated that Mustafapasa is not a secure place to live in, 81.8 % ticked other reasons, 14.8 % stated that historical places are in the state of disrepair, and 2.3% said they have a lack of infrastructure.

The question “what conditions might be improved so that you continue living in Mustafapasa?” asked to those who are not content in living in Mustafapasa, and 48 % of them said that if the building are destroyed and new building are constructed, 37.1 % responded if they are restored and infrastructure improved, 14.3 % of them said they want to leave Mustafapasa whatever the conditions are.

The question “Do the historical places in Mustafapasa need protection or restoration?” asked to the participants and if the answer was yes. The next question “by whom and how should they be protected?” was asked and 93.2% responded yes, 1.1% no, and 5.7 % said “no idea”. Of those who answered yes, 46.6% said they should be protected/restored by government, 11.4% by municipality, 10.2% by the property owner, and 31.8% by all and 56.9% stated that they should be protected together with their districts and also 43.9% of them stated the reason for protection is to convey these assets to next generations.

Perspective and protection awareness of participants on the historical texture in a single building scale

The participants were asked to characterize the historical houses where they reside: 72.7% stated as neglected historical houses and 27.7% described them as just historical houses.

Of the participants, 88.6% are content in living in such historical houses and 11.4% of them are not. Of those who are not content in living in such houses, 81.8% not responded, 13.6% stated their houses neglected and need repairing, and 2.3% of them said the historical houses have a lack of comfort.

The participants were asked whether they want to continue living in the historical houses or not, and 94.3% answered yes 5.7% said no.

In this study the word “registered” used for the property that registered for protection by the government.

The question “what a registered house means to you?” asked to the participants, the results are tabulated in Table 2.

Table 2- Distribution of participants according to the concept of registered property.

What a registered house means to you?	Number of people	%
Kept for protection	61	69,3
To renew	8	9,1
Even painting the house needs official permission	9	10,2
Taking the right of ownership from its owner	1	1,1
No idea	8	9,1
Other	1	1,1
Total	88	100

Of the participants, 86.4 % stated that their houses have been registered and 13.6% said that their houses have not been registered.

Of those who reside in a registered house, 43.1% described the disadvantages of residing in a registered house as made of old materials, 22.7% have no idea, 18.2% stated that even painting the house needs official permission, 17.0% described as the restricted ownership.

Of those who reside in a registered house, 44.3% described the advantages of residing in a registered house as unreturned financial support for repair, 20.5% said tax exemption, 9.1% described as opportunity having low interest rate credits for repair, and 26.1% have no idea.

Perspective on the definition of civil society

The participants were asked whether they have any knowledge about existence of civil societies, and 68.2% said no, 4.5% stated yes, and 27.3% have no idea.

The question “if there is any society/association/foundation working on the process of protecting the historical houses in Mustafapasa” asked to the participants and 67.0% said no, 5.7 % said yes and 27.3% have no idea.

A further question “Do you have any contribution on the protection process going on in Mustafapasa?” asked to the participants and 68.2% said no, and 31.8% answered yes.

DISCUSSIONS

Based upon the results, a remarkable number of the participants know the value and meaning of historical and cultural environments; however, 92% of the participants said that Cappadocia region is the only place comes in their mind when they hear about historical places. This may be due mainly to their social status including income and education.

Most (~70%) of the participants have a legal aspect to a certain extent in that what the registered property means. However, insufficient government funding results in poor preservation of such places; consequently, the people living in such properties are not content. Besides these historical properties used as residence have a lack of comfort resulting in unwillingness to continue living for some residents.

A significant number of participants have the knowledge of protection/restoration and a common view for protection/restoration is that restoration must be performed and financed by the government. This result is consistent with the studies carried out by Ozturk (2007) and Gultekin (2007). In these studies, majority of the participants stated that protection/restorations etc. must be carried out and financed by the government.

The existence, the services, and the role of civil societies are not generally known by the participants. This is mainly due to one third of the participants being housewife and their low level of education. This result is significant as compared to the study on determination of awareness level of Cukurova university's personals and students done by Yucel et al. (2003). In the study, they found significant sensitivity on historical and cultural environment considering their education level.

CONCLUSIONS AND RECOMMENDATIONS

The survey for people's attitude towards the protection of cultural and natural assets conducted in Mustafapasa containing 21 questions asked to 103 people, 88 of which were used, consisted of socio-economical situations, perspective on the historical texture in an environmental scale and in a single building scale, and on the definition of civil society organizations.

The current study describes the preliminary conclusions that can be drawn from the public survey as:

The study showed that participated male and female approximately equal in number and their level of education on average is low. The occupations of the participants include one third of them housewife, and the others tradesmen, self-employed, and official employees approximately equal in number. The participants were categorized as low-income people and their average age is 52,73.

On the environmental scale, the survey showed that the participants were aware of the historical assets and positive attitude towards their protection.

On the level of a single historical building, the participants showed significant level of knowledge on the historical building they live in. Moreover, it can be seen that they were aware of what a registered property means, but they exhibit a lack of knowledge on the constraints of registering. The participants described the advantages of living in registered buildings as tax exemption and no costs on the restoration and maintenance.

The participants testified a lack of knowledge of the existence, services and role of civil society organizations on the protection of historical and cultural assets.

Historical and cultural assets being indemnity for sustainable developments of countries have to be kept under protection. It can be possible to make the protection plans to be developed by the civil society organizations common for the people of Mustafapasa by means of seminars or campaigns. This will raise levels of awareness of the people of Mustafapasa.

REFERENCES

- Ak, N., 2003, 'AB Sürecinde Sivil Toplumun Yeri ve Önemi', published Master thesis, Dokuz Eylül University, social science institute, İzmir.
- Akın, N., 2006, 'Türkiye'de Tarihsel Çevre Koruma Tarihine Kısa Bir Bakış', *Yapı Dergisi / Istanbul Museum-City Project observation attachment n.28*, March, İstanbul.
- Bobbio, N., 1993, *Sivil Toplum ve Devlet*, Ayrıntı Yayınları, İstanbul.
- Bostancı, N 1997, 'Devlet ve Sivil Toplum', *Yeni Türkiye*, Year 3, No.18, Ankara.
- Çaha, Ö., 2005, *Devlet ve Sivil Toplum Kuruluşları "Kamu Yararına Statüsü İdeolojik Devletlerin Geliştirdiği Bir Lütuf Sistemidir"*. Sivil Toplum Dergisi year:3 No :10, April- June
- Diker, N.Ö., 1998, 'Planlama Kararları ile Kentsel Koruma Kararlarının Entegrasyonu Çanakkale Örneği', *Ege Mimarlık*, No: 97/1, Number:22, 45, İzmir.
- Fitch, J.M., 1982, *Historic Preservation, Curatorial Management of the Built World*, New York.
- Giritlioğlu, O.C, Branca A.F., 1976, 'Tarihsel Çevrede Yapı Eylemi', *Mimarlık Dergisi*, No. 85, Ankara
- Gültekin, N.J., 2007 'Geleneksel Konut Dokusunda Kullanım Sürecinin Değerlendirilmesi-Beyazırma Örneği' *Faç. Eng. Arch. Gazi Univ.* Vol 22, No 8, 261-272.
- Hersek, C.M., 2001, *Ülkemizde Doğal ve Kültürel Mirasımızı Korumak Üzere Oluşturulmuş Kamu Kurumları İle Gönüllü Sivil Toplum Kuruluşlarının Organizasyon, Yetki ve Sorunları Hakkında Çözüm Önerileri*, TAÇ Vakfının 25. Yılı Anı Kitabı Türkiye'de Risk Altındaki Doğal ve Kültürel Miras

- İçduygu, A., Keyman, E.F., 2004, *Democratic Consolidation and European Integration: The Role of Civil Society in Turkey*. Unpublished text. AB Uyum Süreci ve STKlar, (EU Integration Process and NGOs.) İstanbul.
- Kalaycıoğlu, E., 2002, *The State and Civil Society in Turkey: Democracy, Development and Protest*, Civil Society in the Muslim World. London: I. B. Tauris Publishers, 2002. pp. 247-73.
- Keane, J., 2004, *Sivil Toplum ve Devlet-Avrupa'da Yeni Yaklaşımlar*, Yedikita Yayınları, Ankara, 2004. Demokrasi ve Sivil Toplum, (translated by N. Erdoğan)
- Kiper, P., 2004, 'Küreselleşme Sürecinde Kentlerin Tarihsel-Kültürel Değerlerinin Korunması-Türkiye, Bodrum Örneği', Ankara University, social science institute, Ankara.
- Öztürk, H.H., 2007, *Tarihi ve Kültürel Çevrenin Korunmasında Sivil Toplumun Rolü Hamamönü örneği* viewed January 2009 <<http://www.google.com.tr>>
- Özüerman, T., 1998, *Türkiye'nin Batılılaşma ve Demokratikleşme Açmazı*, Dokuz Eylül Yayınları, İzmir.
- Sökmen, P., 1992, 'Tarihi Çevre Korumasının Kent Planlaması içindeki Yeri', *Tarihi Kentlerde Planlama, Düzenleme Sorunları*, 11. Dünya Sehircilik Günü Kollokyumu Bildirileri sf. 59-68. Bayındırlık İskan Bakanlığı Yay., Ankara.
- Tankut, G., 1997, 'Tarihi Çevrenin Korunması Hayal ya da Gerçek', *The General Conference of the United Nations Educational, Scientific and Cultural Organization, meeting in Nairobi at its nineteenth session*, from 26 October to 30 November 1976
- Yücel, M., Uslu, C., Peker S.N., 2003, *Çukurova Üniversitesi Personel ve Öğrencilerinin Çevre Duyarlılıklarının Belirlenmesi*. Çukurova Üniversitesi Ziraat Fakültesi Araştırma Projesi, Project No: BAP – PM 2002-01. Adana.
- 1964 – *International congress of architects and technicians of monuments*. 31.05.1964 viewed on 17 April 2009.
<<http://eurosot.protezionecivile.it/documentazione/regulationOnTheProtection.pdf>>

DIFFERENT FUNCTIONS AND NEW SPACE EVOLUTIONS IN INDUSTRIAL BUILDINGS: *LOFT CONVERSION*

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ABSTRACT

The Loft concept, was arose in America in 1970's through the changes of commercial and industrial settlement and it was started with American artists occupying the buildings that were previously used for industrial purposes as a solution alternative homelessness. The Loft life contains the themes such as being included in the process of designing and implementing the location that you live in as a user, reflecting your life style through your own rules to your own location and removing the boundaries and limitations in the location. The Loft, which is a kind of protection and implementation project, allows the users are living in their desired location without any restrictions.

The Loft concept as a brand new concept in Turkey may be claimed that it is following a development process interacting with each other as it has been in each new concept. The Loft project, which may also be described as a protective approach example, may be perceived different solution proposes regarding the implementation way of different functions in similar buildings.

It is possible to see the Loft formations in the Istanbul city representing the Turkey scale. Together with the per square meter prices rise primarily in the urban centers, several industrial establishment started selling their headquarter and factory buildings and moving them to outside of the city. In the factories, which used to produces TV, medicine, chocolate, liquors, etc. previously, today the hotel, shopping and living centers and houses/residence functions become dominant. It is possible to see this situation clearly in the old factory areas in the districts such as Gunesli, Umraniye, Merter, Levent.

In the study, the purpose was to determine how the integration of the different solution proposals with the urban life ensured topic was investigated together with its positive and negative aspects and to provide a general map of the Loft concept through researching the implemented examples under the scope of fieldwork. Besides this, it was to perform the comparisons of the recently developed Loft systems in Istanbul with similar ones in the world and to determine the impacts of the user social-cultural structure to the location construction.

Keywords: Industrial locations, Social-cultural structure, Location construction, Loft concept, Commercial buildings

Loft is an activity aimed at converting the areas constructed for commercial and industrial usages to the living spaces. Being different from the collective housing offering the same solution for different status and different social livings the user can buy construction building for creating their special areas and can design their interior architecture accordingly to their own usages and characteristics. Thus, the generated buildings become devastating living spaces and places representing special choices of householders. "Loft concept solving living and working spaces together not only is a reflection of urban culture and esteemed living style, but also forms a reference point for contemporary architecture." (1)

Loft trend spreading from America to entire world as an alternative living style was firstly started to be used by American artists as home studio, then was converted into a living space sheltering every function. It is seen that the design culture that these buildings form and architectural solutions that they offer are effective in the design of art galleries, stores, pubs and houses.

While designing loft conversions, most of today's contemporary architects give importance to conservation and sustenance in terms of building's construction technique and material characteristics. Loft concept which can also be defined as a conservative approach example can be perceived as different solution offers regarding how different functions can be applied in the similar buildings. Such analyses ensure integration with urban living. The archeology of loft place is always rich in terms of material and has rough endings. The lofts which were industrial places in the beginning provide a strong historical character to the user and devastating pattern to the environment with its rough structure without endings. It uses the structural elements bearing traces from the past and adds new functions to them in due course and integrates present with past and enables the formation of new living spaces.



Picture 1. 632 Hudson Loft an industrial building

Loft architecture forms open, industrial associative spaces that are not leaned with the fixed divisions, brings flexibility to interior space- exterior space relation by analyzing sheltering-working-designing function simultaneously and at the same space. That they are formed of single space, the walls are not used or the divider furniture supersedes the wall function are the most important characteristics of the lofts. Thus, the freedom to determine her/his own limits has been provided to the individual. While loft gives shapes to new ideas for users' livings before prior determination of interior place arrangements in its design, it allows an independent conversion from worldwide traditional housing understanding. At this stage, different than ordinary, the sheltering need is especially not provided in reserved spaces, but with mobile elements to be determined according to user's demand.

These buildings, which were abandoned in the beginning and re-discovered, provide spaces with apertures of windows rowed on a long, thin wall to the user. Each *loft* offers solutions which are new, different and changing to the space and specific to that space. No loft has a single solution. The windows, elevators and stairs are strong determinants for loft organization. These elements existing as determinants at the building give the flavour of jigsaw puzzle to the solution. The addition of suspended platforms to inside of space, flexible room divisions, functional design details and entrance of new materials to design are the application realized for responding to the needs of different users. The loft housings of the contemporary city that differ according to the user, completely mean personality with their colour, coating, materials and special ending details.



Picture 2 . Inside view of 632 Hudson Loft

Whatever the function of the building before being converted into the Loft, it can be adapted to new needs and its old function can be felt inside the space again. The aims in the design of such buildings are to fulfill required light and space requirements and to keep the relation with building's original position with to-be-applied functional design. Therefore, some geometries previously existing in the structure can be used for reflecting the building's industrial story to the inside of the

space. The steel girders, ventilation ducts or freight elevators bear the traces of the past of the spaces in which they are located. The beauties and practicability of these elements create a contact feeling with the original characteristic of the building.

After the industrial revolution, the industrial buildings were established outside the city centers. Depending on the economical revolutions and developments happened day after day, the cities started to grow in an organic way. Thus, the city centers started to comprehend these old industrial areas. In 1950's, the factory areas locating inside the city centers lost their functions and became idle and settled to outside of the city. As a result of these events, the buildings at the city center became unusable and functionless. Increasing housing inconvenience and change in the economical balances; that the students, academicians, artists can rent this region with more affordable prices according to the other housing areas and they can use these areas as home-studio cause them to be preferred. Thus, Home-cum studios formed the first examples of contemporary loft.

The *loft* concept which is developed as a solution to homelessness problem in America in 1950's firstly appeared in Manhattan which is one of five main regions of New York City. While this region was the most important commercial, culture and finance center of New York, it became an eye-catching area for the artists as a result of moving industrial buildings to more outer areas than city centers. The big-scale livings which are creative and reflecting their own personalities saw the abandoned factory buildings composed of completely open and free spaces in some regions of Manhattan as opportunities for themselves and tended to settle in these regions. As a result of this situation, the traditional forms we encountered in New York version of *Loft* living were analyzed and re-shaped. The conversion from industrial area to housing shows an organic and need-oriented development. These buildings previously sheltering functions such as factory, warehouse, and hangar form an excellent form in the meaning of re-institution.



Picture 3. Loft Budson



Picture 4. A View from Stone Street, Manhattan, NY

At the internal spaces of lofts which were the first living and working areas of New York, minimalism and functionalism had their meanings. At that period, the contemporary discourse of Mies van der Rohe as “Less is More” had the attribution of emphasizing that the extravagance, excessiveness belonged to the past. However, the rich variety opportunities in the material and expertise in handicrafts proved the opposite of this argument in due course with concrete infrastructure and depressing, pessimist and cold design of Gotham City the most of which was composed of steel buildings. The sparkling of glass and steel like jewel, wood being as forming a sensitive pattern, warm standing of concrete inside the space ... All of these features are available in NYC Lofts inspiring European and other countries.



Picture 5. Cold design of Gotham City

One of the predominant settlements of Lofts in America is SoHo locating at Manhattan region of New York. While SoHo was a neighbourhood in which workshops and small work centers predominantly were located, after 1970's it was gentrified with the settlement of Pop-Art artists which were pioneered by Andy Warhol and became the most important art center of the city at a time. SoHo attracted attention with its cast-iron buildings dated back to 1850's. In the plannings of these buildings, wide apertures and numerous storage units were available. The beam technique of cast-iron enabled the formation of wide aperture glass surfaces and formation of high, abundant light receiving spaces. The possibility of these buildings to use with a different function other than its industrial aim seemed to be a situation which was not considered at these times. Today these areas are converted to the housing areas within the content of various urban conversion and rehabilitation

studies and rehabilitation works are realized. “While *loft* having a wide angled lifestyle is accepted as modernism ideal by some groups, the emergence of this phenomenon can be observed in the examination of economical and social conversions in SoHo region.” (2)



Picture 6. SoHo Green Street, Manhattan, NYC

The loft conversions are also encountered in Williamsburg neighbourhood affiliated to Brooklyn of New York. Williamsburg is an example neighbourhood being exposed to development and improvement movements in the transition from the industrial period to the post-industrial period. Here the conversions also appeared due to the economical and social changes similar to the other regions. It can be said that in Williamsburg example, in the conversion of the industrial buildings from production areas to housing areas, the artists and academicians were gathered up with richer people in terms of many social, economical and physical conversions defining the post-industrial city. Also in a similar approach the enormous financial development (the realized new investments, new occupation fields) of Chicago between the years of 1978 and 1987 caused the emergence of necessity of replacing of the industrial and commercial regions.

After SoHo region, the extensions of loft movement encountered in America can be observed at Meatpacking District locating at the western part of Manhattan and at the region where 14.Hudson, Gansevoort and Washington streets are borders. As it is understood from its name, this region where meat wholesalers were located at 1970's is currently hosting the dandiest, most expensive restaurants – clubs and loft projects realized as a result of the big investments. Vincent Incoriglos who has lived in Meatpacking and continued his studies for a long time says that “... at those times, people did never believe you when you said where you lived.”. Incoriglos who is now 63 years old, stated that he discovered Meatpacking Region due to his

searches for cheap studio like the other artists of the period. After a long time when you enter the region, the thin bridge between the past and present of Meatpacking can be felt due to the surrounding buildings and region's pattern. Such that the fashion designers, photography artists, painters, architects and authors started their studies in the fields of design, architecture, photography, literature and fashion at the period in which the meat wholesalers walking around with their bloodstained white aprons in the streets were lined up in a row in front of the big barrels and depots full of meat and bones and have shaped the others' lives with this movements that they are also currently pioneering.



Picture 7, 8. View from Meatpacking District before conversion and Fort Gansevoort Building on the left side; Vincent Incurigios Loft

It did not also take a long time for loft movements to spread to European cultural centers such as London and Berlin after America. But, the formation there was based on different reasons than in loft formation in America. Upon the concern that the contemporary buildings rising at the wide avenues of new developing London and Berlin overshadowed the industrial buildings, the period of settling to the industrial areas to protect these buildings started. Indeed the artist locating at these areas were included in a political movement. That the creative, productive, art-dealing activities established colonies in the abandoned habitats and idle spaces, has a long history. At those times situating in such settlements was seen as an illegal behaviour. Upon the understanding that this situation was an opportunity for the re-development of the areas which were previously the commercial regions of the city, the new laws were prepared to encourage the conversion of the industrial areas and this situation was turned to be legal. In 1960's the architects characterized the loft buildings as reflections in which they could make experiments and which converted the loft living to a creative lifestyle and the new solutions that they generated attracted attention.

In the recent years, the conversion of commercial and industrial areas locating at many big European cities to housing zones by being associated to habitation has been discussed. "In the recent years, re-development period under the governments' competitive renewal programs has drawn attention. "The collapse in city centers, unemployment, physical and industrial structural change, post-industrial global economy weakening traditional industrial regions and the workers there is the final

version of the urban development policy followed from the mid-1970's till today.” (3) The land usages from the industrial period to the post-industrial period, emergence of the occupational class conversion in the fields of finance and design in the professional working lives were seen as the comprehensive parts of this conversion. As an example to this, *Loft* conversion at Clerkenwell region locating at the centrum of London has very similar characteristics with the ones in London in terms of the fact that city lives' social attributions, central locations and architectural features are different. The users there being professionals and managers, their commitments to the environment caused that they considered themselves as the pioneers of a new city life form.

Similarly Stephney Region locating at the eastern part of London was established with the successive settlement waves in hundreds of years and encountered the many forms of renewal and re-development in its physical and communal patterns. Medium height municipal buildings, old terraced houses (Gregorian, Victorian), the departments having stores on their ground floors and old factory buildings converted into the lofts form the characteristics of the housings in the region. “Stepney has been rehabilitated for many times by the renewal projects causing communal wealth support and cultural developments. This renewal view fell on the region and recently has taken hold of the region as a new wave of gentrification based on commerce and housing.



Picture 9. Housing Typology in Stepney, East London

The loft concept creating inter-continental interaction after America has also been encountered in Australia. The loft movement started firstly in 1980's as giving housing function to the small depots in the vicinity of Sydney inner-city. These

buildings were illegally rented by a group of academicians from Sydney University exactly like in America. (4) Many buildings in the region continued their formations as 'hangar residence' before being converted into the Loft apartments. The first examples of this legal formation contain the studios in which artists and musicians in Shephard and Newman Printery Eastern Sydney maintained their lives for many years. After these buildings completed their conversions to the luxurious Loft apartments within the framework of the developed improvement projects, the name of the building was not changed due to the value given to the building heritage. The Silknet Building in the vicinity of Central Station was also rented in the same way and became the last ones of the unofficial housing rental way. "

The loft conversion concept creating impression as 'Manhattanism' ideal containing the conversion of the industrial and commercial buildings in the city centers forming majority of municipalities towards the end of 1990 to New York style lofts is manifestation of Sydney's SoHo Syndrome in its intimate." (5) According to Julie Padmore, Manhattanism, SoHo Syndrome proceeds are also based on internalization of spatial and cultural process beyond handling Soho's aesthetics in a modest way as development strategy. It is a socio-cultural process requiring complex relation network of space, identity and media rather than a universal evaluation strategy. (6) The inner-city of Sydney city (these areas are composed of problematic, lower-income group in socio-economical terms and neglected and ruined buildings) shelter complex identity patterns as a region. There is a specific stand of SoHo Syndrome there. It has been decided that it is appropriate to realize the Loft conversion projects in the inner-city region of the city that is planned to be improved with the increased demand to the protectionism of the industrial buildings inherited to the present from the past. As a result of this, the new charming living packages, a new urban development fantasy, are encountered in this distinguished heritage region in which residential activation is the only focus. These buildings providing housing and studio which are cheap and alternative to other buildings were evacuated after a period longer than 10 years towards the end of 1997 and were converted into the luxurious lofts. According to Roseth's expression, "If economical factors are expressed in a region; the existing hangar and old depot buildings give ways to the new entrepreneurs and conversion phenomenon." At the end of 1980's some buildings were converted into the lofts, however, the economical recession lived at the beginning of 1990's blocked the conversion movement.

Together with being a trend rapidly expanding to entire world at the present, loft is a very new understanding for Turkey. It can be argued that in Turkey the loft concept has followed a development process interacting with each other like in every new concept. In Turkey scale in İstanbul city, it is possible to explicitly observe this development in old factory areas in the neighbourhoods as Güneşli, Ümraniye, Merter, and Levent. Especially together with the increasing of m2 prices in city centers, many industrial enterprises sold their headquarters' or factory buildings and started to move to the outside of the city. In the factories previously producing TV, medicine, chocolate, liquor, etc., the hotel, shopping center and living centers and housing/residence projects has started to prevail in the recent years. However, it is a separate issue of concern whether these buildings are included into a conversion process with conservation and renewal projects.

The first example of this new formation in Turkey is Levent Loft project. This project is located at Maslak – Levent axis developed as the city's new central working area in İstanbul in the recent years. An arranged, comfortable and qualified lifestyle in the city center as an alternative to the living areas heading to the city outside is presented with the contemporary standards. The building the construction of which was started as an office building locating between the lands of Deva and Fako medicine factories was re-designed as a housing settlement with its raised ceiling and refreshing solution in its interior space by protecting its existing concrete structure.



Picture 10. Levent Loft Between Factories, Fako Old Medicine Factory (left), Deva Old Medicine Factory (right)

The wide angled lifestyle of the Loft projects inspiring to the contemporary age is also accepted as a modernism ideal by some people. The ‘Loft conversion’ projects which is appreciated and finding meaning by passing through the definite social, cultural, economical and political stages in the inter-continental platforms such as America, Europe, Australia, etc. are presented to the user as a model that the consumer society promotes and leads in the developing communities like our country; and a picture waiting for giving ways to new trends in an environment continuously improving and changing by putting its signature to that period with the new trend wave without scrutinizing the issue's history and the undergone formation processes has been painted. Thus, as the user's expectations and experiences are departed from each other, the aimed lifestyles and city arrangement inevitably create some adaptation problems. Loft previously being an American phenomenon, has become a housing living area being in demand in many cities of the world nowadays.

ENDNOTES

- [1] Tibet, E., 2004. Editorial, *Tasarım*, Aralık 2004, s.3
- [2] Maralcan, M., 2004, 'Loftta Yaşam' , Aralık 2004, s.140 – 143
- [3] Evans, G., Foord, J., "Doğu Londra'da Yerleşim Kültürleri", *İstanbul Dergisi*, Sayı 60, Temmuz 2007,s 58-62
- [4] Shaw, W. S., *Ways of Whiteness: Negotiating settlement agendas in (post)colonial inner Sydney*, Phd Thesis, School of Anthropology, Geography and Environmental Studies, The University of Melbourne, May 2001
- [5] Podmore J. ,1998, (Re)Reading the 'loft living' habitus in Montreal's inner city, *International Journal of Urban and Regional Research* 22, 2, 283-302
- [6] Shaw, W. S., *Ways of Whiteness: Negotiating settlement agendas in (post)colonial inner Sydney*, Phd Thesis, School of Anthropology, Geography and Environmental Studies, The University of Melbourne, May 2001

REFERENCES

- Bain, Alison L., Constructing contemporary artistic identities in Toronto neighborhoods, *The Canadian Geographer*, Volume 47, Number 3, September 2003 , pp. 303–317(15)
- Enginöz, K., Y., 2006, 'Ground Zero Manzaralı Loft' , XXI, Şubat 2006, s. 55 – 60
- 'İstanbul'da Yeni Bir Kent Kültürü', *Tasarım* 166, s. 26
- Giloth, R., Betancur, J., 1988, 'Where Downtown Meets Neighborhood: Industrial Displacement in Chicago, 1978 - 1987' , *Journal of the American Planning Association*, Eylül 1988, s. 279 - 290
- Hamnett C, Whitelegg D, 2007, "Loft conversion and gentrification in London: from industrial to postindustrial land use" *Environment and Planning A* 39(1) 106 – 124
- Himmelfarb, K., 'Loft Conversion and Neighborhood Change in the Post-Industrial City: a New York City Example' , Edward J. Bloustein School of Planning and Public Policy, Rutgers University
- 'Levent Loft' Yapı 317, s. 78 - 80
- Molnar,F., E., 2001, *Lofts New Designs for Urban Living*, Rockport Publishers, Massachusetts , USA
- 'Özgür ve Odasız Daireler', *İnşaat Dünyası* 282, s. 76 – 78
- Zukin, S., 1989, *'Loft Living: Culture and Capital in Urban Change*, Rutgers University Press, USA

RE-EVALUATION OF INDUSTRIAL BUILDINGS WITHIN THE SCOPE OF INDUSTRIAL ARCHEOLOGY UNDER PRESENT-DAY CONDITIONS

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ABSTRACT

Currently there is significant threat towards disappearance of historical industrial buildings due to lack of awareness and incorrect protection works. These buildings having lost their function in time, are not attached importance like other monumental building types, therefore they are not protected. A number of industrial buildings lost their function with the development of technology and the establishment of new factories, thereby deserted to destruction. For a very short time, these buildings are considered to be historical witnesses of industry and they are taken within the scope of protection.

The concept of "cultural heritage" emerged with the demolishment of urban identity by urban transformation following industrial revolution. The limits of cultural heritage expanded in time and new dimensions like "industrial heritage" of cultural heritage emerged. Europe played a pioneering role in the emergence of the notion of "industrial cultural heritage". The significance bore by industrial buildings with regards cultural identity with the emergence of this notion has drawn attention. The reaction displayed in the face of desertion of industrial buildings due to production techniques failing to be sufficient each day with the development of technology triggered the protection works in this field.

Failure to operate historical factories efficiently, their technological insufficiency, their closure for various reasons like urban pollution or lose of function are situations confronted all over the world. However, conscious destruction or demolishment of industrial buildings should not be allowed. Industrial facilities providing contribution to economic development of countries could be re-evaluated to be used to the benefit of city and public as traces of industrial past. Significant studies are being carried out in European countries in this regard and technical monuments are being taken up together with their environment in studies to maintain industrial heritage. "Industrial archaeology" that emerged in 1950's and examining industrial heritage is a discipline with dimensions of history of technology, archaeology and protection. It is evident that the issue is related with numerous professional fields like history of architecture, history of sociology-technology, design, urban, regional and landscape planning, machinery, civil and electrical engineering, economics, therefore it requires an inter-disciplinary study.

These buildings evaluated within the scope of industrial archaeology have problems and are under threat of disappearance arising from losing their function and the protection approach in our country. For this reason, there are studies which should be performed urgently for taking these buildings under protection. Historical industrial buildings are first required to be determined, their inventories prepared. Development of inventory system should be prepared

with a continually updated and electronically stored system and made open to use of public. The inventory regarding industrial buildings and facilities should be supported with relieve, restitution and restoration projects if possible. In that way, it could be possible to see in what level the buildings are damaged, their risk status. Following these studies, new functions should be attributed to these buildings from industrial heritage within the scope of cultural-architectural heritage, thereby enabled to stand on our present day too, most suitable utilisations for re-designation of functions should be determined. Historical industrial buildings that lose their original function maintain their structural features even though they lose their function, therefore they become suitable for re-use. During evaluation of these buildings under present day conditions, it needs to consider the characteristics of the building and environment, its archaeological and architectural importance, status of deterioration, its potential to be assigned with new functions, economic support.

In the declaration, how the historical industrial buildings within the scope of industrial heritage should be evaluated, physically performed repairs and reinforcements, as well as provision of permanency with a suitable function will be mentioned, the one required from among restitution, restoration and reconstruction methods will be selected pursuant to results derived from determination and analysis studies of these buildings, what need to be done urgently to evaluate it under present day conditions and to make it live in coming years will be expressed.

Keywords: Industrial archaeology, Industrial buildings, Industrial heritage, Re-designation of functions, Re-building

INTRODUCTION

Due to the unconscious and wrong works of protection, a great threat that may destroy the historical industrial buildings exists in our time. These buildings, which happen to lose their functionality in time, have not been considered as important as the other monumental building types and accordingly not protected. Many industrial structures have lost their functions with the development of technology and establishment of new factories; and have been left to collapse. However, since a very close period, these have been started to be accepted as the witnesses of industrial history and thus have been taken under the protection scope.

The historical factories happen to be closed generally on all the globe due to the grounds such as inefficient functionality, technological shortage, urban pollution etc. However, the industrial buildings should not be permitted to be destroyed consciously or to be destroyed on its own in time. The industrial plants that contributed to the economic development of the countries may be reused, as they are the traces of industrial history, for the benefit of city and public. Important works are being made in European countries for this purpose; and in such attempts to protect the industrial historical heritage, these technical monuments are being assessed together with their surrounding environment.

The concept of industrial archaeology has emerged in the second half of 20th century and is a scientific discipline covering the specific architecture that have been constructed to produce products and services including its respective mechanical tools and installations. While considering the structures under the scope of industrial archaeology, the factors of technology history, architectural history and protection should be taken into account. The expression industrial archaeology maybe reminds

only the structures and tools being used/utilised in well known industrial eras, however in fact includes the installations and objects in all phases of industry.

All the sources in the scope of industrial archaeology consist the industrial heritage. For to transfer such heritage to the future generations, the structures should keep their original identities as well as enabling them to be reusable by the urban and public life, with a suitable function. This study concentrates on the still existing industrial plants which have been important components of technology history and contributed significantly to the physical development of the country; and recommendations of documentation, protection, re-functioning for to transfer such existing industrial buildings to the future generations.

THE CONCEPT OF INDUSTRIAL ARCHAEOLOGY

The concept of industrial archaeology can be defined in broadest means as a scientific discipline covering the specific architecture that have been constructed to produce products and services including its respective mechanical tools and installations (Tanyeli, G., 2000).

The industrial archaeology is a discipline that handles the installations and means of production of the industrial buildings that have become dysfunctional due to various grounds. Besides the means of production, also the integrated houses in which the workers live, social facilities etc. units of the complex and handcraft production facilities (as established before the industrial revolution) are covered under the scope of the industrial archaeology.

Due to the emerging urban transformation problems in the middle of 18th century originating from the industrial revolution, has given birth to Industrial Archaeology mainly in England but also in all European countries as to cover the old fashion production systems; the works for protection, examination and documentation of industrial buildings, products, machinery, equipment and industrial zones

The word industry includes all sorts of production in any location, however the innovations made in technology after the Industrial Revolution has in basic mean paved the way for the formation of industrial archaeology concept, and therefore the real concentration is on the "Industrial Revolution" process that had started primarily in Great Britain at the end of the 18th century and respective products.

The interest for the industrial heritage is quite new and its source feeds from the curiosity towards the technological developments. Many things are kept till now because they have been found technologically interesting. These are the models of the interesting machines, records related to different techniques, training tools, remnants of the industrial exhibitions in past, personal commodities transferred among the generations due to business or commerce transactions etc.

The sources at hand (at the moment) as industrial heritage are wide however widely dispersed. This is because the industrial civilisation does not have an attempt of changing itself and an integrated operation strategy. If the sources covered by the industrial heritage are to be classified generally, we shall mention the movable

cultural assets i.e. tools and immovable cultural assets i.e. structures and industrial landscapes.

The movable heritage are tools which are an important component of production process. For instance a steam machine within the industrial structure as reflecting the technology of the era. The immovable heritage on the other hand are factories where the production used to continue and bridges, canals, roads etc. in quality of technical heritage. The industrial landscape means the residences of the labour force that used to perform the production. Thus, the sources in the industrial heritage may be classified as follows: Production facilities (factories), transport structures, storage, sales-exhibition places, big shops, machinery and tools that reflect the technology of their era.

RE-EVALUATION OF INDUSTRIAL BUILDINGS WITHIN THE SCOPE OF INDUSTRIAL ARCHEOLOGY UNDER PRESENT-DAY CONDITIONS

The understanding of protecting and reuse of the industrial buildings has for the first time introduced with the opening of world's first technical museum in 1794 in Paris. However, the concept of industrial archaeology has been started to be used intensely during 1970s. When we consider that 37 of the listed 754 world cultural heritage assets are industrial heritage assets, the importance of required consideration on such structures will be obvious. In addition, since the industrial heritage consist of structures that reflect the means of production and means of work in certain periods, they give important clues about the social-cultural structure of their locations. There are more than 100 registered industrial buildings in countries that have hosted industrial revolution, such as England, France, Germany etc. The International Committee for the Conservation of Industrial Heritage (TICCIH) 1985 report states that there are 14000 registered industrial monument in England, 254 in Austria, 200 in Sweden and 400 in Poland. Understanding the intensity and quality of the relation between the structure and its era of construction is important for to understand the value of the historical industrial structures. Thus, the coverage and limits of the assessments to be performed, whilst selection of the new function to be recommended and selection of the suitable ones, should be well defined.



Picture 1. Ruhr Industrial Zone, Mülheim, Aquarius Water Depository, being used as museum today

For each of the selected structures, spotted within the protection frame criteria of industrial heritage and determined to be under or not under any risk, the general renewal and protection principles should be applied and besides structure tailored methods for such purposes should also be developed. The structural features, re-functioning potential, location, location based most suitable protection and renewal methods should be understood. In the first place, the structural features should be improved for to keep the building on foot. The added unsuitable parts should be removed and the building should be reconsidered structurally. These buildings, facing the danger of extinction due to having no existing function, shall be given new and suitable functions and such assignment will enable them to exist and be protected.



Picture 2. Denizli, K lah ioğlu Flour Factory

Protection of industrial historical buildings not means only protecting the architectural heritage but also giving life to industrial heritage and increasing the cultural importance and life quality of the host city. While re-functioning the buildings of industrial heritage, the needs of the respective area should be examined and market analyses shall be carried on. The suitable function selection is related to correct evaluation of the location and structure qualities of the building. We frequently see that, while reuse of factories for protection purposes, the structure is deemed as an empty box as only fa ades considered and all the inner installations are removed. (F hl 1995)

Documenting the original features is important while preparing the industrial heritage for reuse. European Council has prepared monument and protected zone criteria for to document the architectural heritage. However such proof documents are not always enough. Thus, new proofs including respective required criteria should be advised and they should include visual materials, history, issuer information etc. explanation. A national and independent organisation shall be established for the keeping of such proofs and a terminology shall be formed. An independent atmosphere is required for to realise all such works free from interventions. The

inventory collection works should be prepared via a system that may be updated continuously and having the capability of electronic storing; as open to public access. The State should provide supports for the examinations of the experts and chambers of profession, universities and companies shall perform co-operation.

“The architectural structures include indications that give us concrete data about the organisation, beliefs, economy etc. social factors related to the working and business life of the period in which the structure is built.” (Taşkıran, 1997) Thus, the architectural buildings may be evaluated as important information sources for the sociological assessment of the respective society. The importance of the structures through the formation and permanency of the cultural identity may be seen as the collective mind reflected therein. We can say that a single structure is very important for the persons living around even if they do not use the building (structure). Re-functioning is a policy of giving rebirth and providing permanency to the buildings which bear a reference quality for the social life and act as milestone in the cultural flow.



Picture 3. Recently destroyed Ankara Maltepe Coal Gas Factory

The problems related to the functional loss of the historical industrial buildings within the scope of the industrial archaeology and Turkey's respective protection approaches require solutions as soon as possible. In parallel with this aim, there are urgent works for to take such structures under protection. In the first place, historical industrial buildings should be spotted and added to inventory. Development of inventory should be achieved by using an updateable systems with the capacity of electronic storing and public access/use. The inventories related to the industrial building and facilities, if possible, should be supported with restoration plans, reinstitution drawings and restoration projects. By this way, it can be understood how much these structures are damaged and what sorts of risks are present. After these basic works, the industrial structure under the cultural-architectural heritage may be re-functioned for the most suitable utilisation and accordingly enabled to exist. The historical industrial structures keep their structural features even if they lose their

functions and thus are suitable for reuse. While assessing these structures for the requirements of modern times, it is necessary to consider the features of the structure and the environment, archaeological and architectural important, level of damage, re-functioning potential and respective economic assistance. (Köksal, 2006)

Before the application, the experts of the field should perform sufficient examinations and a method consisting of controllable stages should be carried out. The biggest risk for the re-functioned industrial buildings is understood as fast (not sufficiently assessed) applications. The re-functioning purposes should be examined in detail for to prevent such bad application and permanency should be provided with long range programs. Even though giving reuse to the industrial structures without breaking it down is more economic than constructing new structures, still sources are required for initial examinations, preparations and applications. Thus, financial dimension is present. Financial support may be demanded from chambers of commerce/industry, companies, national or international organisation etc. European Council indeed provided funds for supporting the industrial heritage structures worth for protection.

The protection and reuse of the structures under the scope of industrial archaeology is performed by giving new and correct functions to such buildings. For to understand the different application dimensions of re-functioning matter we will mention some structures from Turkey and globe that have completed their functional transformation and have an important name in architectural field.

Vienna Gas Measurement Facilities, Vienna/ Austria

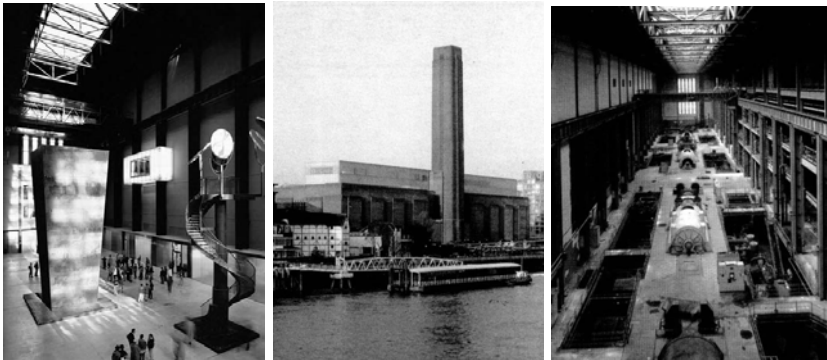
The coal gas factory has been constructed by Theodor Herrman between 1896 and 1899 and has become the biggest of the kind in its times. Vienna Gas Facilities are constructed as brick walls coating the inner iron structure. Each of them has an inner radius of 62,85 meters and their average inner height is 72,5 meters. The buildings are taken under protection with the Code dated 1981 and not used after the year 1985.



Picture 4. Vienna Gas Facilities, Situation After Re-Functioning

Tate Power Station, London/England

“Tate Power Station” is one of the leading modern art museums of the world. The structure was constructed to replace a previous structure with the same purpose of generating power but using coal instead of fuel oil. The structure has been selected as an important actor of the renewal project of London periphery and at the moment participates to the urban life as contributing to the economic freshening of the area. (Argüner, 2000).



Picture 5. Tate Modern Art Museum, Images before and after the Re-Functioning

Midas Olive Oil Museum



Picture 6. Midas Olive Oil, Images after Re-Functioning as Museum

The olive oil factory in Edremit had been established in 1899. The objects to be used in this museum are the former machinery and tools of the factory. The museum building is placed just beside the modern system production facilities.

Rahmi Koç Museum, Hasköy/İstanbul

Two industrial buildings, one for anchor production and the other for vessel manufacturing, in Hasköy neighbourhood of İstanbul have been redesigned as an industry museum.



Picture 7. Rahmi Koç Museum, Images after Re-Functioning

Anchor building has been re-functioned as museum on the date 13 December 1994. Hasköy Shipyard has been added to such capacity since the area of anchor facilities were not sufficient to exhibit all the collection at hand.

Kadir Has University

Cibali Tobacco Factory had been constructed at the end of 19th century and reflects the architectural environment of those times due to its urban position and individual architectural features. The examination and projecting works are started in 1998 and Kadis Has University Cibali Central Campus has been formed in the year 2002.



Picture 8. Kadir Has University, Images after Re-Functioning as university campus
Silahtarağa Power Station (Station İstanbul - Bilgi University Campus), Eyüp / İstanbul

Silahtarağa Power Station has provided electricity to İstanbul between 1914-1983 as the first urban power station of Ottoman Empire. The structure has been allocated to Bilgi University in May 2004 by Ministry of Power and Natural Resources.



Picture 9. Silahtarağa Power Station (Santral İstanbul) Before and After Re-Functioning

RESULT

The industrial archaeology is a systematic work on the structures and objects with the purpose of obtaining wider information to understand the industrial history. When an industrial structure or area is decided to be re-functioned, it should be protected and reused without harming its historical informative/aesthetic meanings and integrity. A unity of power should be present for a successful application and for the permanency/existence of the same. Thus, a joint work of the public(people), universities, local and central administration, respective persons and organisations should be obtained. We deem that such wide extent attempts will contribute to understanding of industrial heritage in Turkey, change the perception to such structures and assist the placement of more of such structures under reuse coverage.

The weaknesses such as insufficient written references related to industrial heritage, presence of existing but unknown many documents in the archives and industrial archaeology not accepted widely as a discipline makes such structures a way more important. In fact, the most informative documents left about the matter are the structures themselves. However, still all sorts of architectural and technological data related to the structures under the coverage of industrial heritage should be protected carefully.

The examples of re-functioning should be increased in numbers for the industrial heritage concept to be more globally accepted and given importance. In parallel with this purpose, we may protect and rehabilitate the industrial historical areas and may reveal their hidden meanings as well as keep their specific qualities and characteristics; consequently gifting their original identity to exist in parallel with a new understanding of function.

REFERENCES

- Alioğlu, F. Alper, B. 1998. Cibali Tütün ve Sigara Fabrikası Sanayi Yapısından Üniversiteye, İstanbul Dergisi, Sayı 27, s. 40-48, İstanbul.
- Alper, M. 2004. "Cibali Tütün Fabrikasından Kadir Has Üniversitesine", Arredamento Dergisi Sayı 07, s. 83-86
- Architektur+Wettbewerbe, 1985, "Umnutzung und Folgekosten gebauter Anlagen-Reuse and Subsequent Costs of Buildings, Architektur+Wettbewerbe, 121, Stuttgart
- Erdoğan, S., 2002, Endüstri Arkeolojisi Kapsamında İstanbul'daki 19.yy Endüstri Yapılarında İşlev Dönüşümüne Bağlı Mimari Mekan Analizi, YTÜ Fen Bilimleri Enstitüsü, Yüksek Lisans Tezi, İstanbul.
- Föhl, A., 1995, "Bauten der Industrie und Technik, Schriftenreihe des Deutschen Nationalkomitees für Denkmalschutz, 47, Bonn
- Hasol, D. 1994. "Gardan Müze'ye", Yapıdan Seçmeler-4- Kültür Yapıları, YEM Yayınları, İstanbul.
- Himmelblau, C. 2003, "Apartman Binası Gazometre B Viyana, Avusturya", Yapı Dergisi, Sayı 259, s.70-78, İstanbul.
- Kıraç, A.Binnur, 2001, "Türkiyede'ki Tarihî Sanayi Yapılarının Günümüz Koşullarına Göre Yeniden Değerlendirilmeleri Konusunda Bir Yöntem Önerisi", MSÜ Fen Bilimleri Enstitüsü, Doktora Tezi, İstanbul.
- Köksal, T.Gül, Ahunbay, Zeynep, 2006, "İstanbul'daki endüstri mirası için koruma ve yeniden kullanım önerileri", İTÜ Dergisi, cilt:5, Sayı:2, s.125-136, İstanbul

- Oral, Elif Özlem, Ahunbay, Zeynep, 2005, "Bursa'nın ipekçilikle ilgili endüstri mirasının korunması", İTÜ Dergisi, cilt:4, Sayı:2, s.37-46, İstanbul
- Soğancı, N, M. 2001. Architecture as Palimpsest: Re-functioning of Industrial Buildings Within the Scope of Industrial Archaeology, ODTÜ, Fen Bilimleri Enstitüsü, Yüksek Lisans Tezi, Ankara
- Tanyeli, G., (2000) "Endüstri Arkeolojisi Yapılarının Korunması ve Yeniden İşlevlendirilmesi" , Domus m dergisi, sayı:2000/8
- Taşkıran, H.İ. 1997. Yazı ve Mimari, YKY, İstanbul, s.16.
- Wehdorn, M. 2002. "Viyana'daki Gazometre Binalarının Yeniden Kullanımı", Mimarlık, 308: 49-51, Ankara.

‘HACOPULO PASSAGEI’ AS A RE-INSTITUTION CASE

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ABSTRACT

In this study, It has been aimed to document the present situation of Hacopulo Arcade which was at İstanbul, Beyoğlu İstiklal Street and known to be built in 1871. It has determined whole operation from past to now with bringing out of new functional suggestion to supply preserving the build.

Hacopulo Arcade being a passageway where connects Meşrutiyet Street and İstiklal Street supplies transition to Aya Panaia Church that is presented next to it. After mentioning the specialities of construction, the aim of construction and using out of the aim of construction at this thesis is has been explained in the process of the function at present times.

It has been the situation of construction, the historical specialities of construction relationship with the city's architectural texture, architectural speciality of construction and destructing causes of construction at the thesis.

In the conclusion of the paper, a new use is suggested by preserving the construction so that it could be handed over to future generations. At this point, architectural identity of construction, reasons for past uses, new styles of living, culture in general has been incorporated into the decision process, and it is advocated that it should be re-instituted as an art center of a residential Project. Also construction methods and materials are suggested in the renovation of the building.

Keywords: Re-construction, Historical buildings, İstiklal Street

Our buildings a part of our cultural inheritance are used out of its purpose by changing in time and the social change, environmental and economical factors may require these buildings to be used again.

Of our recent history; we will in an environment in which even the structures of the Republic period getting rapidly lost and our provinces changing identity quickly. In the other industrialized countries the historical and the cultural values are protected painstakingly and evaluated and in our country they can get destructed without leaving a trace; the possibility to make a connection between the past and the future is eliminated (Sözen, 1984:1)

The buildings can be the symbols of the countries, cities, districts in which they are present as well as being old or new architectural structures. Being available to reuse the buildings which witnessed time, integrated with the province, being a subject to the songs, novels and movies will both provide the protection of the buildings and keeping the memories of the people living in the province live.

This study covers the Hacopulo Pasaj which has an important position in Beyoğlu İstiklal Street and drawing attention with its historical and cultural properties. In the historical passage in which there are shops of the then famous names there are thread seller, button maker, hat maker and model drawers and tailors and the upper floors of the structure are used as dwelling house. Besides in the passage Namık Kemal and Ahmet Mithat have issued the newspaper İbret and it has been a place for the meeting of the Jön Türkler (The Young Turks). A close witness of the life of Beyoğlu the structure is now a meeting point of the sector of the photographers and the students.

Today the passage opens at 7.00 in the morning and closes at 20.30 in the evening. The doors of the passage open to İstiklal and Meşrutiyet Streets and the passage have received restoration two times which has gone through fire hazard two times also.

THE ANALYSIS OF HACOPULO PASSAGE

The position of the passage

The passage is a complex on the Beyoğlu District, the İstiklal Street and today being in between the Jeremi and Boğaz dead-ends whose exact place is not known the Hacopulo Passage connects İstiklal Street and Meşrutiyet (the old Tepebaşı) Street to each others and provides passage to Panaiya Isodion Church and composed of three main masonry structures. With this shape of it is a yard-type house with T-passage and open top passage type (Üsdiken, 1994, 2).



Figure 1, 2, 3, 4. Old photograph of the Hacopulo Passage

The historical past of the passage

Taking its name from its first owner a rich Greek merchant from Istanbul M. Hacopulo the passage is thought to be made in the 1850s (Üsdiken, 1994,3). In the magazine *La Turquie* dated 15 April 1871 the opening date of the passage is given and also the passage owned by the famous merchant of the region Hacopulo is stated that this passage and the house on the top of it have been immediately hired in spite of the very high prices (Akin, 1998, 4) Perhaps the Hacopulo Passage since the very first time it has been established has been a place for the clothiers, button makers and the hat makers. The first winds of the western fashion have blown here, the most luxurious hats have been sewn here and the newest models have all been drawn here. It has been considered a privilege buying the buttons of any dress from a shop in Hacopulo. (Evren, 2002, 5)



Figure 5, 6, 7. Celebrity models and tailors of designers in the passages

The clothiers in the passage in years 1870-1880s (silk thread, button sellers) were Marino, Yani Malaksotis, Kosmi, Karnik, Acaryan, Lukidis, Adamantidis and the partner. In addition the hairdresser Valantin brothers, the carpet seller Filipoviç, with its magnificent restaurant and saloon Kanelos, selling the Paris bedsprings and bedsteads Neyrat, providing service to the beautiful ladies of Pera, Matmazel Adel, the male tailors Fskolo, Armao, Barbagallo and Marengo are all here. (Üsdiken, 1991, 6)

Another important feature of the passage is the printing house and the management offices of the newspaper *İbret* issued in 1872-1873 by Namık Kemal and Ahmet Mithat are in the two floor building just at the right hand side of the Tepebaşı exit. Upon the closing of the newspaper on 5 April 1873 and the exile of Namık Kemal and Ahmet Mithat Efendi, this place has been emptied by the order of Zaptiye Nezareti. (Gendarmerie Direction) (Evren, 2002.7)

Also the shop of Heral, the famous shoe and boot maker mentioned in the works of Said N. Duhani and Recaizade Ekrem was here. The music store of Adam was in the upper part of the passage. Adam used to sell music instruments and publications and also deal with the repair of all kinds of music instrument. In addition has had turned the upper floor into an auditorium and the compositions of the famous composers were being interpreted in this saloon in front of a crowded

audience. In the year 1890 P.Zoli turned this saloon into a theater and many theater works were played in here in those times. After a while this place has become Keller's who was working with Adam. Keller was here until the 1920s. Later on Misel Armao has opened the Melek Musiki store in the same place. Then this place has become a pudding shop by closing. (Üsdiken,1991.8)

The appearance of the passage is the same in 1940s. Today there is only one shop of those old times and it is the hat maker. This shop run by a citizen of us of Greek origin has been manufacturing hats not only in the streets but also the most luxurious ones in movies and also parades.

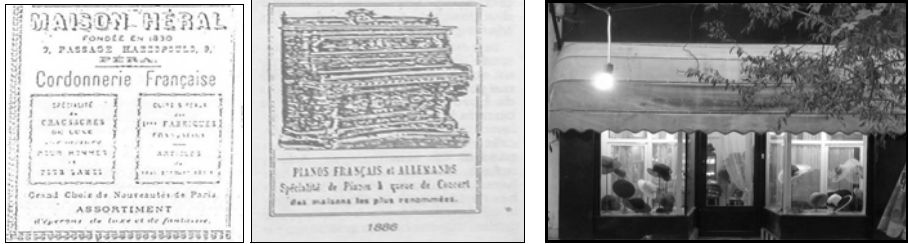


Figure 8, 9. Excerpts from the famous department store ads



Figure11. Mrs Katya's famous hat designs

Figure12, 13. The heritage puzzle of the passage

The known official owner according to the title deed of the passage is Nikola Yurla. Currently the property of the structure is on this person. The first owner of the passage is known but the rest is a mystery. (Evren, 2002, 9)

The passage has had a well-kept and an active background until 1940s with the functions in contains. Today it is not a well-kept passage not to contradict with its first function in which the button makers, dress accessory makers, shoe and tailor materials sellers and the similar shops exist. The structure is a registered old work to be protected according to the decision of Council of Monuments.

The relation of the structure with the urban fabric

The passages and the gates hold a significant place in the topography of Beyoğlu specific to itself. The structures on the holms showing intensity to cut the light of each others cause an architectural feast directed at Cadde-i Kebir (The Great Street) with its magnificent fronts. All the passages and the gates of Pera have been designed as double-functional. These functions architectural and commercial not only the shortest way between two regions but also are a small bazaar. The passages in which the book sellers and the button makers intensify are different from the thread makers or the shoemakers. The clearest feature of Hacopulo separating from all the passages of is its atmosphere created by its specific architecture. (Evren, 2002, 10)

With the yard-type house gate inside the passage carries out the connection between the İstiklal and Meşrutiyet Streets. One door of the Hacopulo Passage open to İstiklal and the other door open to Meşrutiyet Street. But there is one more door. This door opens to another passage Panaia just next to it. The church and the passage court yards are connected with one door. The surrounding of the church is covered with high walls. Especially the corridor between the Hacopulo Passage and the Venice ambience reflects just in the middle of İstanbul. There is a breath, color and architecture alienated to the city with everything, another and an acquaintance. (Evren, 2002, 11)

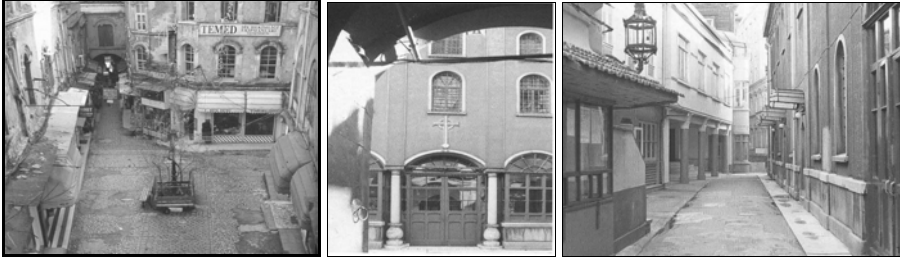


Figure 14. Hacopulo Passage Figure 15. Panaia church Figure 16: Olivia Passage

THE ARCHITECTURAL FEATURES OF THE PASSAGE

The Plan Features of the Passage

Hacopulo Passage takes place on the inclined area between İstiklal Street and Meşrutiyet Street. The structure has a front in the south in İstiklal Street and in the north in Meşrutiyet Street.

One of the three buildings composed of totally four floors of the passage is entered from the internal courtyard in which there are shops in the basement floor and reflecting an eclectic structure, and the other two is entered from the left and right doors on the Meşrutiyet Street. On the other side it is also entered by passing through a corridor whose topside is vaulted and very narrow where single floor shops on both sides exist which is also called Danışman Geçidi (Advisor Gate) from

the side of İstiklal Street. The big building on the left side has been made as an Apartment of Hacopulo the first time and the flats here are entered through the open corridors on the floors. (Üsdiken, 1994, 12)

In the study the structures composing the passage are separated according to their architectural features and these parts are called the A, A1, A2, B, C Blocks.

A Block

The plan structure of A Block is in U shape. The branches of 'U' are in the direction of İstiklal Street and these branches close to each others towards the Meşrutiyet Street and also they narrow the courtyard towards this direction. The U form in the connections of the branches forms the door of the Meşrutiyet Street. (Şen.1998, 13)

A Block 1st Part

In the 1st part of the A structure there is another place in which the ladder providing the relation with the WC and the mezzanine behind the shops which are in the same width and each of them are long as plan. The biggest of the structures forming the gate *Hacopulo Apartment* are planned as the normal dwelling for the second and the third floors of the building and these flats are reached by the open corridors.

A Block 2st Part

The ladder climbed up by entering from the door on the left side of the main door of the Meşrutiyet Street provides the reaching to the office + dwelling houses on the top floors of the 2nd part of the A structure.



Figure 17. A Block 1st Part Figure 18. A Block 2st Part Figure 19. A Block 1st Part

B Block

The B Block is 3 floors except the basement the edge of the last part facing the church is 4 floors. Its plan is in L shape and one branch extends from the Passage to the entrance direction of İstiklal Street and the branch extends to the entrance

courtyard of the church. There is a church passage ladder between the B structure and the A structure. The church entrance courtyard is used as a street coffee house today.

C Block

The C structure is the three floor part of the Passage. It provides the passage from the İstiklal Street to the Passage. The passage has the smallest unit shops in respect of the place size.



Figure 20. B Block



Figure 21. B Block



Figure 22. C Block

THE REFUNCTIONING PROCESS OF HACOPULO PASSAGE

The first function of the structure

The building observed in the study is a passage in respect of the structure type. In our country passage is a structure belonging to big cities. Together with the efforts of westernization increasing in Istanbul in the 19th century the passages have undertaken the task of being the first shopping mall of our country as well as connecting two streets to each others.

The biggest feature of Hacopulo Passage is almost all the shops in it composed of button makers, embroiders and model drawers since the very first day it was established. There are shops dealing with the sales and repair of the music instruments and auditorium, and a school providing Turkish opera training in the ground floor as well as the tailor materials, ready wear, shoe, bag and jeweler shops. The upper floors of the Passage have been used as office and the 2nd and the 3rd floors (Hacopulo Apartment) of the 1st part of the A structure mentioned in the architectural features parts have been used as dwelling house. Again the passage has been the meeting point of the Young Turks and being used as a printing house and hired offices in here by Namık Kemal and Ahmet Mithat Efendi. It also adds value to the structure by history other than its position.

The Functions Recommended and Applied to the Structure

After the İstiklal Street got closed to the vehicle traffic together with the change of usage, it has become one of the preferred places of Istanbul in entertainment, foods, shopping, culture and arts.

The passage had a well-kept and active background until the 1940s with the functions it contains. The structure shows many diversities in respects of its size of indoors and the usage and for this reason there is a multi-purpose usage including many functions. It is not a well-kept passage today in which various shops selling dressing accessories and tailor materials are present.

There are many shops present in the courtyard form of Hacopulo Passage which do not show the old attributes planned today. Especially the tea garden in the internal courtyard of the passage is a place preferred and often used by the university students. The 10 most beautiful passages of Turkey have been ordered in Hürriyet newspaper on 4 March 2005. In this order Hacopulo Passage has been ordered the 2nd.



Figure 23, 24. A view from the inner courtyard Figure 25, 26. A story about the passage in a clipping of newspaper

Building Techniques and Materials

One part of the structure is composed of ground and two normal floors and one part is composed of ground and normal floors. In addition the mezzanines have been made due to the height of the ceiling in the ground floors. The structure has been built with stone, brick and masonry agglomeration construction techniques. Brick dust and red color added lime grout showing the properties of the period have been used as the wall grout; this grout has also been used in the internal and external coating parts. In addition it is also seen that the window frames of some parts are made with coating technique. The cradle vault, floor arch and the wooden floor are seen in some parts of the flooring system of the structure. Going through a couple of partial fire hazard has caused to structure to be altered in some parts. The external front of the structure has been kept the same in the ground floor although it has gone through some internal changes. The base in the internal courtyard of the structure the flooring has been created in mosaic shape with pebble stones. (Hacopulo Pasajı Rölöve-Restitüsyon Projesi-Teknik Raporu)

The Assessment of the Structure

The factors like the changes made mostly by functional modifications, misuse, leaving and fire have caused the devastation of the structure. The functional changes in the passage and the reasons resulting from the misuse the structure has been devastated in some parts. The passage has been made with the masonry technique and the wooden materials have been used in its floorings generally. The floorings have been devastated due to misuse and some breaks and decays are seen in some parts of the flooring coatings. In addition the darkening and the spillage on the vaulted surfaces are seen caused by the humidity.



Figure 27, 28, 29, 30, 31, 32. Several views from suffered destruction of the passage

Our Recommendations to the Structure

Beyoğlu İstiklal Street has quite an intense user mass in certain hours of the day and at the weekends. Therefore the buildings on the street are generally used for commercial purposes.

The passage is one of the structures to be protected with the decision of the Council of Monuments and it is aimed to keep the building alive by creating a dynamic environment and without deforming its specific plan as much as possible.

The structure shows much diversity in respect of its usage, therefore a usage containing many functions has been preferred. Taking into consideration of the past functions and the identity of the structure; it has been considered to be a center where fashion, culture, arts, music, training, catering, places and dwelling houses are present. The passage is suitable in respect of transportation. The Meşrutiyet Street is

open to vehicle traffic and there are parking lots on the street in addition it is very close to the parking lots of Tepebaşı and Galatasaray.

The building can be entered as a pedestrian from the İstiklal Street direction, therefore the small shops at the entrance have been removed and arranged as display windows for exhibition and when the courtyard is entered from here the meeting and sitting place in the middle of the street has been aimed.

The ground floors of the building is composed of the places directly addressing the user such as shops, bookstore, music store, café, wine house with the display window order in visibility. The 1st floors are composed of the units providing service to the fans, culture, art place and the offices. The 2nd floors have been functioned as office, dwelling house and training institute and the 3rd floor has been functioned as office, training institute and dwelling house and the 4th floor has been functioned as catering place, dwelling house and office.

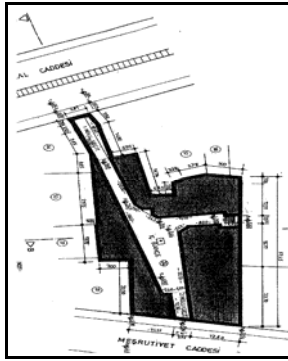


Figure 33, 34. Structure's current state

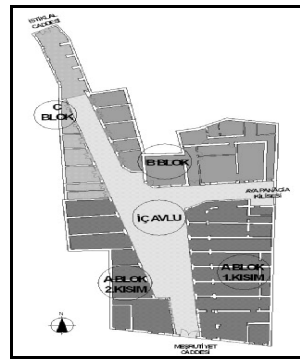


Figure 35. Structure of the proposed plan



Figure 36. Structure's current section

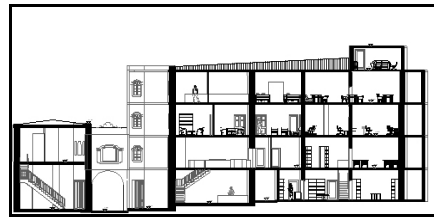


Figure 37. Structure of the proposed section

A Block

A Block 1st Part

The ground floor shops inside the courtyard have been functioned as souvenir shops and the shop at the entrance of the Meşrutiyet Street has been used as a wine house as it is the present. A separate floor has been obtained by cutting the connection of the shops with the mezzanine. The connection to this floor has been provided with a ladder coming up from the inside of the courtyard and here it is designed as culture and art focused.

2.3.4. The floors have been designed as dwelling house as it is made in the first years. The entrance of these places is from the Meşrutiyet Street and the buffet present and added later at the entrance has been removed. The reaching to the top floors has been facilitated by adding a lift and the top side of the gate has been closed with a transparent material and a corridor providing entrance to the dwelling houses has been obtained.

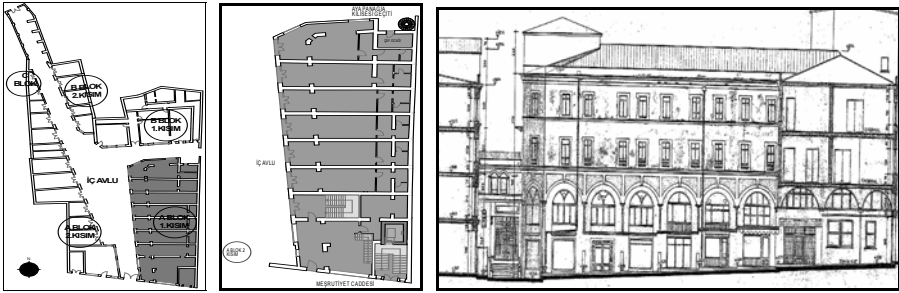


Figure 38, 39. A Block 1st Part

Figure 40. A Blocks front elevation

A Block 2st Part

The shops at the ground floors are mostly based on dressing and composed of the ground floor and the 1st floor. Climbing up to the top floor is provided by the stairs inside them and the shop at the entrance of the Meşrutiyet Street has been designed as a café as it is the present. The tea shop present currently but not original has been removed. The 2nd, 3rd and the 4th floors have been designed as fashion design course and the entrance of the course is on the Meşrutiyet Street.

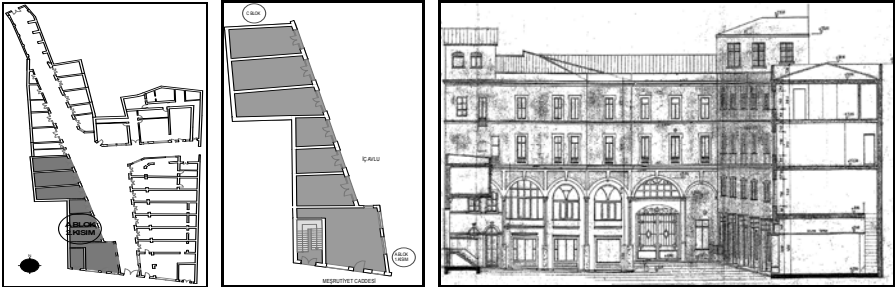


Figure 41, 42. A Block 2st Part

Figure 43. A Blocks front elevation

B Block

The shops present in the B Block have been functioned as culture and service weighted. The building has been designed at the entrance of İstiklal Street in the direction of C Block and the stairs of the church as a music house, book store and service places. The small shops in the direction of İstiklal Street on the ground floor have been designed as a single-floor shop like thread maker, zip maker, button maker, second-hand bookseller and the stationary. In the 2nd floor there are Optic, Lens Center, Offices, Hairdresser Saloon, and in the 3rd floor there are restaurant and Bar.

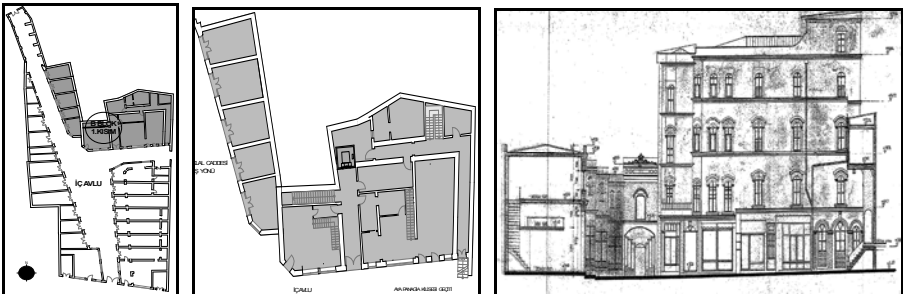


Figure 44, 45. B Block

Figure 46. B Blocks front elevation

C Block

The difference of the C Block from the other structures in the building is its front to the İstiklal Street and its structures are two-floor. The structure covers the shops in the direction of the entrance of İstiklal Street and the top floor and the two-floor shops inside its courtyard. The street and the courtyard have been connected to each others by removing the shops preventing detection of the courtyard and narrowing the entrance from the direction of the İstiklal Street.

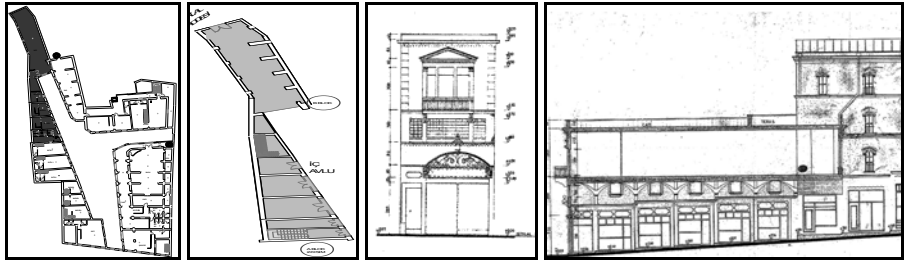


Figure 47, 48. C Block

Figure 49, 50. C Blocks front elevation

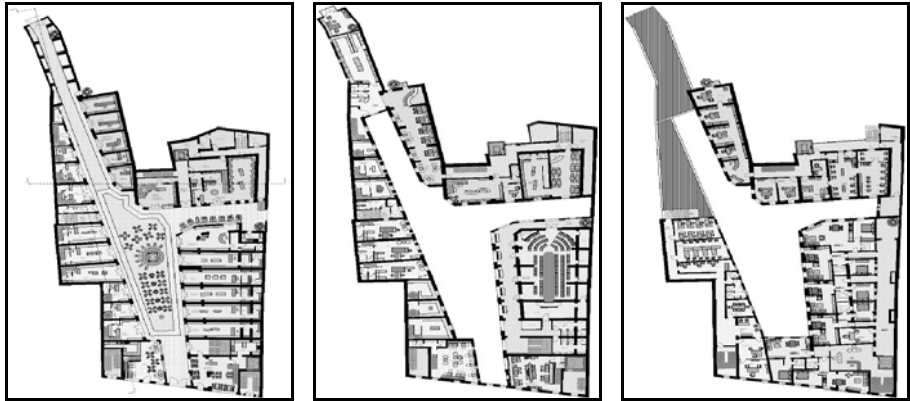


Figure 51. New function of passage 1st floor plan

Figure 52. New function of passage 2nd floor plan

Figure 53. New function of passage 3rd floor plan

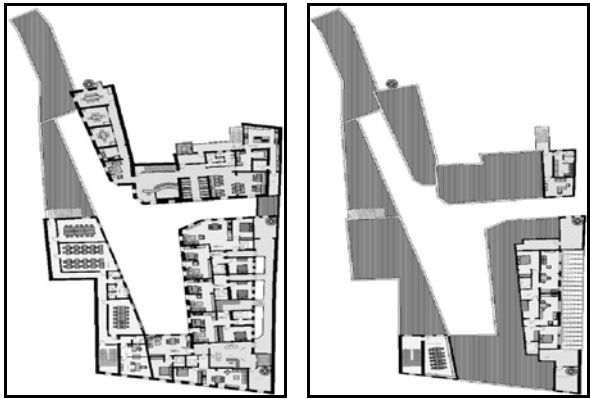


Figure 54. New function of passage 4th floor plan

Figure 55. New function of passage 5th floor plan

CONCLUSION

There are many structures in Istanbul to be protected accommodating the build-up of the cultures of centuries and in respect of their culture and architecture. Hacıpulo Passage is also one of them.

Today Beyoğlu, İstiklal Street is one of the centers of entertainment, culture and art of Istanbul. The commercial and the social changes the region experienced has caused the change of its functions.

Hacıpulo Passage is an active structure from which many people have passed through, in which the then famous shops were present and with an active history. Today in the passage movies and video clips are shot and it is mentioned a lot in the forums on the internet. The structure is a place often visited by the photography fans and the students and is a part of city life with its tea seller, cats and the shops addressing to the fans.

The study carried out has been a sample to many structures in this status or it is mentioned how and why the structures must be protected with a method that might occur in it and it has been decided that the structure is to be functioned as a center where fashion, design, culture, art, catering and social places are together by equipping with the needs of use of people of today. Therefore the structure is presented to the people of today without harming its identity.

In this study; having information about the mysteries embodying inside them, the users and the properties of the use is being provided as well as considering the architectural works as needing maintenance in idle status of the historical structures of us around and it is also aimed to introduce and transfer to the next generations by protecting our structures as part of our cultural inheritance.

REFERENCES

- AKIN, Nur, 1998. *19 Yüzyılın İkinci Yarısında Galata ve Pera*, Literatür Yayınları, İstanbul
- EVREN, Burçak, 2002. "Panai Ve Hacıpulo Pasajları", *Maison Française Dergisi*.(82), S.147, İstanbul.
- Hacıpulo Pasajı Rölöve-Restitüsyon Projesi-Teknik Raporu*
- ŞEN, Handan, 1998. *Beyoğlu Hacıpulo Pasajı Koruma Önerileri*, Yüksek Lisans Tezi, Y.T.Ü Fen Bilimleri Enstitüsü, İstanbul
- SÖZEN Metin, 1984. *Cumhuriyet Dönemi Türk Mimarlığı 1923–1983*, Ankara.
- ÜSDİKEN Behzat, 1994. "Hacıpulo Pasajı", *Dünden Bugüne İstanbul Ansiklopedisi*, c.3.
- ÜSDİKEN Behzat, 1991. "Beyoğlu'nda Kaybolan Pasaj Ve Geçitler II", *Tarih ve Toplum Dergisi*,(89), s. 278-284.

THE QUESTION OF (RE)FUNCTIONING: A CASE STUDY OF ATIF EFENDI LIBRARY

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ABSTRACT

The functional value of historical buildings is considered as an extremely important feature of their conservation and rehabilitation. Not only in conservation and rehabilitation processes, but also in architecture in the most general sense, it is supposed that the function is the essential component of any building. It is almost believed that the relationship between a building and its function is permanent, static and ahistorical. This text aims to problematize this standpoint and tries to open a way to discuss the relationship between buildings and functions. This relationship is conceptualized as a contingent – ie. changing and historical- relation throughout this text. It is very well known that after both functioning and refunctioning procedures the buildings are used with other functions that are unforeseen. But also a function, which is supposed to be the same and being served by the same building for a very long time, does not actually remain the same. Both the building and its function are in continuous transformation and also their relationship. The historical narrative of Atif Efendi Library and librarians' lodges, both of which have been serving respectively as library and houses for over 200 years, provides the means to realize/understand and discuss this continuous transformation and contingent relationship between buildings and functions more strikingly.

Keywords: Function, (Re)Function, Architectural Space, Time, Transformation

INTRODUCTION

What kind of relationship is between the buildings and the functions they consist? Is this relationship a permanent and static one? How can a building be reused for a different function, if there is a permanent relationship between the building and its function? Does that function remain the same even if it apparently serves with its original function? Is function the essential component of any building? For conservation and rehabilitation of a historical building how important is its functional value? It seems important to try to answer these questions, because not only in conservation and rehabilitation processes, but also in architecture in the most general sense, it is supposed that the function is the essential component of any building. And it is almost believed that the relationship between a building and its function is permanent, static and ahistorical. This text aims to problematize this functional

theoretical standpoint and the concept of “function” by opening a way to discuss the relationship between buildings and functions. Throughout the text, this relationship is conceptualized as contingent, not static and ahistorical. Actually, to continue to use the building with other functions that are unforeseen after the functioning and refunctioning procedures is thanks to relation’s being contingent- i.e.changing and historical. And this is also valid for the historical buildings which are conserved and rehabilitated, and are desired to be reused. For this reason, many historical buildings have a different function from the era that are constructed in. On the other hand, what about the buildings serving with the original function? In this text it is suggested that a function, which is supposed to be the same and being served by the same building for a very long time, does not actually remain the same, that is because, the buildings, functions and their relation are in a continuous transformation.

The historical narrative of a building tells a lot on relationship between building and function. Atif Efendi Library and librarians’ lodges, both of which have been serving respectively as library and houses for over 200 years, have such a narrative that not only presents historical background of the buildings, but also provides for us to consider and discuss what kind of relationship between buildings and functions is and how the buildings and functions and also their relationship have been continuously transformed throughout their history and how the transformations can be actualized in the future.

The most important point to underline in this narrative is that the building and the function is in continuous transformation. So, to understand this, the fundamental question of the text is “What kind of “purposes” have library and lodges been used for since 18th century?[1] In this text, the word of “purpose” in the question means/corresponds to “function” which is a modern concept. So, it is important to think about the “purpose” before answering the question. Indeed, “the building is used for the purpose of A” means that “the users use the buildings for the purpose of A”. It points out that the purpose is a feature belongs to the user, not to the building. And purpose of user takes its shape according to his/her wishes, demands and preferences. So it changes continuously, it changes for every user. In addition, because each user changes, transforms continuously, purpose/function and also building are in continuous transformation accordingly. In everyday life, buildings are used for the functions/purposes, which are given by the users. That’s why the relationship between the buildings and functions is not permanent, static and ahistorical.

Here to understand that the continuous transformation of the user is continuously becoming of user as a subject is vital. Deleuzian conception of time is important to understand this continuous becoming. According to Deleuze, time is defined as mental movement, recollection in space. And time sets itself out or unrolls itself as it splits in two at each moment, one of which makes all the present pass on, while the other preserves all the past. At the same time, time also splits the mind (of user) in perception (related with present) and memory (related with past) [2]. User perceives and simultaneously collects in memory. At every use, when memory forms perception and perception also re-forms the memory. Thus, user is continuously becoming again and transformed. The building (object used), function and their relationship are transformed with the user. In other words, every use is a transformation.

After these considerations, when we try to answer the fundamental question of the text, we realize that it is not easy to answer. Because Atif Efendi Library and librarians' lodges have been serving to the users as library and houses for 268 years. In this long period narrative of the buildings, the users change and transform a lot in every respect: user's mentality, his/her relation to the books, the meaning of the book, way of reading and using of the library and so forth. So, the answer cannot be like that: "The building has served as a library, function/purpose has remained the same." To answer the question at once is not possible, it is complicated. However, it is meaningful to try to understand how the building was used in the 18th century and how is the building used at present/today.

ATIF EFENDI LIBRARY IN THE 18TH CENTURY

The library as a repository of books: It is known that in İstanbul, independent library buildings appeared with Köprülü Mehmet Paşa Library in 1661 and then in the 18th century the number of them increased rapidly. Before the independent ones, Ottoman library is like a room of books or a bookcase or a bookshelf in a house or a religious and social building such as mosque, madrasa and so forth. And the books there were endowed. But that the buildings for books and personnel working for the books appeared with Köprülü Mehmet Paşa Library and became widespread in the 18th century points out a mentality different from the previous libraries. This different mentality must be related to changing meaning and value of the books. So, at this point we have to think about the meaning and value of the books for Ottomans in the 18th century and how these were changing. The founding of the printing press in İstanbul in 1727 and printing books is directly associated with this change [3]. The printing press which had been spread out over almost everywhere in Europe in the 15th century, began to print the books in Ottoman Turkish language about three centuries later. This is because of the sacredness of the book for Ottomans. The expressions of Fleming Aughies Ghislain van Busbecq, ambassador of Karl V, in 1560 supports this idea: "No nation in the world has shown greater readiness than the Turks to avail themselves of the useful inventions of foreigners, as is proved by their employment of cannons and mortars, and many other things invented by Christians. They cannot, however, be induced as yet to use printing, or to establish public clocks, because *they think that the Scriptures, that is, their sacred books – would no longer be scriptures if they were printed...*" [4]. The printing press had not lead to a big revolution relatively in Ottoman cultural life, and the printing of books had not reached to great numbers to create a social transformation because of the mentality Busbecq mentioned. On the other hand, it can be thought that the book as an object had changed its image in perception. By the technology of press, hundreds of books were printed at once, the books were perceived as cultural objects that can be obtained easily and quickly and they were popularized and secularized. Thus, the manuscripts became more valuable and they were considered as objects of collection of important personalities. The rising number of libraries was related to this according to Mazlum, and he states that the libraries had been built for keeping the books safely considered as sacred and valuable objects of collection (Mazlum,1996: 45).

It seems that the case of Atif Efendi Library supports this idea. The library is built by Atif Mustafa Efendi who is from the high officials of the Ottoman government. Atif

Efendi, who was the son of an Ottoman elite, Mustafa Efendi. During the period of Mahmud I (1730-1754), he had worked three times as Head of Financial Affairs (Başdefterdar) and he made important contributions to the Ottoman Financial System. Moreover, he was a calligrapher and a poet who was writing didactic poems in Nabi style and had a divan. For his library opened in 1741, first of all, he found waqfs and provides enough source of income for constructing and sustaining the library building and prepared waqfiyes at various dates [5]. In the first three waqfiyes dated 1733 (H. 1146) and 1740 (H. 1153), he states that, he endowed some buildings, lands and gardens to provide the source of income for building charitable institutions [6]. After the incomes, with the other waqfiyes dated 1740-1741 (H. 1153-1154) he founded the library. If these waqfiyes are detailed, it is seen that in the waqfiye dated May 1741 (Rebiü'l-Evvel 1154) and registered officially at Mahmut Paşa Court, Atıf Efendi prepared the books/manuscripts of the library, and then in the waqfiye dated September 1741 (H. 14 Receb 1154) he endowed the library building. In another waqfiye dated September 1741 (H. 28 Receb 1154), he determined the personnel and working conditions (Erünsal, 1988: 90). That manuscripts/books were endowed before the building and his expression of “halen kütüb-i mevkufem için müceddeden kütüphane bina eylediğim” in the waqfiye of the endowment of the library building is very important. Because these show that Atıf Efendi as an Ottoman high official and elite, built his library to keep the manuscripts safely which can be considered as a private collection of him. Atıf Efendi, in the waqfiye, classified the books according to the sciences and indicated the features of the book like style of writing, volume, sheet of paper (varak) and line number. And sometimes whether it is gilted or not and book title and author's or transcriber's name were mentioned.

Moreover, the library was located in Vefa. And, Atıf Efendi's choosing this district for the books, namely his collection, seems to be significant. Because according to the researches about Vefa in Ottoman Period, this district had been one of the first settlement areas after the Conquest of İstanbul and an important center where the people deal with science, Islamic mysticism and art, poets and high officials settled. And it was close to districts where the commercial activities and social mobility were dense [7]. In the waqfiye of the library, the location was described with the neighbour sites of the library site and the old owner of the library land. Based on this, the title of the owners of these sites are “çuhadar” and “celebi”, and also the title of the old owner of the library land is “haseki”. All of these titles, including “efendi”, which was the title of Atıf Efendi, refers to the state officials. This also supports that the inhabitants of Vefa were Ottoman elite (as state officials) settled [8]. Besides, Atıf Efendi mentioned that his own house was close to the Molla Gürani Mosque and Molla Gürani Mosque is in Vefa district today. Therefore it could be an indication of his demand of the library's being close to his house. [9]

Furthermore, the vakfiye including the information about the personnel and working conditions also shows that Atıf Efendi was meticulous about keeping the books safely in particular. Based on this waqfiye, three hafız-ı kütübs, one şeyh'ül-kurra, a worker to repair the waterlines of the library and mortmain houses, a book-binder (mücellid), a carpenter to repair and a sweeper was working for the library. [10] Among these personnel, especially the duties of the hafız-ı kütübs [11], which means the person preserving the books, were explained in detail. The lodges isolating the library from the street were built for hafız-ı kütübs. As emphasized in waqfiye, hafız-ı kütübs would be trustworthy persons and work only for the library, and could not take any

other duty. For this, they would received good salaries. [12] They had to dwell in the lodges to preserve the library and books day and night. [13] And also any other persons, for example their sons could not be assigned to be the deputies of them. And in waqfiye, it was stated that after the death of the first hafız-ı kütüb, second one would become the first, third one would become the second, and a trustworthy person who devoted himself to a life of piety and religion would be assigned as the third one. Moreover, the books in the library would not definitely be let anyone borrow and take away. [14] Therefore, Atif Efendi insist on the duties of the hafız-ı kütüb so much. His describing the duties in detail and very strictly, emphasizing the word of “hıfz” over and over again indicates that the fundamental purpose of the library was to keep the books safely. And details like a book-binder who is assigned for repairing the books and summary of the waqfiye, in which some particular points Atif Efendi insisted on and mentioned above, on the wall before entering the reading hall and the expression of “kütüb-i kayyime” (valuable, worthy books/manuscripts) in the inscription on the door also points out this fundamental purpose.



Image 1. The summary of waqfiye

In addition to these, the books were placed in a separate room which was called "hazine-i kütüb". [15] This room is adjacent to the reading hall and based on the references, some preventive measures were taken against moisture and fire [16]. There were 2857 manuscripts/books endowed when the library was built [17]. In 1743, after the death of Atif Efendi's Brother in law Hacı Ömer Efendi who is Head Clerk of the Imperial Mint (Darphane-i Amire Başkatibi), his collection of the books endowed and kept in his house was transferred to the library. Thus, the collection in the library was expanded. And in 1761, Sheikhuislam Veliyyüddin Efendi endowed 150 books to the library, but then in 1769 he transferred these books to his own library [18]. And the books were kept in the bookcases extended all around the walls of the room of hazine-i kütüb and there were another huge prismatic bookcase in the middle of the room. These bookcases were enclosed by the latticed doors. [19] Eyice (1991) mentioned that wooden bookcases were gilded and latticed [20].

Considering these, it is understood that preserving the books were very important issue that was insisted on and taken care. It points out that at 18th century, the manuscripts became more valuable than previous centuries, so for preserving these the libraries were built. On the other hand, it also indicates that the books especially manuscripts were still considered having transcendental value by Ottomans. Indeed, the meaning of the book and knowledge was transforming, but the transformation needs time passing. So it is not be realistic to think the Ottomans and the meaning of the book for them changed and transformed immediately.

The Library as a Supplement for Madrasa Education: Even if the fundamental purpose of the library was to keep the books safely, additionally in the waqfiye [21] Atif Efendi's another expression also showing the other purpose of building a library was like that: "...Şeyh Ebü'l-Vefa camii kurbunda binasına şürû' eylediğim kütüphanesi-i mevkufeme talebe-i ulûmun ifade ve istifadesi mülâhazasıyle vaz' u hıfz olunmak için...". Based on this expression, the library was also for the students being taught and benefitting from it [22]. At this point of the text, it is necessary to think about the users of the library, namely readers of the books. In this context, how they read the books, gave meaning to the books, benefitted from the books and library and also how was "knowledge" produced, acquired and transferred from a person to another, shortly, the users' learning and education process seems very important.

To begin with, the users of the library were madrasa students who were educated at madrasas to work for different positions of Ottoman state. It is necessary to bear in mind the literacy, namely reading and writing, are the practices of Ottoman elite. So, the madrasa students must be thought to have been the members of this class. As mentioned before, that Vefa was chosen for the location of the library was also appropriate for students of this class to be educated.

In the first place, it is essential to think that learning process of these students at that time is not similar to the process of today. Because, knowledge could not be acquired with rationalist methods by students at 18th century. To learn was actualized by being connected with a master (hodja) and acquiring and having his knowledge entirely in order to gain permission (authorization to teach) in accordance with the hierarchical social structure. And this was valid not only for madrasa students, but also apprentices who works for being a craftsman. This was a relationship between

sheikh and mürid. This process was considered to be necessary for continuity of the cultural structure. Knowledge was transferred to students (mürid) from the hodja (sheikh) in closed manner and without changing and differentiating to the utmost. The knowledge remained almost the same. So in such a system individualization and personalization were repressed. And when the student gain permission (authorization to teach), a new hodja attended to this system. Then the system continues in same way. And knowledge cannot be acquired without any intermediary (hodja/sheikh) and from the original source. (Tanju, 2002: 4-5) Because it was suggested that knowledge was transferred by the intermediaries exactly the same as the original source. Anyhow, knowledge is transcendental and ontological reality. So, manuscripts were the sources of transcendental knowledge and their place in the system mentioned above was definite. Concerning this, saying of a scholar (alim) of medicine in Cairo about printing books in the middle of the 17th century. According to him, it is harmful for sciences that the writings exist in great number or quantity with printing technology, that is because a lot of vain works spread out to the society. He thought that it is enough for scholars to have a few books about their area of specialization, a person must show temperance and avoid excesses when he was reading [23]. According to this mentality, book and knowledge cannot be subjective and book is an object for teaching and transferring the transcendental and unique knowledge.

The Function of the library has to be discussed within the context of the abovementioned meaning of knowledge, book, and learning of Ottomans, it is necessary to evaluate the students benefitting from the library. The book was not read for satisfying a personal demand and curiosity. The knowledge in the book were not also written for satisfying these senses. Book is source of sacred knowledge, so approach to the book and way of reading was also important. In the 18th century, the book was read from beginning to end, to complete, conclude and also recite it was very important. And this act was called "hatim". "Hatim" was also an act of the hafız-ı kütübs. The word of "hıfz", which referred to the duty of the hafız-ı kütüb, means not only "preserving/keeping safely", but also "reciting/learning by heart". Considering these two meanings, let's re-evaluate the expression in the waqfiye: "...Şeyh Ebü'l-Vefa camii kurbunda binasına şürû' eylediğim kütüphane-i mevkufeme talebe-i ulûmun ifade ve istifadesi mülâhazasıyla vaz' u hıfzolunmak için...". Here, the word of "hıfz" refers to both of the meanings. And it is important to think that preserving and reciting/learn by heart the books were the same acts. Because it is inferred from such a thinking that the books were preserved and transferred exactly the same by reciting them in other words by "hatim".

Furthermore, way of reading of the books are also worthwhile to think about. It is known that the reading hall of the library at that time was furnished with bookrests and cushions. And the reading cells of which floor was elevated and connected to the hall by means of arches were also furnished with sofas and there were niches used as bookcases here (Eyice, 1991: 61). According to Küçükerman, the important personalities of the century used these reading cells (Küçükerman, 1970: 10). How these furnitures were used is an indicator of the way of reading of the readers. So, let's try to understand this. The book put on the bookrest was read by the person seated on the cushion. Thus, the bookrest holds a book upright so that the reader can read it without holding it in your hands. Reading the book in this manner indicates the sacredness of the book.

Moreover, the duty of the şeyhülkurra related with the education of students was defined in the waqfiye. Based on this, he was called as a scholar [24] in the waqfiye and he would preach after the namaz performance on Saturday mornings.

In addition, the opening and closing hours and days of the library were notified in the waqfiye. According to this, the library was closed on Tuesday and Friday. On the other days, the opening time of it was at one-hour after the sunrise and closing time was at two-hour before the sunset. And it was emphasized even if any user did not come to the library when it was open, the door was never closed. At that century the library was open in the daytime, so the books were read in the daytime and the illumination of the library was considered based on the sunlight.

Library as a place of worship: In the waqfiye of Atif Efendi Library, worship was also defined among the duties of the “hafız-ı kütüb”s [25]. In the 18th century, as indicated in the waqfiye, at the place defined as a place of “mütalaa” [26], by the imamate of first hafız-ı kütüb and being muezzin of second hafız-ı kütüb, muslims coming from neighbourhood perform the namaz three times a day [27]. The third hafız-ı kütüb was responsible for lighting the oil-lamps. The mihrab at the entrance, which is not seen because of the wooden coverings, is a proof of worship. Also, based on the additional waqfiye prepared after death of Atif Efendi in 1742 [28], by his son Ömer Vahid Efendi, it is understood that hafız-ı kütübs were requested to give importance and concern worship in library. In this waqfiye, it was notified that third hafız-ı kütüb was requested to say “Allah rızası için el-fatiha” at the time of the library’s opening and closing and he would earn 1 akçe on each day in return for this duty. And also in later additional vakfiyes, the subjects such as reciting the suras (İhlas and Fatiha) and Koran completely (hatim) and chanting the Nativity poem of the Prophet (Mevlid) in the library were mentioned [29]. Preaching of şeyhül kurra once a week after performing namaz in the morning, as mentioned previously, is about worship as much as education of students.

Essentially, in Ottoman mentality all the social/cultural practices are set as a life style and emerge in act and performance (Tanju, 2002: 4). Even if discussed separately in this work, actually, in the 18th century preserving and reading the books/manuscripts, education of the students and worship are actions/practices non-decomposable from each other and made for a unique purpose. For this reason, all of these purposes of library (preserving/keeping transcendental valued manuscripts safely, education and reading, worship) expose that service performed here was actually a religious service. With this manner it points out a very different understanding of librarianship than the current one.

TODAY ATIF EFENDI LIBRARY: *LIBRARY AS A WAREHOUSE*

What is the purpose of Atif Efendi Library today? First of all, it is useful to state that the library serves as a unit in affiliation with Suleymaniye Library, of the Ministry of Culture and Tourism’s Head Office of Libraries and Publications, and that it is called as a “Library of Manuscripts” today. It is also necessary to state that the places have been changed physically due to the restorations since the 18th century. However, the point this study emphasizes is that beyond physical changes of the building, the

transformation of the concept of function needs to be read through the change and the transformation of the users. On the other hand, what is tried to imply here is not that the changes in the building such as restorations, additions, separations etc. are not important. What is aimed here is to remind that these changes are also made by the subjects, so that these subjects and their relationships with the objects and the other subjects; their perception of the objects and way of using them always change and transform and therefore they modify (make some physical changes like separations, additions etc.) the buildings and that actually each subject has a distinctive relationship and that using means transforming anyway.

Keeping these in mind, it is necessary to try to comprehend how the users, ways of their using of Atıf Efendi Library and how their relations to the books have changed since the 18th century. First of all, before entering the reading hall, the place which was called as place of “mütalaa” in the 18th century is the entrance, management and control part of the library today. The “mihrab” here is also covered by wooden material today and it is used as a niche with the door in which cleaning materials are kept. That this place in which people worshipped in the 18th century is used in this way today seems important to comprehend the transformation.



Image 2. Entrance, management and control part



Image 3. Mihrab Niche Today

It can be said that the library has been formed as two main parts since 1970. The first part is comprised of reading hall and hazine-i kütüb which was used as library in the 18th century, and the second part is Zeki Pakalın Library. Furnishing of the first part - reading hall and hazine-i kütüb- today is rather different than in the 18th century. With the intention of renewal bookrests, cushions and sofas was replaced with tables and chairs in 1946 (Küçükalfa, 1985). So tables and chairs have been used since 1946. But these tables and chairs today are the ones of the restoration made in 1965-1970. The bookcases in hazine-i kütüb are thought to be renewed in the same year and all the manuscripts are still stored here today. As books are needed to be stored as rare works, this part is kept locked. Books can be demanded. But because of the fact that today all the books are transferred into digital platform, all demanded books can be

reached digitally. But the library doesn't have such equipment yet. As the library works in affiliation with Suleymaniye Library, it is necessary to go there to reach these books digitally. So today it is difficult to say that the first part –reading hall and hazine-i kütüb- is used actively. In other words, here isn't like a library today, but is like a book warehouse. On the other hand, printed books are also present for the library users in the reading hall, but their number is relatively few in comparison to an actual library/other libraries today. There are mostly encyclopedias and it is just like a small reference part that can be constituted in a house or office library. So users mainly come here for manuscripts. And these users are the experts and researchers who at least know the Ottoman Turkish, Persian or Arabic languages. For this reason, it can be said that the library today addresses to a small and special group of users. And they come to the library to get some reading materials and references for their research. So, it should be taken into consideration the relations of the users to these books/manuscripts in this way. Even if a book is assumed as a rare work, today it isn't known as a source of transcendental knowledge like in the 18th century, it is a questionable, criticisable object for users now. In short it has lost its sacredness. Reading way of it has also changed. It isn't read entirely, from beginning to end for memorising. First of all, the subject that is to be studied, the writer, and book's name are found from the index cards, then the book is found, and sometimes it is looked through, the researcher sometimes read the certain parts of the book, writes down etc. Today, card cabinets on both sides of door of hazine-i kütüb are an important hint for the transformation of the users. These card cabinets that are thought to start to be used in 1970's shows that Atif Efendi Library is used in a different way than 18th century [30]. Index card which indicates the book's writer, name, subject and shows where the book is in the library indicates an important transformation as a device to reach information easily and fast. And it provides for the user to research as an individual. Because the user tries to reach the book or information fast and without anyone's help today. On the other hand, the computer which is in the hall is also an important indicator for the users' transformation as a device which provides for the user to reach all kinds of information fast and easily.



Image 4. Card cabinets and Computer



Image 5. The reading hall at the first part

Moreover, the information/knowledge's becoming more reproducible by photocopying in today's world, and its joining the circulation in digital platform shows that its

meaning and value has changed a lot, the knowledge has lost the value of sacredness and become more and more questionable. In addition, the library was also used for copying in writing (istinsah) [31] in the 18th century, but the users don't have situation of copying with their hand-writings (istinsah) today. Differentiating copying ways of the books points out two different mentality. Above all, for the users today copying the books in handwritings is meaningless. In fact, even this tells a lot about the transformation of the user.

On the other hand, it is important that the building has electricity installment today even though the date of the first installment hasn't been known exactly. This situation shows that book is an object which can be read not only just before the sunset but also in the evenings.

The second part of the library, the reading hall at the basement called as Zeki Pakalın Library was constituted during 1965-1970 restoration studies by closing the arches so that the children around could come and read books there instead of wandering in the streets, according to Küçükerman's states. The main purpose of this hall is to help their education (Küçükerman, 1970: 12). Even if it is thought that in the 18th century education was also the purpose of the library, education after the 1970s is rather different from 18th century. With applying of open-shelf system, providing everybody to read whatever he wants in other words the users' preferring something individually indicates to a rather different approach than in 18th century. Here, neither preserving the books nor the education is related to religious service. Moreover learning without intermediary, learning with reading is possible now. But it can be said that this part doesn't have too many users like at the first floor/first part today, even if it can't be opined how these mentioned by Küçükerman in 1970s were applied as foreseen, in other words how this place was used at that time. This hall which is kept locked is used just when demanded.



Image. 6 Zeki Pakalın Library

Except for this, according to the 1969 statistics, there were also readers of the library who came from outside with their own books; their number was even 14-15 times as much as the number of those who read the books of the library. [32] This situation also points out that the library was not used to benefit from the books also in that period very much. On the other hand, in another resource, it is stated that reading one's own book has been allowed since 1993 (Koç, 1993: 399). According to these, it is understood that this situation (reading one's own book) was not allowed for a period between 1970 and 1993. But the reasons are not known. It can just be said that the reason why it was allowed again in 1993 may have been to attract the reader. Furthermore, today, the information got from the librarian also shows that the number of the library users is very few. As for the number of the books, according to the information on the webpage of Istanbul 2010 Capital of Culture [33], today there are 3.228 manuscripts, 6.358 printed books in old letters and with the printed books in new letters, the total number is 25905. Therefore, after all those mentioned, it is possible to say that Atif Efendi Library serves mostly as a book warehouse.

JUST A FEW WORDS AS CONCLUSION

Atif Efendi Library and librarians' lodges are listed buildings conserved which were repaired several times at irregular intervals. Metropolitan Municipality prepared a new restoration project in 2006 and the works still continue and the building going to be used it is going to be used as a library again after the construction finishes. In such a period, it is very important to attract attention to that the library which served in a religious manner- keeping the books, educating, a place where people worshipped- in the 18th century has transformed into a warehouse library today and that in a predictable future it will transform into another sort of library. To think that a building cannot be an object which meets the needs defined while it is being designed and restored; that purposes and ways of use will continually transform and differ, even that these buildings will be used for different purposes in daily life because their users will continuously change and transform and to be aware of that situation... Doesn't this provide for the building to be conserved without preventing it from having different potentials? Won't the users use the buildings more comfortably by rewriting their own scenarios continuously instead that being limited in a certain scenario, if it is approached by taking into consideration that in daily life, as the function is continually transformed, the building is re-functioned again each time, (re)functioning may be more than attaching a different function to the building, even it is considered that the function remain the same and the function aren't the same anymore? What do you think about this? The wish of this text is provide the means to think and discuss such an approach.

ENDNOTES

- [1] For the discussion about whether notions of function and purpose are synonymous, see Michl, J. 1995 "Form Follows What? The modernist notion of function as a *carte blanche*", in 1:50- Magazine of the Faculty of Architecture & Town Planning, Technion, Israel Institute of Technology, Haifa, Israel, no. 10, Winter, 31-20 [sic].
- [2] For the detailed Deleuzian conception of time, see Rodowick, D. N. 1997 "Gilles Deleuze's Time Machine", Duke University Press, 81-82.

- [3] Acquaintance with the printing books in İstanbul was indeed at 15th century. Lindner says (in Lindner, R.P. "Icons among Iconoclasts in the Renaissance" in: Bornstein, George, Tinkle, T. Lynn (eds) *The Iconic Page in Manuscript, Print, and Digital Culture*, University of Michigan Press, 89-108): "Müteferrika's were not the first books printed in Arabic script to have entered the Ottoman domains, but the lapse of time from their appearance to their acceptance and reproduction was substantial, well over two centuries." And, the first books in İstanbul was printed by two Jewish refugee printers from Spain in 1493. And by 1530 nearly one hundred Hebrew titles from İstanbul Jewish presses had been printed, substantially more than the entire Müteferrika output in the 18th century. The first Armenian press in İstanbul began in 1567 at Kumkapı. Moreover, for detailed information about this issue, also see Babinger, F. 2004 "18. Yüzyılda İstanbul'da Kitabiyat", and Müteferrika, İ. 2004 "Osmanlı Matbaasının Kuruluşu ve Başlangıcı", in: Müteferrika ve Osmanlı Matbaası, Tarih Vakfı Yurt Yayınları, İstanbul.
- [4] J.P. Ghobrial quoted this passage in his paper "Diglossia and the 'Methodology' of Arabic Print", (2nd International Symposium History of Printing and Publishing in the Languages and Countries of the Middle East, 2 – 4 November 2005, Bibliothèque nationale de France, Paris) from the chronicle of Busbecq, and also see for the original reference, A. Gislénii busbeqii omnia quae exstant [A. Gislénii Busbequius'dan kalan her şey], Lugd. Batav., 1633, 213-214.
- [5] For detailed information about the waqfiyes see Sezgin, F. 1955 "Atıf Efendi Kütüphanesinin Vakfiyesi" in: Türk Dili ve Edebiyatı Dergisi, v: 6, Burhaneddin Erenler Matbaası, İstanbul.
- [6] See Erünsal, İ. 1988. *Türk Kütüphanesi Tarihi II, Kuruluştan Tanzimata Kadar Osmanlı Vakfı Kütüphaneleri*, Atatürk Kültür Merkezi Yayını, Ankara, 90 and also Erünsal, İ. 1991 "Atıf Efendi Kütüphanesi" in: Türkiye Diyanet Vakfı İslam Ansiklopedisi, v.4, 60.
- [7] For the detailed information about the social, cultural, economic and commercial structure of Vefa District, see the papers presented in Vefa Symposium (the symposium organized by Bilim ve Sanat Vakfı, on 3-5 november 2006): Çakır, B. "Vefa'da Kayıp Üç Mahalle: Revani Çelebi, Sekbanbaşı İbrahim Ağa ve Hoca Teberük"; Açıkgozoğlu, A. S. "Molla Gürani Camii Yanındaki Hazire"; Eyice, S. "Bizans'tan Osmanlı'ya Vefa"; Mazak, F. "Tarihimizde Esnaf ve Vefa Esnafı"; Bayır, Ö. "Osmanlı Arşivlerinde Vefa"; Şensoy, F. "Vefa'da Su Kullanıcıları".
- [8] For the description of the location of the library in the waqfiye of the library building, see Sezgin, F. 1955. "Atıf Efendi Kütüphanesinin Vakfiyesi" in: Türk Dili ve Edebiyatı Dergisi, v.6, İstanbul Burhaneddin Erenler Matbaası. 136-137
- [9] For the description of the location of house of Atıf Efendi, see Ibid, 136.
- [10] The salaries of the personnel was stated in the waqfiye and a comparison among the personnel is striking to understand the importance and responsibilities given to the hafız-ı kütüb. According to the waqfiye the salaries (per diem) were like that: First hafız-ı kütüb: 80 akçe, second hafız-ı kütüb: 75 akçe, third hafız-ı kütüb: 70 akçe, şeyh'ül-kurra: 12 akçe, worker: 8 akçe, book-binder: 4 akçe, carpenter: 4 akçe. see: Ibid, 138-139.
- [11] In the dictionary of Devellioğlu, F. (Osmanlıca Türkçe Ansiklopedik Lügat, 2007, 310), the word of hafız-ı kütüb means "hıfzeden" in Turkish and the word of "hıfz" means preservation and memorization. Here, it is useful to bear in mind the memorization is a preservation method of Ottomans. This meaning will be mentioned again in the text.
- [12] For the salaries hafız-ı kütübs received see endnote 12.
- [13] In the 18th century, protecting the libraries day and night seem to be important. At Ragıp Paşa Library, another 18th century library, in waqfiye it was stated that hafız-ı kütübs alternately had guard duties at nights. On the other hand, at Atıf Efendi waqfiyes, we don't meet a guarding duty, Cunbur(1962) says that this is because the hafız-ı kütübs dwell in mortmain houses. See Cunbur, M., 1962. "Vakfiyelere Göre Eski Türk Kütüphanelerinin Yönetimi" in: Türk Kütüphaneciler Derneği Bülteni v.11, 1-2. Ankara. 19-20.
- [14] In the waqfiye, Atıf Efendi insist on this issue like that: "...şöyle şart eyledim ki mukaddema vakf-ı sahîh ile vakfelediğim kütüb-i muharrere-i mezkûrem halen li-vech'il-lâhi taâlâ Şeyh Ebû'l-Vefa kurbunda bina ve ihyasına muvaffak olduğum kütübhane-i mevkufemde hıfz olunup ve kütüb-i mezkûre istinsah ve mütalâa ve istiare ve sair bir tarık ile kütüphanemden dışarı çıkarılmaya..." for this expression see Sezgin, F. 1955: 137.

- [15] There is an inscription dated 1742 (H. 1155) on the door of hazine-i kütüb. And the expression on this inscription is "Allahü hayrûn hafizen ve hüve erhamürrahimin".
- [16] For the ventilation and prevention against moisture of the room there are windows at three sides. And against the fire the windows are closed with double window shutters made of iron. See Küçükerman, Ö. 1970. "Atıf Efendi Kütüphanesi." in: Mimarlık. 75. TMMOB yayını. İstanbul. 9-14.
- [17] For the information about the number of the books see webpage of İstanbul 2010 Capital of Culture: <http://www.ibb.gov.tr/sites/ks/tr-TR/1-Gezi-Ulasim/kutuphaneler/Pages/atif-efendi-kutuphanesi.aspx>
- [18] The amount of 150 was very important to consider how many books the person (an Ottoman elite) as a sheikhulislam had. See Erünsal, İ. 1991, 60.
- [19] Küçükkalfa (Küçükkalfa, A. 1985 "İstanbul Vakıf Kütüphaneleri" in: Vakıflar: 3. Vakıflar Haftası Armağanı. İstanbul Vakıflar Bölge Müdürlüğü Yayını. İstanbul.) cited Toderini ("De la Litterature Turcs". Paris 1789, v.2. 86) for getting information about the bookcase in his paper.
- [20] This room has not been preserved with its original furnishings. And unfortunately, we don't have any visual material showing the original hazine-i kütüb room and the bookcases. But it is known that the other 18th century libraries had similar bookcases. And some visual material is suggestive to compare and understand Atıf Efendi Library's hazine-i kütüb room and the bookcases in it. See Yetişkin Kubilay, A. 1999 "18. ve 19. Yüzyıl İstanbul Vakıf Kütüphaneleri Üzerine Tipolojik Bir Değerlendirme". Osmanlı Mimarlığının 7 Yüzyılı "Uluslararası Bir Miras". YEM Yayınları, İstanbul. 152 for a photo of Hekimoğlu Ali Paşa Library Hazine-i Kütüb Bookcase and see Küçükkalfa, A., 1985. for some visual materials of Ragıp Paşa Library hazine-i kütüb.
- [21] For the detailed information about the waqfiye with which Atıf Efendi endowed his books, see Sezgin, F. 1955, 135.
- [22] In this expression the meanings of the words are important. "Talebe-i ulum" means in the dictionary of Ferit Devellioğlu (2007, p. 1029), madrasa students or and in the dictionary of RedHouse, students of Islamic learning. "ifade ve istifade" means respectively, explaining/teaching and benefitting and teaching and learning.
- [23] The thoughts of this scholar was mentioned by Franz Babinger. See Babinger, F. 2004, 7.
- [24] The duty of him was notified in the waqfiye like that: "sebtte salat-ı fecr akibinde bir alim kimesne şeyhü'l-kurra olup..." Sezgin, F. 1955, 139.
- [25] For these duties see Ibid, 139.
- [26] This place was a semi-open place in the 18th century, two sides of it were open, but then at the date which is not known the open sides were closed and now this place is used for entrance of the library and administration.
- [27] The expression of "...hafız-ı kütüb-i evvel kütübhane-i mezburenin haricinde mütalaa için bina olunan mahallinde salat-ı mağrib ve işa ve fecirde civardan gelen müminine imamet edip eda-yı salat-ı avkat-ı selase oluna..." in the waqfiye points out that namaz was performed at the hours of library closed. Sezgin, F. 1955, 139.
- [28] For Atıf Efendi's date of death, see Balgalmış, A. 1991 "Âtıf Efendi" in: Türk Diyanet Vakfı İslam Ansiklopedisi, v.4, 59-60.
- [29] For these details about worshipping in additional waqfiyes see Erünsal, İ. 1988, 91.
- [30] It is known that Dewey's decimal classification system as called in Turkey was firstly applied in Beyazıt State Library in 1962. According to this, it is clear that it can't be an earlier date in the Library of Atıf Efendi. Koç, H. 1994 "Kütüphaneler" in: Dünden Bugüne İstanbul Ansiklopedisi, v.5. 175.
- [31] See endnote 14.
- [32] For detailed statistics about using of the library in 1970, see Küçükerman, Ö. 1970, 12-13.
- [33] For the webpage, see endnote 17.

REFERENCES

- Babinger, F. 2004 "18. Yüzyılda İstanbul'da Kitabiyat", in: Müteferrika ve Osmanlı Matbaası, Tarih Vakfı Yurt Yayınları, İstanbul, pp.1-62.
- Balgalmış, A. 1991 "Âtîf Efendi" in: Türkiye Diyanet Vakfı İslam Ansiklopedisi, v.4, 59-60.
- Cunbur, M., 1962 "Vakfiyelere Göre Eski Türk Kütüphanelerinin Yönetimi", in: Türk Kütüphaneciler Derneği Bülteni v.11, 1-2, Ankara. 3-21.
- Devellioğlu, F. 2007 Osmanlıca Türkçe Ansiklopedik Lûgat, Aydın Kitabevi, Ankara.
- Erünsal, İ. 1988. Türk Kütüphanesi Tarihi II, Kuruluştan Tanzimata Kadar Osmanlı Vakfı Kütüphaneleri, Atatürk Kültür Merkezi Yayını, Ankara.
- Erünsal, İ. 1991 "Âtîf Efendi Kütüphanesi" in: Türkiye Diyanet Vakfı İslam Ansiklopedisi, v.4, p.60-61.
- Eyice, S. 1991 "Âtîf Efendi Kütüphanesi-Mimari" in: Türkiye Diyanet Vakfı İslam Ansiklopedisi, v.4, 61.
- Michl, J. 1995 "Form Follows What? The modernist notion of function as a carte blanche" in: 1:50- Magazine of the Faculty of Architecture & Town Planning, Technion, Israel Institute of Technology, Haifa, Israel, 10, Winter, 31-20 [sic].
- Koç, H. 1993 "Âtîf Efendi Kütüphanesi" in: Dünden Bugüne İstanbul Kütüphanesi, v.1, 399.
- Koç, H. 1994. "Kütüphaneler" in: Dünden Bugüne İstanbul Ansiklopedisi, v.5. 172-176.
- Küçükerman, Ö., 1970 "Âtîf Efendi Kütüphanesi." in: Mimarlık. 75. TMMOB yayını. İstanbul. 9-14.
- Küçükkalfa A. 1985 "İstanbul Vakıf Kütüphaneleri" in: Vakıflar: 3. Vakıflar Haftası Armağanı. İstanbul Vakıflar Bölge Müdürlüğü Yayını. İstanbul.
- Mazlum, D. 1996 "18. yy. İstanbul'unda Basılı Kitabın Öyküsü ve Kütüphaneler" in: Prof. Doğan Kuban'a Armağan, Eren Yayıncılık, İstanbul, 45-50.
- Rodowick, D. N. 1997 "Gilles Deleuze's Time Machine", Duke University Press.
- Sezgin, F. 1955 "Âtîf Efendi Kütüphanesinin Vakfiyesi" in: Türk Dili ve Edebiyatı Dergisi, v.6, Burhaneddin Erenler Matbaası, İstanbul. 132-144.
- Tanju, B. 2002 "Osmanlı Mimarlık Pratiğini Çevreleyen Zihniyet Dünyası" in: 2000'den Kesitler I: Osmanlı'da Mekanlar/Zamanlar/ İnsanlar, Doktora Araştırmalı Sempozyumu, pp. 1-8.

UNIVERSAL DESIGN UNDERSTANDING IN THE ARRANGEMENT OF EXISTING HOUSING ZONES BY REHASHING

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ABSTRACT

The concept of housing which started to exist with the human beings, as of the earlier stages till today has passed a long running development process in the frameworks of functional developments, religious influences, innovations, technological improvements and economical opportunities. The housing spaces that emerged within this process, has kept various differences against the idealized housing understanding that has been shaped according to many factors in today's conditions. While the protection and/or re-interpretation of the architectural styles and the original structures have a great importance in the renovation and rehashing stages, the functional details regarding the inner space are mainly disregarded or become of secondary importance. However, the serving of housing in a maximum living standard to the person/people living in it is of the objectives of the contemporary world.

Under the coverage of the paper; the “**universal design**” concept, which has been given a great importance in relation with the formation of new residence areas, will be examined for the resurrected house buildings and its significance for such reorganisations will be expressed.

Keywords: Universal design, House, Design for all, Universal house, Functionality

INTRODUCTION

The house is the place where the daily life both starts and ends. It is the scene for production, reproduce, motion, rest, loneliness and relations. The house is the place where we define ourselves socially and culturally. The right for determine where and how to live and arranging the house under self will is critically important for the health and self confidence of the individual plus his/her contributions to the society.

With 1980's, some designers and their supporters, although their number is very low, started to understand the importance of designing more usable products and environments for everybody regardless of their ages and capabilities. Thus, the developments continuing in the buildings and exterior spaces in the name of functionality in the last years happened. While the living and health standards develop, the people can live much longer and can overcome various physical

handicaps. The social researches have shown that the changes are occurring in the demographical structure and there is an increase in the number of old and disabled people in the population. As a result of this, it is getting important that the living spaces especially the housings should fulfill a good number of general conditions for the people to live in comfort and peace besides their features to provide the special conditions of each individual.

The door handles that open without turning operation for the people who suffer from the problems such as arthritis, rheumatism, paralysis which are possible to emerge with old-ages; the door and passage dimensions that are designed by considering the people using wheelchairs; the electricity buttons and other equipments which are considered to be in a height that the people at all heights can easily use, the kitchens having workbenches designed in various heights appropriate for the people at all heights; the designs without thresholds that are arranged by considering the people shuffling and using walking sticks; the materials and the auxiliary details selected in a way that prevents the slipping of every people in the bath and many more factors are getting importance within this point of view. The universal design enables very different persons to live in the same houses and it reflects a general suitability even when the needs of the habitants change.

DEFINITION OF THE UNIVERSAL DESIGN

It is assumed that any object usable easily by all the humans, without regard to the skills of the users, is regarded as universally usable if it has ergonomic features according with the user. The aim of the universal design is, besides its accessible character, to design products, buildings and environments usable by a population as big as possible.

The definition and principles of the universal design is developed by a group in America, North Carolina University, called as "The Center for Universal Design". The Center for Universal Design has defined the concept and its objectives as follows:

"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." [1]

"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 people of all ages and abilities.." [2]

It is the design approach for products, structures and structural elements usable by every one and in a wide scale. It is the idea of design focusing on very and each human. Thus, the universal design is also called as "**design for all**" and "**lifetime design**".

The universal design will be favourable to the extent it is generalised. Any developed new idea requires principles established for practical purposes and assisting the fast

extension of the main idea. The purpose of the universal design principles and related guides is to define the concept in a substantial manner.

UNIVERSAL DESIGN PRINCIPLES

The universal design principles are the main principles applied in all design disciplines that cover the surrounding environment, products and communication. The principles guide the design methods and enable the design to be assessed systematically. They assist the training of the designers and consumers for to reach more usable design solutions.

The first version of The Center for Universal Design universal design principles is published in December 1995 and second version followed the former. The seven principles of the second version are as follows: [3]

Principle 1-Equitable Use: The equal use means the design to be usable and purchasable by persons with different skills and capacities. In addition, it also means providing equal services for all the users without any discrimination, protection of confidentiality and thinking the design in an attractive form.

Principle 2-Flexibility in Use: The flexibility in use provides the design to include a wide content consisting of personal choices and skills of the user. It is required for the users to select the suitable one for themselves.

Principle 3- Simple and Intuitive Use: Simple and intuitive use makes the design easily understandable without regard to the experience, information, foreign language skills or respective concentration level. The achievement of simplicity in design comes with removing the unnecessary complexity, providing healthy information and creating considering the literacy and foreign language levels. The design shall be simple and easily perceivable to be called as understandable.

Principle 4- Perceptible Information: Perceivable informing means effectively transferring the information without regarding the surrounding conditions and sensory abilities of the user. The quality of the perceivable informing shall be achieved by use of different styles in information distribution, providing evident and required information in a clear and simple way and supplying accessible information understandable by all persons including the physically disabled individuals.

Principle 5- Tolerance for Error: If the design decreases the accidental and unplanned dangers or bad consequences as much as possible, then it is understood that the error tolerance principle of the universal design is met. The universal design shall protect all the users against the perils and accidents.

Principle 6- Low Physical Effort: The low consumption of power means that the users will utilise the products and places by experiencing minimum tiredness and with a high efficiency. To be net and crystal clear, the user shall not repeat the same motions and shall decrease the spent physical power as the use progresses in time. The design products and places should be usable in comfort but spending minimum power and the product/place shall be accessible with minimum power.

Principle 7- Size and Space for Approach and Use: When dimension and place is provided for the approach and use, the place and the product then meets the needs of all the users without regard to the physical sizes, conditions or dynamism of the user. That is to say, for instance, comfort should be provided for both the sitting or standing user. Also there shall be sufficient space for the assisting tools and personal assistance.

These defined principles are followed by the guide group that designate the main elements required in the design. The purpose of the universal design principles and related guides is to define the universal design concept in a substantial manner. These principles are basic universal design principles applied in all design disciplines as to cover the surrounding environment, products and communication.

REARRANGEMENT OF EXISTING HOUSING BY THE UNIVERSAL DESIGN PRINCIPLES

The houses that enable all the users self sufficient and use their abilities at their best may only be designed if the life styles and needs of differently skilled users are understood. The houses that meet the needs in wide most scale are the universal houses that provide suitable environments to the families with little children, physically weakened elders and disabled persons. The universal houses include usability features through all their lifetime for all user groups and without requiring substantial restorations. For to design the houses universally, the special products, features and respective installation information related to the universal houses shall be provided.

Arrangement of Housing Entrances

The entrances of the houses shall be designed as to support all the user groups and shall also permit the house furniture to be moved in and out of the house easily. An even, strong, sloped (no steps) and slowly rising walking path is required for an easy access. Such an entrance path will provide easy access to the persons using cane, assisting tools, wheelchairs or other dynamic tools for to walk. The recommended slope is 5%. In case the slope is greater than such percentage, then assisting rails or barriers shall be placed. [4]

The space to exist in front of the entrance door shall be at least in 150 cm x 150 cm dimensions. An area of such size will permit the cane, wheelchair or tool using persons to manoeuvre when the entrance door is opened. There shall be no level differences between the internal space and outer space of the house since such a difference will harden the pass of the persons with walking or seeing weaknesses. The houses with entrance steps may be adapted to universal design with two kinds of solutions (Figure 1).

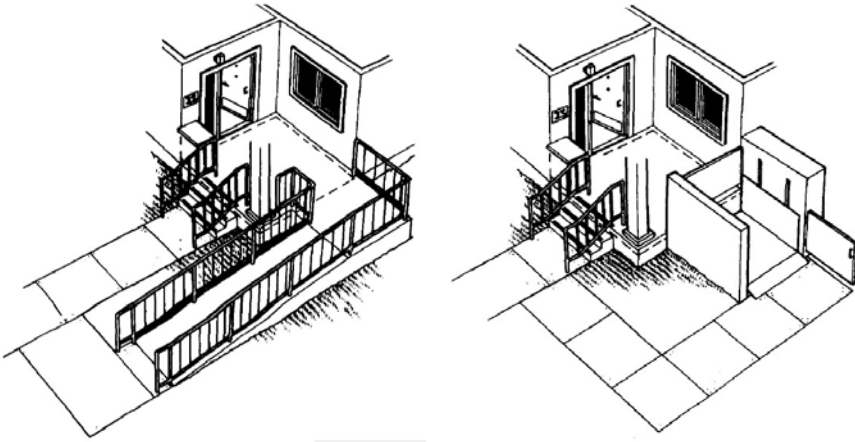


Figure 1. Solution Of Barriers in The Housing Entrances [5]

The first solution recommends a ramp to other side of the house entrance. The second solution provides a platform lift. Thus, the persons who use wheelchair, canes or baby wagon will have easy access to the inside. Both solutions require the adaptation of the steps to the universal design. The old persons and children are the two groups that may face the worst physical damages due to steps. Step heights shall be slightly sloped and no sharp edges or projections shall be used. There shall be strips on the steps for to prevent slipping (Figure 2). There shall be strong rails on both sides of the stairs (steps) to assist the persons with balance difficulties.

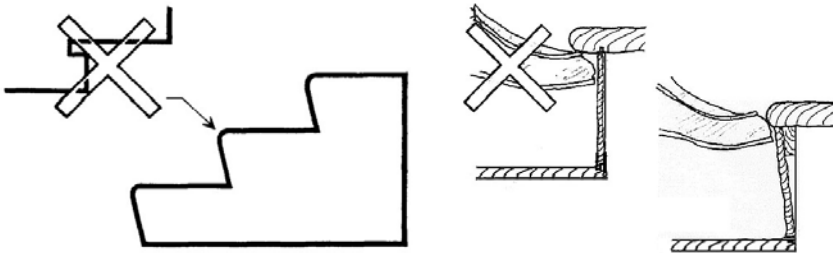


Figure 2. Appropriate Stair Form [6]

The unclosed (i.e. without any rail or barrier) sides of the entrance area may generate dangers for the persons with balance difficulties or seeing weaknesses. Banisters, side stones or physically aesthetic plant stands may be placed for to remove such dangers. There shall be a shelf place near the entrance door for to put the packs and other materials while opening the door. This will provide ease while opening the door particularly for the persons who must use both hands. (Figure 3).

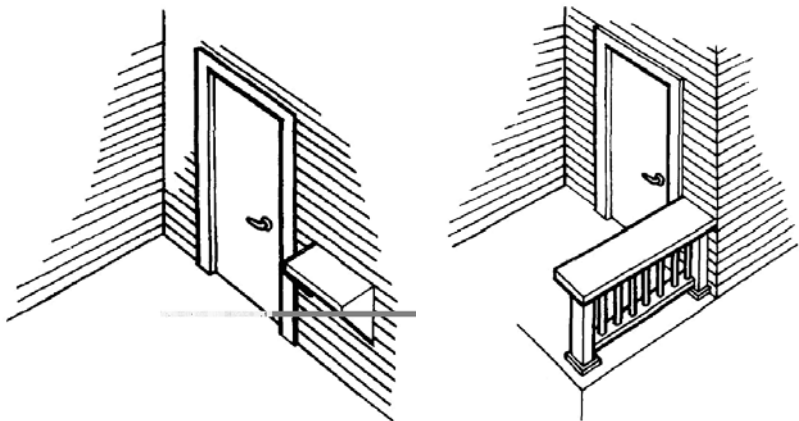


Figure 3. Positioning of Package Shelves [7]

The house numbers and other signs shall be readable in size and they shall be written using highly contrasting letters and digits. The door bells and intercom systems shall be assembled 90 cm–120 cm high from the ground level. Both shall have lighted and highly contrasting buttons regarding the persons with seeing disorders (Figure 4).

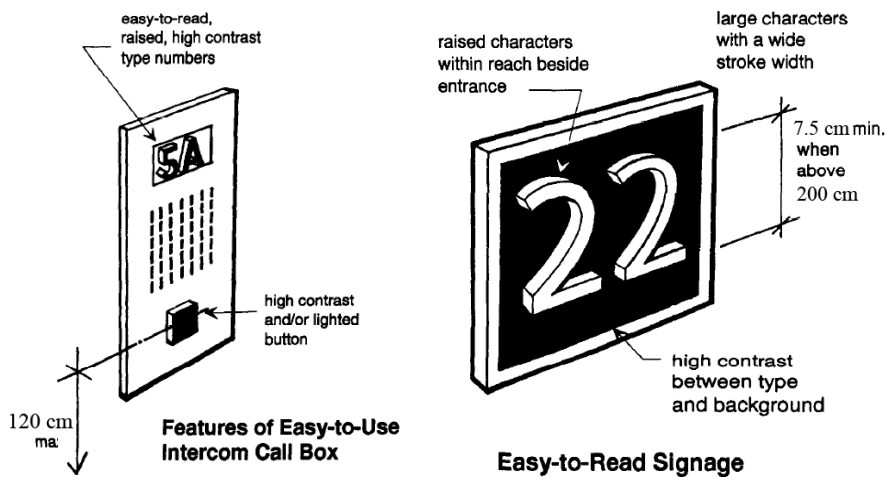


Figure 4. Arrangement of Door Numbers and Intercom Systems [8]

Arrangement of Housing Doors

The house entrance doors shall be usable by all the house habitants. To open the lock and entering in the house is a difficult thing to do when considered the persons with physical limitations, old people, persons with weak hands, fingers, slow hands etc. Design of the door shall enable such users to open the door by spending least possible power.

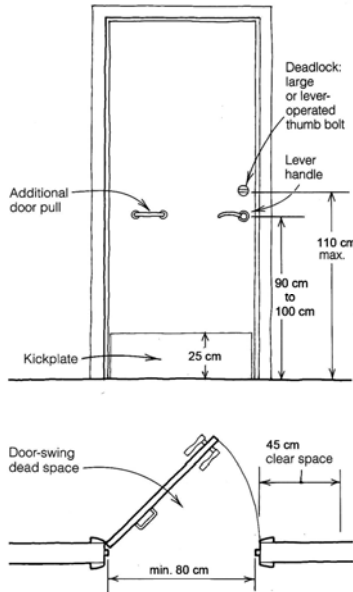


Figure 5. Appropriate Door Arrangement and Dimensions [9]

The opening direction of the door affects the ease of use and safety. The design and placement of the door is important for the persons who carry their children or packs as well as for persons using wheelchair. When sufficient ground area is not given, big difficulties are faced while opening and closing the doors. All the doors shall have minimum 80 cm clear opening space and a minimum 45 cm ground area shall be left for manoeuvring on the handle side (Figure 5).

The persons who use walking tools, wheelchairs, canes or walking sticks face important problems while using the doors. An additional handle close to the hinge will ease the closing of the door. Many main doors are made of wood or steel. The type of the material does not that much affect the usability of the door however it should be kept in mind that the door shall be strong as to ensure easy use for a long time. Buffer may be used in the lower part of the door for protection from impacts (Figure 5).

Whatever the material of the door is, an unobstructed entrance may not be constructed without a low threshold. The high thresholds are troubling obstructs for the newly walking babies, old people, persons with walking difficulties and using wheelchair. A threshold with a maximum height of 1,25 cm is usable by most of the people and performs its technical functions. The special hinges used for the opening of narrow doors will let a clear opening of the door wing. It is favourable to extend the opening area of the door wing (Figure 6).

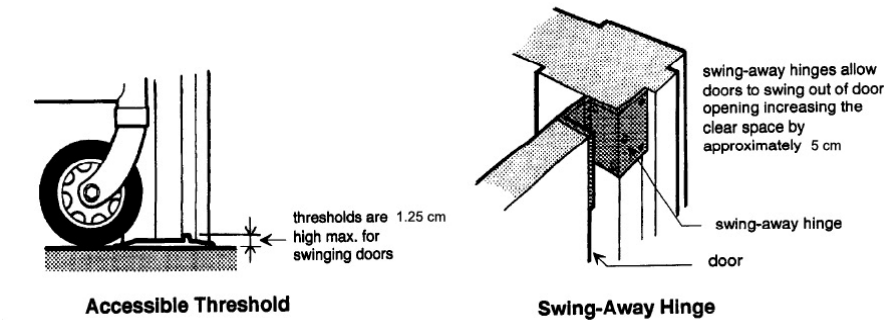


Figure 6. Accessible Threshold and Swing-AwayHinge [10]

Another issue to consider about the doors is the accessories to be used on the same. While selecting the door handles and lock systems, we shall prefer the lever or ring formed handles instead of ball or sliding types of handles and locks. The lever form handles may be used with elbows or punch (Figure 7). The door locks shall be made as usable with a single hand.

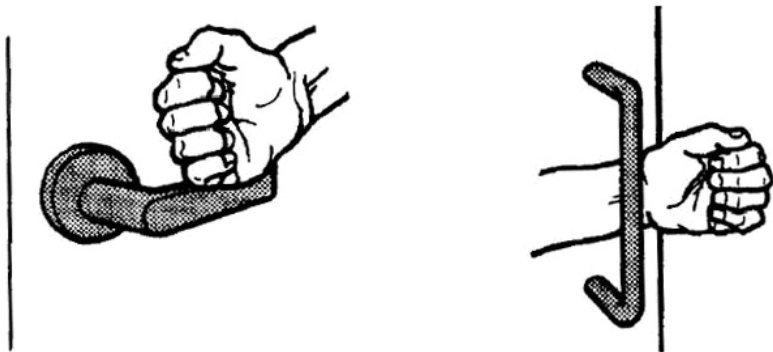


Figure 7. Lever and Loop Handles [11]

Arrangement of Entrance Halls and Corridors

The entrance halls are the transition areas between the internal space and outer space both in the independent houses and multi-storey buildings. Corridor connects the spaces in the house and also the spaces within the very building. The arrangement of these spaces is important particularly for the persons using wheelchairs. Thus, there shall be enough space in the entrance halls and corridors for to enable the wheelchair using persons to perform manoeuvres.

The building and house entrance doors should open easily. The entrance doors shall not be aligned with the wall as to form a plane, but should have at least 20 cm space between. The door width shall be minimum 80 cm and the wing width shall be maximum 100 cm. The persons with moving difficulties and old persons will hardly move and use the doors with wings wider than 100 cm. The persons using wheelchair require a 45 cm space for to manoeuvre and get close to the door (Figure 8). [12]

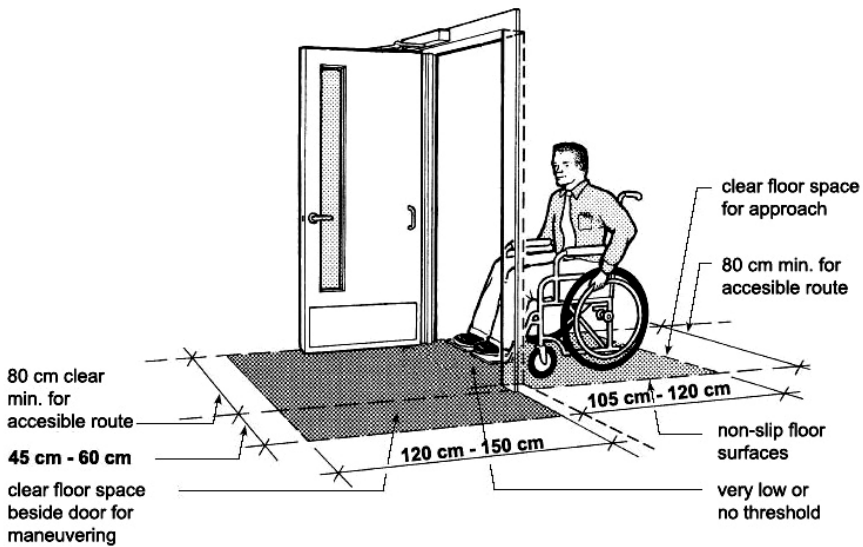


Figure 8. Accessible Housing Entrance Dimensions [13]

Should the two corridors intersect, the intersecting corner shall have bevel for a 90 cm corridor width. If the corner employs bah, then the minimum width of one of the corridors shall be 120 cm. In case an obstruction is present on the corridor, the minimum width after such obstruction shall be 75 cm (Figure 9). [14]

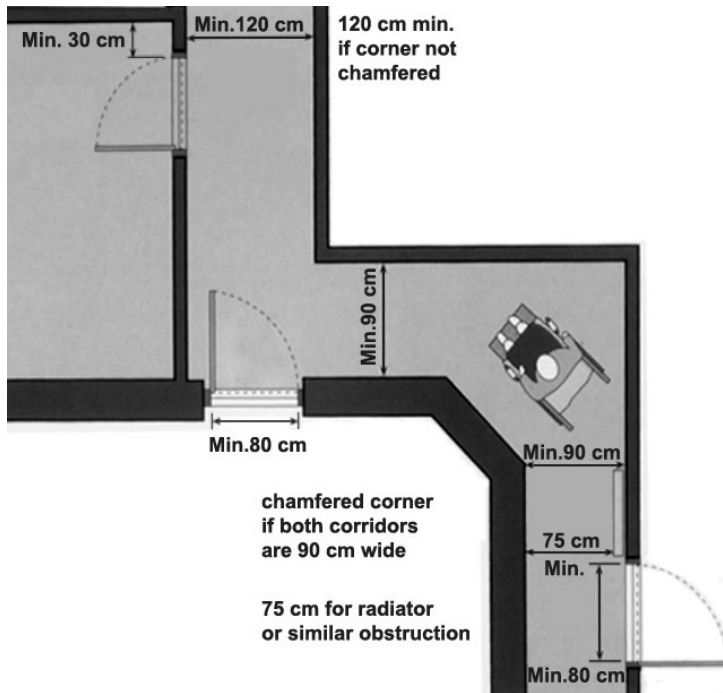


Figure 9. Turning in the Corridors [15]

Arrangement of Stairs and Elevators

The stairs in the houses shall be designed very carefully and as safe as possible. A safe stairs will assist the motion of all persons in all ages, skills, abilities and also the moving of furniture of the house. All the steps of the stairs shall be in the same shape and stairs without platforms should be avoided. There shall not be differences among the step heights and widths. One of the important issues about the stairs is that the old persons, children, pregnant women, patients and physically disabled persons shall spend minimum power while using stairs. Thus, the slope of the stairs shall not be so steep.

The use of contrasting colours in steps and step heights will provide easy vision of the steps. Monochrome colour generates distinguishing difficulties of the steps by persons with seeing weaknesses and disorders. The steps and step heights continuing in the same size throughout the stairs will help the natural rhythm of the body during climbing up the stairs or walking down the stairs. The projecting surfaces for the step heights should be avoided and rounded surfaces should be preferred instead (Figure 10).

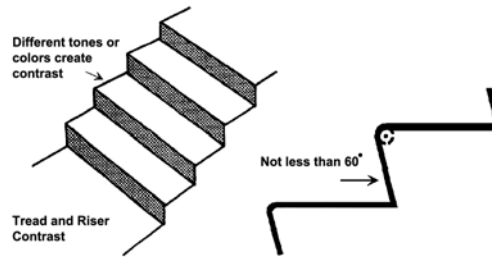


Figure 10. Stairs and Riser Properties with Universal Features [16]

The handrails shall be assembled as their upper surfaces to be 75 cm - 95 cm from the ground and step surface. This height is suitable for many adult users however particularly the children and short adults may face difficulties. Thus, a lower rail for children and short people should be added. Both sides of the stairs shall have rails for to provide right of choice for the users. Thus, persons may use the rails whether with their right or left hands. The rails continuing horizontally in the start or end of the stairs will help the users, particularly person with balance and seeing difficulties, as an additional support and guidance element (Figure 11).

It is easy to hold the round or oval rails with 4cm to 5 cm diameters. There shall be a 5 cm space between the rail and the wall for to prevent the respective hand not to hit to the wall. Besides, such space is sufficiently narrow to save the arm from wedging. (Figure 11).

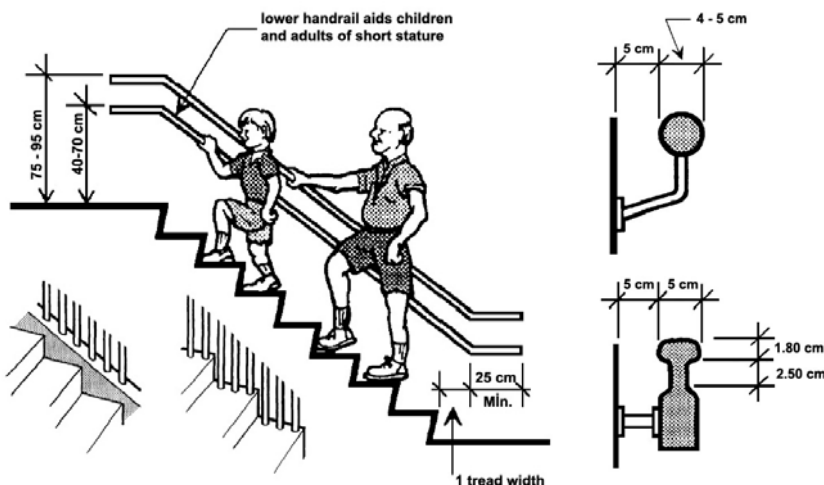


Figure 11. Arrangements of Universal Featured Handrail [17]

In the independent houses, when necessary, the stairs may be added wheelchair lifts. These lifts consist of sitting platform moving up and down on the rails and a main engine. The persons using wheelchair are transferred to such lift from the wheelchair to go upstairs and then transferred to another wheelchair on the arrived floor (upstairs). The stairs need extension if in future such lifts are to be added. A 90 cm width stairs is too narrow for such systems to be added. A 120 cm stairs will be ok and will let any person to use the stairs simultaneously while such assembled lift is active (Picture 1).



Picture 1. Example of Stair-Lift System [18]

Another alternative is internal space platform lifts also carry the persons using wheelchair from one floor to another. There are two types of platform lifts as vertical and sloped. The vertical platform lifts carry the users through a vertical line. The sloped platform lifts on the contrary perform carrying through the stairs. Such lifts do not require the users to leave their wheelchairs (Picture 2).



Picture 2. Example of Sloping Platform Lift [19]

The elevators in the multi-storey buildings, being used for circulation together with the stairs, provide eases for the persons with mobility restrictions, old people, children, patients etc. users to reach to their house units. However they are the only means of transport for the persons who use wheelchairs. Thus, the elevators shall be designed by considering the criteria required by disabled individuals.

The elevators should be easily perceived in the entrance and should be accessed/reached from the entrance hall without any steps between. The minimum cabin size required for the wheelchair user is 110 cm X 140 cm. The suitable elevator size is as 140 cm X 170 cm for the single door side entranced cabins and 140 cm X 200 cm for double door medium entranced cabins. The sufficient waiting space shall be left in front of the elevator door. The suitable size is 150 cm X 150 cm (Figure 12). [20]

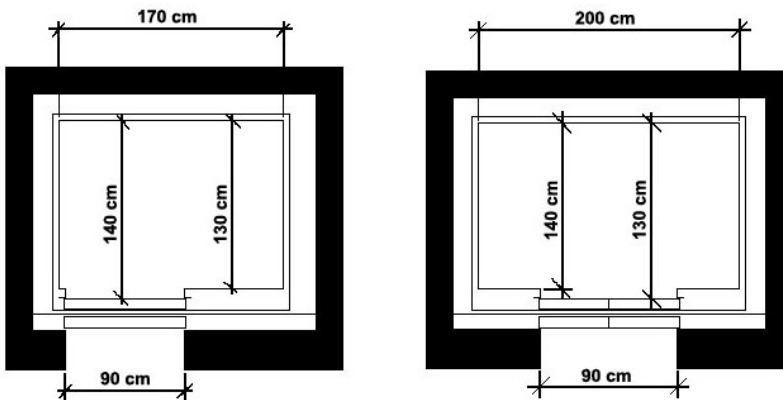


Figure 12. Appropriate Elevator Dimensions [21]

Automatic doors shall be used for the elevators and the door size shall be minimum 80 cm. The most suitable door size is 90 cm. The automatic reopening of the doors shall be performed by photocells reciprocally placed about 13 cm to 75 cm high from the ground or by sensitive touch-sticks to respond to the contact of the canes of the persons have mobility or seeing difficulties and disorders. The command buttons shall be at a height easily accessible by short persons, children and wheelchair using persons. The command panel out of the elevator shall be placed 90 cmx120 height from the ground. Panel buttons shall be projected minimum 2 cm and should be lighted. The used letters or digits shall be relieved considering the blind persons (Figure13).

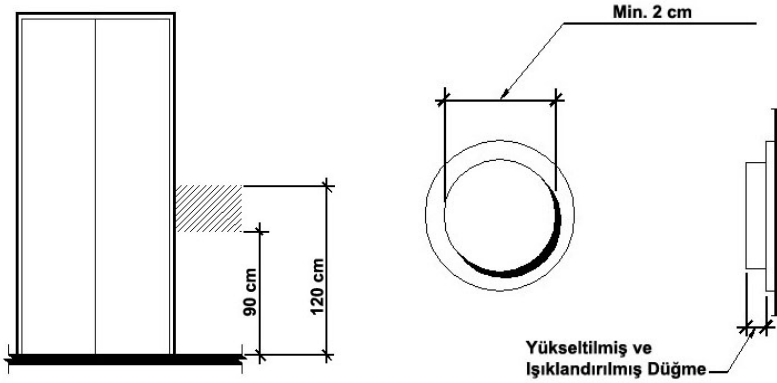


Figure13. Outer Panel Height of Elevator and Control Panel Buton [22]

There shall be bars placed on the three walls inside the cabin as to 85 cm-90cm height for assisting the persons with motional limitations having their balance or for wheelchair using persons to hold the same. The cabin buttons shall be placed 90 cm - 130 cm high from the ground and minimum 40 cm to cabin walls intersection line (corner). The buttons placed on the right side may be found more easy than the blind persons. At the left of the buttons there shall be relief letters for the blind persons as with "Braille" persons. The "Exit" button should be distinguished from the other letters and thus shall have a relieved surface. The entrance floor should be defined using a symbol (Figure 14). [23]



Figure 14. Panel Height of Elevator and Control Panel Buton [24]

There shall be visual cabin motion indicators on the door or control panel in and out of the cabin for to monitor the movement of the lift through the floors. These shall be in perceivable size and shall have audio warning for the blind persons (persons with

seeing disorders). There shall be double direction (cabin and out of cabin) communication system for the emergency situations. The floor coating of the elevator shall be of non-slippery material; and soft thick carpets should not be used. The floor shall be coated with a carpet featuring holding characteristics and the walls shall have protective plates.

Arrangement of Windows

The windows of the houses shall have some features considered the persons with motional restrictions. The windows shall be placed suitably for to make them totally accessible. The accessible windows shall be assembled as to enable the sitting persons to reach all the handles and locks. The locks and handles should be opened using a single hand.

There shall be sufficient ground area in front of the window to meet the needs of the persons using wheelchairs. The minimum size of this area is 120 cm X 75 cm. This area requires indeed 150 cm X 75 cm size for manoeuvring. This parallel (to the window) space enables the user to close to the window. The lower frame of the window shall be 50 cm-75 cm from the ground which means an easy view from the window for a user who must sit. This lower height also eases the opening and closing of the window (Figure 15). [25]

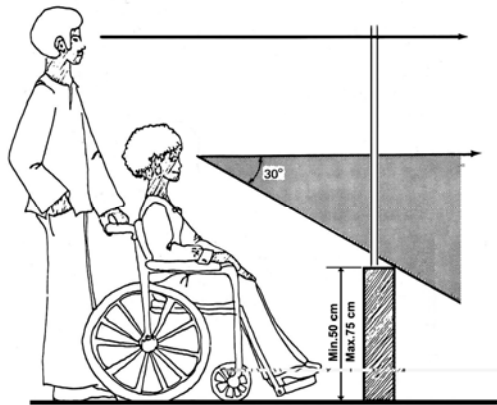


Figure 15. Appropriate Window Height [26]

Arrangement of Kitchens

The kitchen is one of the most important places of the house. All the family members prepare their food, perform some of their activities and relate to each other in the kitchen. Traditionally, the kitchen plans depend on the “working triangle” concept. The concept of “working triangle” is defined as the shortest walking distance between

the refrigerator, main cooking element and sink. The traditional kitchen designs require changes though. The kitchens shall be designed considering the sizes and skills of the persons and shall have features usable by all persons including adults, old persons etc. The designed kitchens shall serve to more persons for a more time, as much as possible.

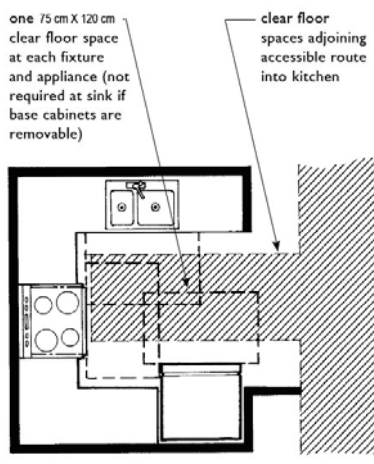


Figure 16. Clear Floor Space at Each Fixture and Appliance [27]

There shall be sufficient manoeuvre area in the kitchen for to enable the persons using wheel chair, assisting tools etc. to get close to and use the devices and installations of the kitchen. Persons who have to perform kitchen work while sitting shall have more using area and thus there shall be spaces in required places and under the counters for to insert the knees. The knee space will provide to access under the working benches, reaching to certain devices in the kitchen and an easy working. Such a space is required under or side of the counters, sinks, ovens and dish machines. If the required space for knees may not be provided, then a clear ground area of 75 cm x 120 cm size shall be left in front of each kitchen device and installation for parallel or vertical closing. The left parallel ground area will enable the wheelchair users to close from the sides and will provide safe and easy access to such devices and installations. The left vertical ground area in turn will enable frontal closing however it is difficult. It is particularly not safe when one tries to reach to the pots or pans at the back part of the oven. (Figure 16).

There shall be minimum 100 cm space between the reciprocal benches, devices and walls in the kitchen. The space shall start from the end of the countertop or from the frontal face of the devices. The depth of the refrigerators vary a lot and there shall be minimum 100 cm space between the cover surface of the refrigerator and bench end point. The narrow kitchen with said space (shown in the following drawing) is usable however generates difficulties for a person using wheelchair. The kitchens including middle islands shall have 100 cm space between the surface of the island and all the surrounding installations (Figure17).

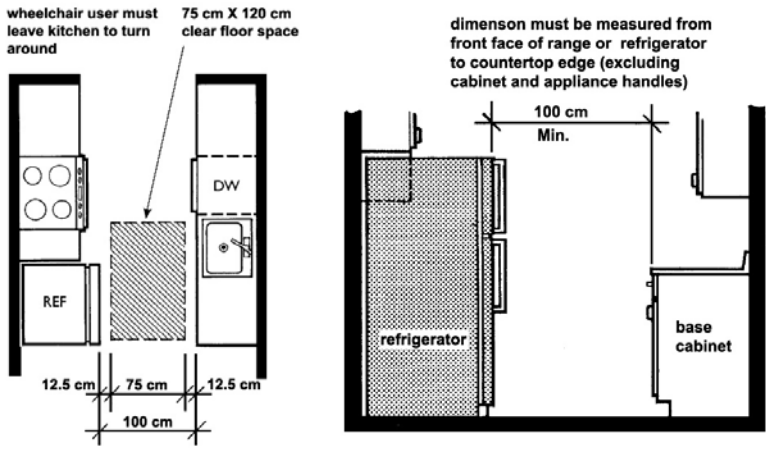


Figure 17. Minimum Distance Between Opposing Countertops and Appliances [28]

A full rotation of the wheelchair requires a 150 cm diameter circular area. U shape kitchens will require this area for the use of counter and oven. This turning size shall provide the required manoeuvre area for the wheelchair using persons to get close to the devices and installations from parallel direction. (Figure 18).

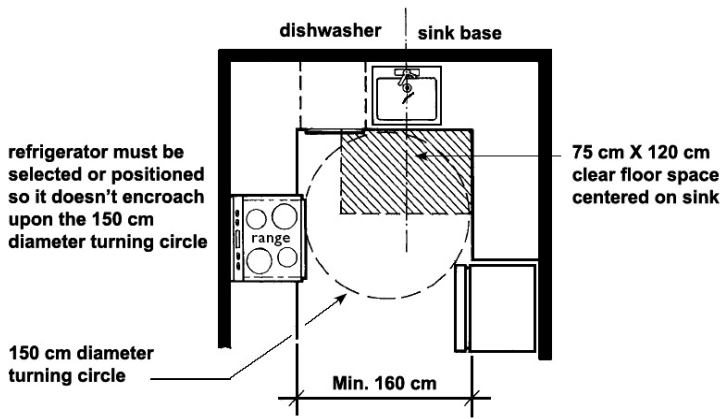


Figure 18. Clear Floor Space For Turning Of Wheelchair Users In "U" Shaped Kitchens [29]

The narrow U shaped kitchens without 150 cm turning area shall employ the knee spaces between the counters, sinks and oven. If the cabins under the benches and

oven are modular quality (able to be mounted and dismantled), the users may prefer to use them as cabins or may take them off for a simple and easy provision of knee spaces. Such a space will ease a wheelchair using person to access to the control elements while washing or cooking the food. Re-mounting of such cabins may be required in future and thus there are some important points in the design of such cabins. The ground and walls of the area needed for space and cabin surfaces shall be left as shown in the first figure below. That is to say, if only the front face is closed, then it may be dismantled very easily when required so. The cabin option in the second figure shows a cabin that may be dismantled together with its front face. The last figure is a cabin design with ground, side faces and front face that may be dismantled totally free from the other cabins (Figure 19).

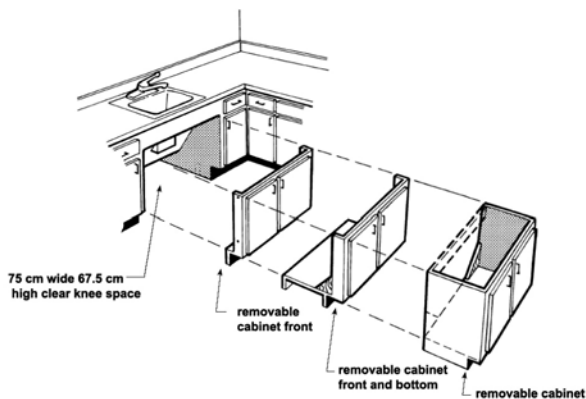


Figure 19. Removable Cabinet Design [30]

The moving back pulled cabin cover is a perfect method for covering such knee spaces. This design does not include parts to be dismantled and stored in another place. The special hinge union enables the traditional covers to be pushed into the cabin when necessary (Figure 20).

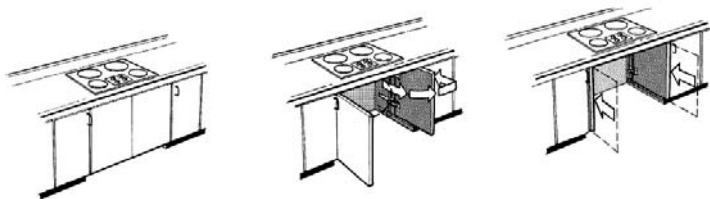


Figure 20. Mobile Cabinet Doors [31]

Most of the kitchen designs, while placing the devices, do not consider which hand is used by the persons. The rate of the right handed persons is more in the general population and left handed persons are not considered while designing. But then, in selection and placement of kitchen devices the use of both hands shall be considered. The correctly placed devices may be reached from the right, left and front. The dish machines and ovens used in the kitchen generally have covers that may be closed by pulling downwards. These devices shall be placed as to be accessible from both directions. The oven seen in the first figure below may be reached only from the left. It is not possible to approach from the front when the cover of the oven is open and the person using the oven must work on the left side. A lady using a wheelchair must use her right hand and side while working with the oven because her left hand may not be strong enough to open the cover and place the tray into the oven. Such a kitchen does not have the sufficient area to access to the oven from the right side. The ovens but should always be placed as usable with both right and left hand. The second figure shows a more centrally placed oven and the same is accessible from both directions (Figure 21).

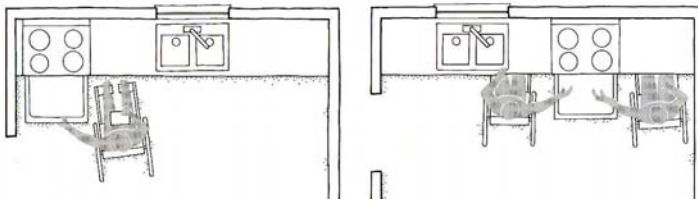


Figure 21. Accessibility of Appliances Both Two Sides [32]

The height and width of the working areas in kitchen is important. The bench shall be minimum 75 cm and maximum 90 cm wide and should not be higher than 85 cm (preferably 80 cm). The bench surfaces in the kitchen shall continue at the same level between the refrigerator, sink and oven. The outward-tractable countertops shall be placed under the embedded ovens or microwave ovens. These areas under the benches will eliminate the problems faced by persons who work in sitting position (for reaching the benches) and are perfect alternatives (Picture 3).



Picture 3. Examples of Outward-Tractable Countertops [33]

Hand cutting of the food and preparing the time consuming dishes and cakes is performed easier while sitting. Kitchens with benches with differing heights may serve to the sitting or serving users, children or adults of different heights. A working area of 90 cm high 8with a space left under) requires suitable chairs to such height. These benches are suitable to work while sitting and favourable by the persons using wheelchairs and users of different heights. This working area may also serve as the area for eating. An eating table of 75 cm –80cm places as not to restrict the mobility makes working bench for the persons who work while sitting (especially in big kitchens) and assists the user while carrying the materials from one bench to the other. The bench heights of 105 cm to 113 cm are suitable for the tall users. [34]



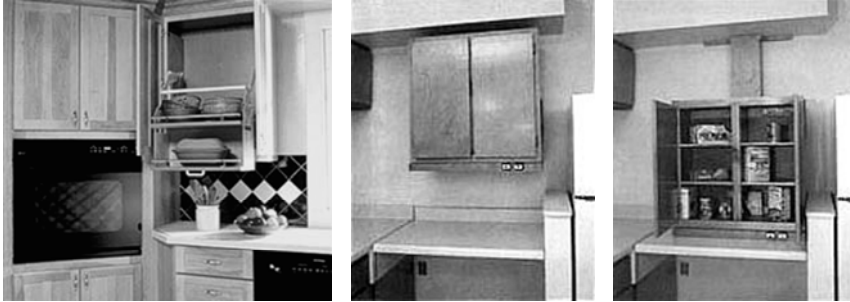
Resim 4. Examples of Different Heights of Countertops [35]

The storing areas in the kitchens are shelved cabins, open shelves and drawers. The easily accessible storing elements should be usable for everyone and for all persons who have restrictions in access, standing, kneeling and raising performances. The lower shelves of the under-bench cabins and upper shelves of the on-bench cabins are deep, dark and difficult areas accessed by the users by kneeling, bending or reaching over. For many people, these are the third or fourth shelves of the under-bench cabins or second or third shelves of the on-bench cabins. Ideally, most of the kitchen cabins should be placed in the reaching over zone. 60 cm depth standard kitchens are hard to reach areas. Thus, there should be special solutions such as drawers, tractable shelves and baskets for such areas. The drawers and outward tractable shelves provide easy access to the stored materials. Even if kneeling is required to reach the objects, it is lesser than the kneeling in fixed shelves (Picture 5).



Picture 5. Solutions of Accessible Countertop Base Cabinets [36]

Opening of the on-bench shelves makes them more accessible. In general, the height of the on-bench shelves is so high (even the first shelf) for many persons as beyond the reaching over level. More accessible on-bench shelves shall be mounted maximum 120 cm high from the ground. The use of height adjustable shelves ease the access of many users. The downwards tractable shelf/basket systems of on-bench cabins or use of engine systems will provide the adjustment of the height tailored to the user (Picture 6).



Picture 6. Accessible Cabinet Systems [37]

Arrangement of Bathrooms

The bath is the place where the cleaning and self care of the family members are performed. Traditional designs and products do not let some user groups to use the bathes in accordance with their abilities safely. The researches show that most of the house accidents happen to be in bathes and while taking shower. The bathes of out time do not give suitable utilisation and the need for a more usable bath ever increases. The universal bathes providing equal uses will give a better bath environment and are favourable by all the users since meet the joint requirements.

Holding bars required in house bathes shall be present on the respective locations. The holding bars will enable particularly the immobile persons (persons with mobility restrictions) to use the bath safely. All the users need to hold something while standing, kneeling, bending or stepping on the wet grounds. The use of holding bars around the closet, tub or shower cabin will increase the safety significantly.

The sink area of the house bathes should be arranged to permit free movement. When sufficient area is not left around the sink, the users hardly perform their daily preparations. The sinks should have at least 42,5 cm under- depth for knees and feet as to enable persons who must sink to use the sink easily. The upper most point on the side of the sink shall not be more than 85 cm from the ground and the lower most point of the sink should not be closer to the ground than 72,5 cm. This space will enable the sitting persons to enter partially (knees) under the sink and to use the sink and the tap. The hanged sinks with open lower parts shall have closed or insulated hot water installations to prevent injury of the users (Figure 22).

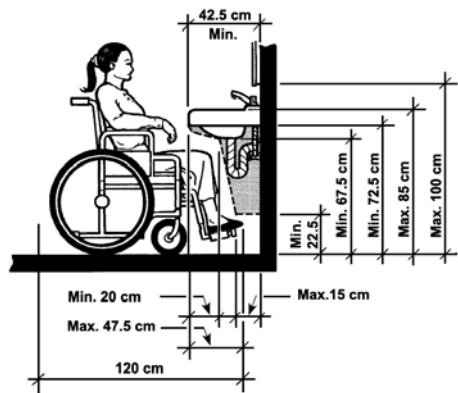


Figure 22. Appropriate Lavatories Replacement Dimensions [38]

The easy access to the sink and tap requires the sink to be placed in the frontal part of the bench. The cabins under the bench shall be suitable for dismounting for to permit the use while sitting. The bench shall be fixed to the walls with joints. The view of such cabins is not different from the fixed cabins however these may be easily dismounted when the manoeuvre area in the bath is required to be increased. (Figure 23).

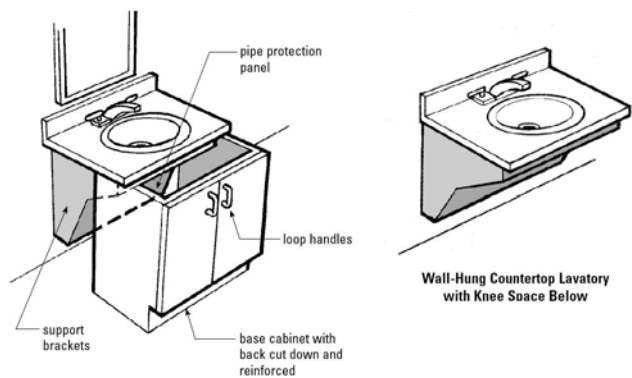


Figure 23. Removable Countertop Base Cabinet and Wall-Hung Countertop Lavatory with Knee Space Below [39]

The taps shall be in form of levers or asymmetrical shapes which do not require holding. The persons with inflammation in their hands or finger joints generally face difficulties in holding or turning ball shaped taps. The lever shaped taps may be used with palms or punches. The single command taps provide using eases for many persons (Figure 24).

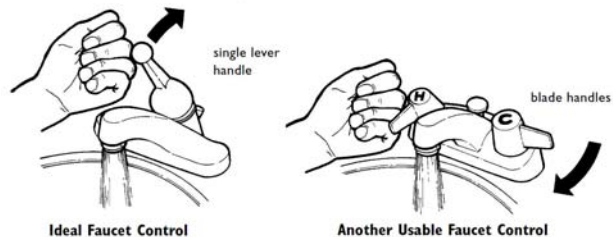


Figure 24. Universal Featured Faucets [40]

The required clear ground area required for closets is wider than the area needed for other installations. The persons using the wheelchair or other assisting tools require the sufficient area around the closet for to approach from sides and from the front. The ideal closets should be placed as to be usable by both the persons using their right hand or left hand. The user should transfer themselves to the closet from both sides. The shown (below) two ground area sizes are examples of sufficient areas for the wheelchair or assisting tool using persons to approach to the closet, to manoeuvre and to sit. These areas enable the persons safely transfer to the closet.

The first figure shows the minimum area closed from three directions as with 120 cm x 140 cm clear size which permits a wheelchair using person to approach from only one side. 120 cm is the minimum length for the wheelchair. 140 cm provides the wheelchair to be placed in angled positions for some users to transfer themselves to the closet safely. This angled position is possible if the lower part of the sink is left open (Figure 25).

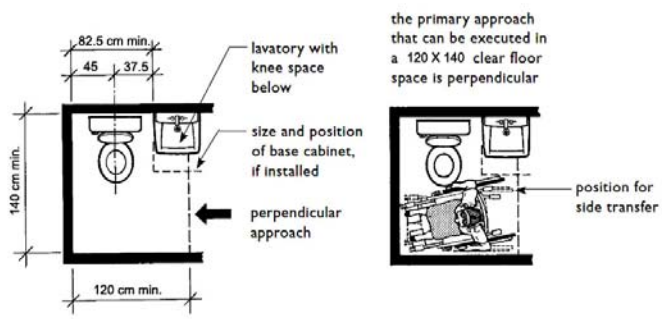


Figure 25. Clear Space Floor 120x145 cm Dimensioned Appropriate Toilet Space[41]

The second figure shows a sink united to the closet. Then, the approach from the front requires a clear ground area of 165 cm length. The door should be placed in front of the closet for to have the required manoeuvre area while approaching to the

closet from the front. This placement provides diagonal approaching (both the side and frontal approaching) which is not so common (Şekil 26).

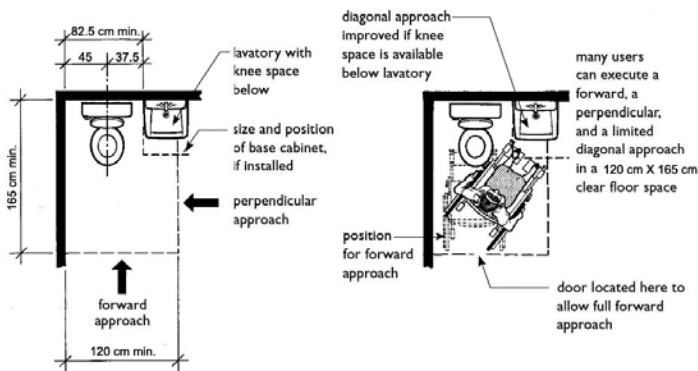


Figure 26. Clear Space Floor 120x165 cm Dimensioned Appropriate Toilet Space[42]

Many persons perform regularly bathing and showering in their daily life. The persons with restricted motional abilities have many limited options though. The persons with physical restrictions however not using any assisting tool should continue to use the tub and shower cabin. The persons using cane, walking tools etc. face more difficulties while using the shower cabins. The persons using wheelchairs have a great independence while using the shower cabin.

The required clear ground area while approaching to the tub is important for each spot of the bathtub. The ground area sizes shown in the following figures are examples necessary for the persons using wheelchair and walking tools while approaching to the tub, manoeuvring and transfer to the tub. The first figure shows a 75 cm x150 cm ground area and is possible if there is knee space under the sink. The user may transfer itself and/or use the tap only if such space is left (Figure 27).

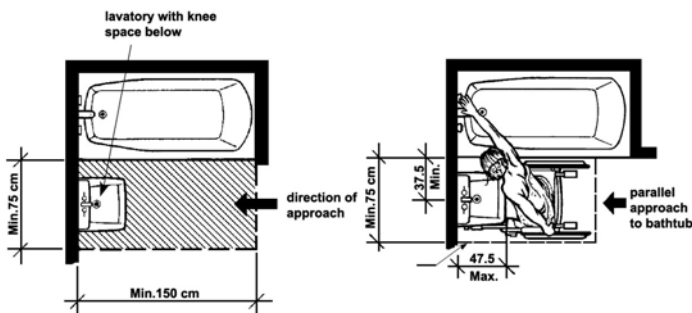


Figure 27. Clear Space Floor For Paralel Approach to Bathtub [43]

The second figure shows a 120cm x 150 cm ground area including the closet. A persons using a wheelchair may approach to the tub only from the vertical direction. This placement of the installations hardens the reach to the tap. Only if the users approach closely to the tub and move their feet in the tub, then they may reach the tap control (Figure 28).

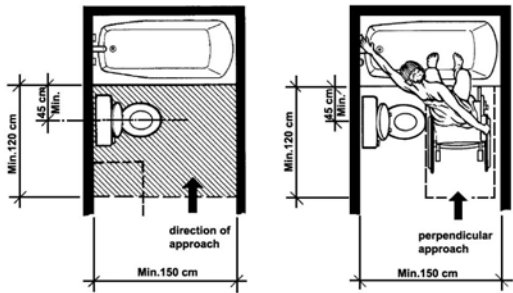


Figure 28. Clear Space Floor For Perpendicular Approach to Bathtub [44]

The holding bars around the tub and on each wall will increase the safety as to prevent the slipping and falling. The need for the holding bars and their positions vary depending on the level and type of disability. The number of these holding bars should be determined according to the needs of the respective person. Since the bathes have slippery surfaces, they are one of the most dangerous places for the users with motional restrictions. The use of tubs may be difficult for the persons with restricted balance, motion or strength. The adaptation to showering cabins but may be easier considered the changing needs of respective persons. A suitably arranged showering cabin provides multi-purpose use and is universal.

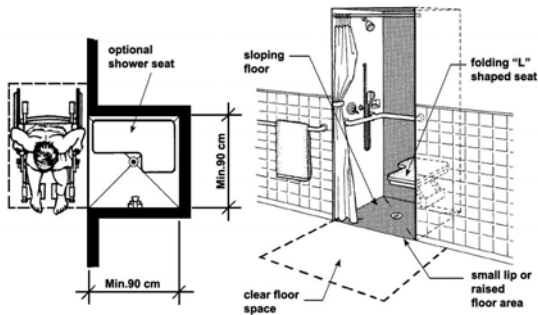


Figure 29. Shower Stalls with 90 cm X 90 cm Dimensions [45]

The above shown shower sizes are examples necessary for the persons using wheelchair and walking tools while approaching to the tub, manoeuvring and transfer to the shower. Whatever the size is, there shall be 75 cmx90 cm clear area in front of the shower should be left for to approach the installations. A person transferring itself to the sitting unit in a standard shower cabin/unit of 90 cm x 90 cm may easily access to the tap control. The users with motional and balance problems take shower while sitting in this shower cabin. The healthy users may take their showers while standing after removing the foldable sitting unit (Figure 29).

The shower units of 90 cm x 150 cm and 150 cm x 150 cm are areas accessible together with wheelchairs and have multi-purpose. They permit the users to wash their children or their pets. For the wheelchair to enter, the level of the shower ground should be same with the bath ground level. 150 cm X 150 cm sized shower unit/cabin permits the wheelchair to turn inside. At the same time, the old persons unable to bath alone may have their bathing together with their helpers (Figure 30).

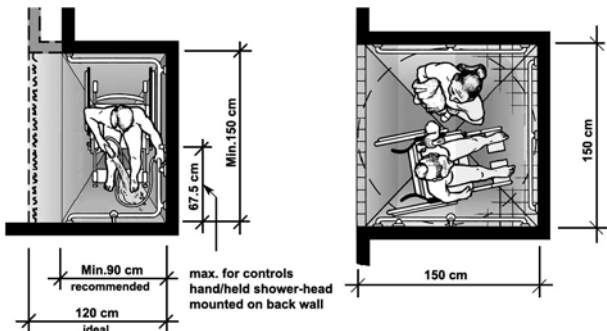


Figure 30. Shower Stall with 90 cm X 120 cm ve 150 cm X 150 cm Dimensions [46]

CONCLUSION

Our time requires a design approach which provides the physical environment and products to be usable equally by all the individuals of the society. The universal design is different from the accessible and unobstructed design. The accessible design products mean that the products and structures are accessible and usable by the disabled persons. The universal design on the other hand provides the products and structures to be used and accessed by everyone (including disabled persons).

The design and manufacture stage of the houses, in which the persons continue and spend their lives, concentrates generally on consumer needs. The aim of the universal design is to design environments usable by any person without regard to the skill level or disability of the users. Instead of performing different designs according to the different needs of the persons, houses usable by everyone should be designed. When the characteristics of the universal design, as per this paper, are applied, all the user groups will be able to live without requiring the assistance of others and will be able to perform their basic human requirements. The sizes given with the

principles are the measures of the foreign countries. For to apply the universal house understanding in Turkey, which is the approach to be accepted as the house design concept of future, in the first place statistical data about the user groups should be gathered and respective researches should be performed. Knowing the needs of all the user groups and handing such data with respective universal solutions then will bring together the understanding of houses usable by everyone.

A design guide should be prepared for to determine the principles requiring accordance in relation with the universal house design. This guide should include the principles for the new houses to be designed and also restoration principles for the existing houses to be transformed to universal using quality. This paper gives some universal house characteristics which may be used as a source while preparing the said guide.

ENDNOTES

- [1] Wolfgang F.E. Preiser, Elanie Ostroff, *Universal Design Handbook*, McGraw-Hill, 2001
- [2] Wolfgang F.E. Preiser, Elanie Ostroff, *Universal Design Handbook*, McGraw-Hill, 2001
- [3] Wolfgang F.E. Preiser, Elanie Ostroff, *Universal Design Handbook*, McGraw-Hill, 2001
- [4] Barrier Free Environments, *Doors&Entrances*, Access Information, Washington, D.C. 1981
- [5] Carol Schaake, *Residential Remodeling and Universal Design*, Barrier Free Environments, May 1996, S:17
- [6] Carol Schaake, *Residential Remodeling and Universal Design*, Barrier Free Environments, May 1996, S:12
- [7] Carol Schaake, *Residential Remodeling and Universal Design*, Barrier Free Environments, May 1996, S:15
- [8] Carol Schaake, *Residential Remodeling and Universal Design*, Barrier Free Environments, May 1996, S:13
- [9] Margaret Wylde, Adrian Baron-Robbins and Sam Clark, *Building For a Lifetime*, January 1994
- [10] Carol Schaake, *Residential Remodeling and Universal Design*, Barrier Free Environments, May 1996, S:23
- [11] Carol Schaake, *Residential Remodeling and Universal Design*, Barrier Free Environments, May 1996, S:23
- [12] www.mimar.cc, Mimari Kütüphanesi/Özürü Satandartları/Bedensel Engelliler/Binalar
- [13] Ronald L.Mace, *Fair Housing Act Design Manual*, Barrier Free Environments, Inc. August 1996, S:3.4
- [14] www.inclusionbydesign.com/worldcongress/Proceedings/Donnelly
- [15] www.inclusionbydesign.com/worldcongress/Proceedings/Donnelly
- [16] Carol Schaake, *Residential Remodeling and Universal Design*, Barrier Free Environments, May 1996, S:77
- [17] Carol Schaake, *Residential Remodeling and Universal Design*, Barrier Free Environments, May 1996, S:78
- [18] http://www.erimas.com/sofia_galeri.html
- [19] <http://www.all-access.co.uk/320.php>
- [20] Wolfgang F.E. Preiser, Elanie Ostroff, *Universal Design Handbook*, CD-Rom, McGraw-Hill, 2001
- [21] Wolfgang F.E. Preiser, Elanie Ostroff, *Universal Design Handbook*, CD-Rom, McGraw-Hill, 2001
- [22] Wolfgang F.E. Preiser, Elanie Ostroff, *Universal Design Handbook*, CD-Rom, McGraw-Hill, 2001
- [23] Omurilik Felçliler Derneği, *Özürü Kişilere Uyarlanmış Yapı*, 1989

- [24] Wolfgang F.E. Preiser, Elanie Ostroff, *Universal Design Handbook*, CD-Rom, McGraw-Hill, 2001
- [25] Bettyann Boetticher Raschko, *Housing Interior for the Disabled and Elderly*, Van Nostrand Reinhold, N.Y., 1991
- [26] Bettyann Boetticher Raschko, *Housing Interior for the Disabled and Elderly*, Van Nostrand Reinhold, N.Y., 1991
- [27] Ronald L.Mace, *Fair Housing Act Design Manual*, Barrier Free Environments, Inc. August 1996, S:7.8
- [28] Ronald L.Mace, *Fair Housing Act Design Manual*, Barrier Free Environments, Inc. August 1996, S:7.8
- [29] Ronald L.Mace, *Fair Housing Act Design Manual*, Barrier Free Environments, Inc. August 1996, S:7.9
- [30] Ronald L.Mace, *Fair Housing Act Design Manual*, Barrier Free Environments, Inc. August 1996, S:7.12
- [31] Ronald L.Mace, *Fair Housing Act Design Manual*, Barrier Free Environments, Inc. August 1996, S:7.13
- [32] Margaret Wylde, Adrian Baron-Robbins and Sam Clark, *Building For a Lifetime*, January 1994
- [33] www.metropolismag.com
- [34] Margaret Wylde, Adrian Baron-Robbins and Sam Clark, *Building For a Lifetime*, January 1994
- [35] www.bsu.edu/wellcomehome/friendly_kitchen.html
- [36] www.lineadecor.com.tr
- [37] www.bsu.edu/wellcomehome/friendly_kitchen.html, www.access-ability.com/kitchen.htm
- [38] Ronald L.Mace, *Fair Housing Act Design Manual*, Barrier Free Environments, Inc. August 1996, S:7.52
- [39] Leslie C. Young and Rex C. Pace, *Accessible Multifamily Housing* The Center for Universal Design, 2000, S:25
- [40] Carol Schaake, *Residential Remodeling and Universal Design*, Barrier Free Environments, May 1996, S:49
- [41] Ronald L.Mace, *Fair Housing Act Design Manual*, Barrier Free Environments, Inc. August 1996, S:7.45
- [42] Ronald L.Mace, *Fair Housing Act Design Manual*, Barrier Free Environments, Inc. August 1996, S:7.44
- [43] Ronald L.Mace, *Fair Housing Act Design Manual*, Barrier Free Environments, Inc. August 1996, S:7.53,55
- [44] Ronald L.Mace, *Fair Housing Act Design Manual*, Barrier Free Environments, Inc. August 1996, S:7.53,55
- [45] Ronald L.Mace, *Fair Housing Act Design Manual*, Barrier Free Environments, Inc. August 1996, S:7.59
- [46] Leslie C.Young, Rex J.Pace, *Curbless Showers:An Installation Guide*, The Center For U.D., 2003

REFERENCES

- Aslaksen, F., Bergh, S., Bringa, O.R. And Heggem, E.K., 1997, *Universal Design: Planning And Design For All*, The Norwegian State Council On Disability, Oslo
- Barrier Free Environments, 1981, *Doors&Entrances*, Access Information, Washington
- Connell, B.R., 1997, *The Principles Of Universal Design*, The Center For Universal Design, N.C. State University, Raleigh
- Duncan, R. And Pace, R., 2000, *Affordable And Universal Homes*, The Center For Universal Design, N.C.State University, Raleigh
- Hacihasanoglu, I., "Tasarım Kuram", *Evrensel Tasarım*, Sayı:3, Mayıs 2003
- Jones, M., 1995, *The Benefits Of Universal Design In Housing To All Users*, The Center For Universal Design, N.C.State University, Raleigh

- Mace, R., 1990, Definitions: Accessible, Adaptable, And Universal Design, The Center For Universal Design, N.C.State University, Raleigh
- Mace, R.L., 1988, Universal Design: Housing For The Lifespan Of All People., Md: U.S. Department Of Housing And Urban Development, Rockville
- Mace, R.L., 1998, Universal Design In Housing, The Center For Universal Design, N.C.State University, Raleigh
- Mace, R.L., Young, L.C., Sıfırın, G., 1998, Fair Housing Act Design Manual, Barrier Free Environments, Inc., Raleigh, North Carolina
- Omurluk Felçiler Derneği, 1989, "Özürlü Kişilere Uyarlanmış Yapı"
- Peterson, M.J., 1996, Universal Bathroom Planning: Design That Adapts To People, National Kitchen And Bath Association, Hackettstown Nj.
- Peterson, M.J., 1996, Universal Kitchen Planning: Design That Adapts To People, National Kitchen And Bath Association, Hackettstown Nj.
- Risd (Rhode Island School Of Design), 1998, The Universal Kitchen:Research, Analysis And Design, Rhode Island School Of Design
- Schaaek, C., Mace, R.L. And Pace, R., 1996, "Residential Remodeling And Universal Design: Making Homes More Comfortable And Accessible", Barrier Free Environments, Inc., Raleigh, North Carolina
- Steinfeld, E., 1994, The Concept Of Universal Design, Center For Inclusive Design&Environmental Access, New York
- Steven Winter Associates, 1996, Homes For Everyone: Universal Design Principles In Practice, Dc:U.S.Department Of Housing And Urban Development, Washington
- Steven Winter Associates, 1997, Accessible Housing By Design: Universal Design Principles In Practice, Ny:Mcgraw-Hill Text, New York
- Story, M.F, Mueller, J.L. And Mace, R.L, 1998, The Universal Design File: Designing For People Of All Ages And Abilities, The Center For Universal Design, N.C.State University, Raleigh
- The Center For Universal Design, 2003, Universal Design Features In Housing, The Center For Universal Design, N.C.State University, Raleigh
- Thiberg, S., 1996, "Engelsiz İnsan Yerleşmelerine Doğru", *Diğerlerinin Konut Sorunu*,S:293-297, E.Komut(Ed), Mimarlar Odası, Ankara
- Wolfgang F.E., Ostroff E., 2001, "Universal Design Handbook", , Mcgraw-Hill
- www.access-ability.com/kitchen.htm
- www.all-access.co.uk/320.php
- www.bsu.edu/welcomehome/friendly_kitchen.html
- www.bsu.edu/welcomehome/friendly_kitchen.html
- www.erimas.com/sofia_galeri.html
- www.inclusionbydesign.com/worldcongress/proceedings/donnely
- www.lineadecor.com.tr
- www.metropolismag.com
- www.mimar.cc, mimari kütüphane/özürlü satandartları/bedensel engelliler/binalar
- Wylde, M., Baron-Robbins, A. Clark, S., 1994, Building For A Lifetime: The Design And Construction Of Fully Accessible Homes, Ct: The Taunton Pres, Newtown
- Young, L. C. And Pace, R. C.,2000, "Accessible Multifamily Housing" The Center For Universal Design, S:25
- Young, L. C. And Pace, R. J., 2003, Curbless Showers:An Installation Guide, The Center For Universal Design, N.C.State University, Raleigh

REGENERATION OF A TRADITIONAL RESIDENTIAL AREA: SAMANBAHÇE SOCIAL HOUSING IN THE WALLED CITY OF NICOSIA

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ABSTRACT

Samanbahçe is a unique residential area located in the Walled City of Nicosia. As a charming early (c1900) example of social housing, it has many remarkable architectural and urban features. However, today the Samanbahçe area is suffering from social and physical decline due to the social, economic and physical changes that started in the walled city after 1974. This paper aims to evaluate the current situation of the area and, accordingly, to suggest renewal/regeneration proposals in order to achieve the sustainable transformation of the area. The method of the study is a field survey with questionnaires and observations aimed at collecting information about the residents of Samanbahçe area and identifying their satisfaction level with their neighborhood. Findings imply that the Samanbahçe area can be used for three different purposes: as a housing area for a mix of occupants-families with two children-elderly people-singles; as a hub of student accommodations and as a mixed-used touristic complex. The physical features of the area should be adapted and renewed according to the requirements of each proposal.

Keywords: Samanbahçe Social Housing, Traditional residential areas, Neighborhood regeneration, Sustainable transformation

INTRODUCTION

The globalization and modernization trends that began in the last century have been affecting all cultures across the globe and are drawing differing cultures towards uniformity. Due to the changes wrought by this globalization process, the contemporary needs of the community lead residents living in the traditional districts to change and transform their built environment, which results in the deterioration of environmental identity. The transformation process that old cities have been experiencing is the main reason for the physical decline of urban neighborhoods. The contradictory relationships between global trends and local values are posing a danger to traditional historic areas as they begin to lose their unique characteristics. It is for this reason that physical and social decay and the resulting decline of traditional residential areas have become widespread phenomena in today's debate.

The walled-city of Nicosia is one of the traditional cities that has been affected by the modernization and globalization process. Residents' desires for contemporary life styles serve as catalysts for the establishment of new residential, commercial and recreational areas outside the walls of the traditional city. Samanbahçe is a residential district located in the walled-city of Nicosia and is one of the districts where the effects of transformation process are being greatly felt.

Within this context, this study first investigates the unique values of the Samanbahçe residential area and then tries to determine the conflicts between the physical environment and its users. Based on the field study conducted at both architectural and urban levels, the aim of this study is to develop proposals for regenerating the area.

Accordingly, this paper is divided into four parts. The first part introduces neighborhood regeneration as the theoretical underpinnings of the study. The literature review concentrates on neighborhood regeneration, or urban renewal, at the neighborhood level. In the second part, the transformation process of the Walled City of Nicosia and emerging problems are introduced. In the third part, the Samanbahçe residential area is first presented in context with its history and its urban and architectural characteristics in order to define the unique character of the area; and then the findings of the field survey are analyzed and interpreted. The last part discusses the regeneration proposals and the main issues that can be involved in this process.

The findings of this research are expected to reveal what kind of steps can be taken to maintain the livability of the area and how this area can be integrated into overall urban life and thus allow for its sustainability. Moreover, the end product of this study will be the provision of clues for designing new housing projects, which benefit more from local values. Finally, the total outcomes of this research may give insights for the regeneration of Samanbahçe traditional residential area.

TRANSFORMATION AND REGENERATION PROCESS IN TRADITIONAL RESIDENTIAL DISTRICTS

Following the progress of history, old cities are in a constant process of metamorphosis and unavoidably have to face the necessity of continuous regeneration. Change is, indeed, the most important and fundamental characteristics of nature. Human beings change their environment in order to survive and change will keep its continuity as long as struggle for life goes on. Towns and cities also change over time and this process of change is both inevitable and can be viewed as beneficial. As the years pass, transformations take place, allowing the city to constantly rejuvenate itself in a natural and organic way (Broudehoux, A.-M., 1994).

In the literature there are many terms used by different scholars to reflect different perceptions of the physical environment's planned transformations, such as urban regeneration, urban revitalization, gentrification, neighborhood renewal, rehabilitation and renovation. The term urban renewal is used to refer to the general process of transforming the urban environment and is often presented as a natural process

through which the urban environment, viewed as a living entity, undergoes transformation (Broudehoux, A.-M., 1994).

On the other hand, neighborhood regeneration can be defined as the renewal of existing residential quarters with the purpose of improving their present condition towards a clear single aim, to improve the quality of life. Understanding the regeneration process involves not only physical and environmental aspects, but also economic and financial, social and community issues. Likewise, according to Kaufman & Carmon (1992), the forces behind the revitalization process are demographic, economic and cultural. However, for the purposes of this paper, a greater emphasis will be placed on sustainable development of physical and environmental aspects. As a long-term cycle activity, the practice of regeneration calls for the public, private, and community and voluntary sectors working together (Roberts, P.W & Sykes, H., 2000).

There are a number of principles of urban regeneration reflecting its challenges and outcomes. Regeneration should:

- be based upon a detailed analysis of the condition of the neighborhood area;
- achieve the adaptation of the physical fabric through the implementation of comprehensive and integrated strategy;
- be developed in accordance with sustainable development;
- make the best possible use of natural, economic, human and other resources including existing features of the built environment (Roberts, P.W & Sykes, H., 2000).

Residential areas form one of the most fundamental elements of the historic urban fabric in traditional urban quarters, not only in terms of their physical, architectural characteristics, but also because they serve as social integration zones within the whole urban tissue (Doratlı, et. al, 2001). But it is not only the built environment that plays a major role, the profile of the user also represents another key factor, especially in analyses of the residential districts of old cities. Both the built environment and the residents living in traditional residential districts are the main factors affecting the preservation and sustainability process of the identity of the area. This means that regeneration also involves gentrification as a secondary process. A concept worthy of note about this issue is the term “the invasion-succession cycle”. It expresses changes in population composition, the replacement of higher-status groups by lower-status groups in particular, resulting in the deterioration of the neighborhood in general. Theoretically, however, movement can occur in either direction along the continuum. Thus, this commonly held pattern can be reversed; that is, lower status groups may be replaced by higher status groups, resulting in the raised quality of physical environment (Palen, 1984). However, most of the planned regeneration strategies usually aim to attract a diversified mix of income groups.

TRANSFORMATION PROCESS OF THE WALLED CITY AND EMERGING PROBLEMS/DEFICIENCIES

Due to its strategic location in the eastern Mediterranean, Cyprus had been ruled by different conquerors and colonial powers throughout its history. All have left their mark on the face of the island and especially on the form of the urban and rural settlements. The urban form of the walled city of Nicosia, as the capital of the island, evolved under the influences of Lusignan (1192-1489), Venetian (1489-1571), Ottoman (1571-1878), British (1878-1960) and Cyprus Republic (1960-1974) (Gunnies, 1973). Hosting people from different backgrounds, the city of Nicosia underlines the multicultural identity of the island (Numan, I., et al., 2001). In 1974, the city was divided between north and south. The border between North Cyprus and the south was drawn directly through the middle of the city of Nicosia, such that the Turkish area in the north and the Greek Cypriot area in the south of the walled city were divided. The UN established and still maintains this border known as the Green Line.

The political circumstances that caused the division of the town have had unfortunate effects on economic and living conditions in Nicosia, and the north part of the walled city has lost its attractiveness. Local residents abandoned the walled city and moved to the periphery of Nicosia. Worker families who migrated from the eastern part of Turkey began to be the predominant group in the walled city. This low-income population caused crime rates to rise in the walled city. Since then, a process of decay and deterioration started in the walled city. The Samanbahçe residential area also began to suffer from that social and physical decay, just like other historic quarters of the walled city.

Changes in the globalization process and conflicts of local/global dynamics have also caused the area to undergo significant changes. Factors such as the changes in the life style of inhabitants, lack of modern sanitary conditions that can meet contemporary needs, insufficient infrastructure and dilapidation have all accelerated this process of change. Lacking high levels of education and alienated from their built environment, the new low-income users started to change and transform their physical environment according to their presumed needs. The lack of awareness of these inhabitants during this process has caused many problems, resulting in the deterioration of environmental identity. Likewise, Doratlı et al. (2001) stated that the changes in the population due to mobility and physical distribution have accelerated physical, functional, locational and image obsolescence at varying degrees.

Because the physical deterioration poses a threat to the local/traditional characteristic of the district, a comprehensive master plan was created to regain this open-air museum with its rich cultural mosaic. Within the context of this plan, a restoration project for the Samanbahçe area financially supported by UNDP (United Nations Development Programme) was implemented. The restoration project was realized within a short time starting in 2003 and lasting through 2004. The target beneficiaries of the restoration project are the underprivileged sections of the society. The objective was to transform Samanbahçe, the oldest known social housing district in Nicosia, into a charming traditional neighborhood. The proposal consisted of two sub projects:

1. Infrastructure and landscaping (upgrading of existing infrastructure such as power supply, telephone lines, sewerage system, water supply; pedestrianisation of streets; limitation of vehicular traffic and improvement of parking area; restoration of the historic fountain)
2. Rehabilitation of traditional buildings (primarily their façades and roofs) (Evkaf Documents, 2004).

As is clear, the UNDP project placed emphasis on the appearance of the area. However, if they are to be solved, the problems of Samanbahçe Social Houses require a more comprehensive project that extends beyond that which is solely restorative. Instead of only façade restoration that resembles make-up to attract tourists, the area should have been renovated according to actual user needs at building and urban scales--both in interior and exterior spaces.

PROBLEM AND RESEARCH STRATEGY

Considering the brief transformation process summarized above, the research questions, which we endeavored to answer, can be stated as follows:

- What are the unique values of the area deriving from local identity in terms of its architectural, urban and socio-cultural characteristics?
- Which of these values create conflict with the physical environment and which of them can still be maintained?
- What might be the possible regeneration proposals for sustainable transformation of the Samanbahçe area?

The study rests upon both a qualitative and quantitative analysis. The method includes a field survey with questionnaires and observations and an analysis of the area in context by using visual data with photographs and maps. The main objective of the field survey was to collect information about the residents of Samanbahçe area and their satisfaction level with their neighborhood. This combined strategy will serve the aim of understanding of how to achieve a sustainable transformation process of the area.

Samanbahçe Residential Area in Context

Historical Background

Samanbahçe is the first social housing development of the walled city of Nicosia and a unique residential area due to its distinctive architectural and urban characteristics. The area was built in the early years of British sovereignty and today is listed as a third class historical monument. These houses have been inhabited by low-income families for over a hundred year and are managed by the Evkaf Foundation (1).

The Samanbahçe area was originally a garden belonging to Shaban Pasha. Its original name is Shaban (Şaban) Bahçe which means “Şaban’s Garden” in Turkish. As such, it was one of the several gardens used for growing fruit and vegetables for the inhabitants of the walled city. As the population increased and the demands for

housing grew, demand for sites for construction rose and the gardens inside the walled city began to be used for housing purposes (Evkaf Documents, 2004).

Although the exact date is not known, records show that by 1894, Samanbahçe was partially built and called “Shaban Pasha Houses”. According to historical documents, the delegate of Evkaf, Musa Irfan Bey prepared and applied the Samanbahçe Housing Project. The complex is important as the earliest example of urban planning in the city, as well as being a social housing development to support low-income families. There are 72 houses in the complex, which were built in stages, the earliest and majority completed by 1900; new houses were added in 1949 and finally the project was completed with the last additions in 1955 (The Nicosia Turkish Municipality, 2009).

Urban Layout

The Samanbahçe houses cover an area of 2000 square meters and are located on the north-west edge of the walled city of Nicosia behind the main street of Kyrenia Avenue and very close to the bastion of Quirini (3), as illustrated in Figure 1. It has separate housing units along 5 rows parallel to Kyrenia Avenue; currently 153 low-income residents are living in the Samanbahçe area (UNDP, 2007).

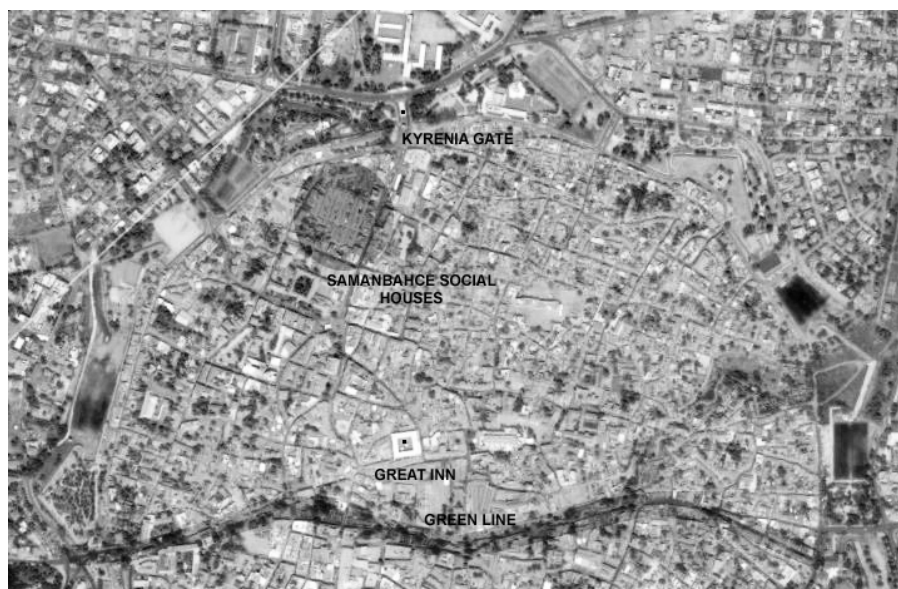


Figure 1. The location of Samanbahçe Social Houses within the pattern of Walled City of Nicosia

It is not easy to perceive the Samanbahçe area when you enter the walled city from the Kyrenia Gate and walk down to the center of walled city. Although it has three direct and one indirect access points to the surrounding city fabric, it is much like a hidden neighborhood tucked behind the main surrounding axis (Figure 2). This hidden-like layout keeps noisy traffic away from the residential areas. The central location of the area in the walled city also affords residents easy access to transportation and shopping streets.



Figure 2. Connections of Samanbahçe area to the surrounding city fabric

Parallel-organized linear streets, an imported scheme from England, introduced a new urban pattern to the organic pattern of the walled city of Nicosia. One-storey houses were organized back to back and settled in rows, forming pedestrianised narrow streets, with gardens and a central square. The Samanbahçe urban layout follows a rigid grid street system with straight north-south and east-west orientations (Figure 3).



Figure 3. Site plan of Samanbahçe Social Housing in the Walled City of Nicosia (Evkaf Documents, 2004)

The site plan of Samanbahçe Houses is characterized by a central axis and its emphasis on hierarchy, regularity, horizontality and symmetry. The height of one storey housing unit is proportionally related with the street width, thus retaining a human scale in the district. Attached courtyard houses cross in a small square that includes a hexagonal planned fountain with a depot and a dome fountain, which was used to provide water to the complex. The fountain is the focal point of the area and also an important meeting point for the neighborhood. A large open space in the northern corner of area is used for parking and a children's playground (Figure 4).



Figure 4. Roof silhouettes of the Samanbahçe area.

Architectural Characteristics

The buildings are single storey and terraced with similar measurements. The houses are of modest size; each of them is 85 m². In the original plan of the standard dwellings, the main entrance door first opened to the main living room in the middle, which is an open-ended sofa leading into a very small courtyard (Figure 5). Two bedrooms having openings of 1 to 2 proportions to the narrow street are arranged on two sides of the sofa/main room. The kitchen, WC and bathroom of the original houses were accessed through the courtyard and they had no running water. The sizes of these service units were very small, making them altogether unable to meet contemporary standards.

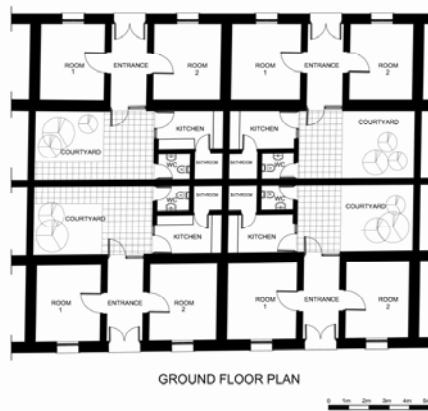


Figure 5. Typical ground floor plan of Samanbahçe Social Houses (Evkaf Documents, 2004)

The neat, plain, white single storey dwellings with red tiles roofs were constructed with local-traditional materials. The main entrance door, which has a frame made of limestone, gives a unique architectural façade quality to the houses (Figure 6). The houses were built on 50 cm. high stone foundations and then local mud bricks were used for the walls. The roofs consist of wood beams and are covered with wickerwork and mud. The tiles used are local and canal type. The floors were originally covered with local white slabs of marble (Evkaf Documents, 2004).

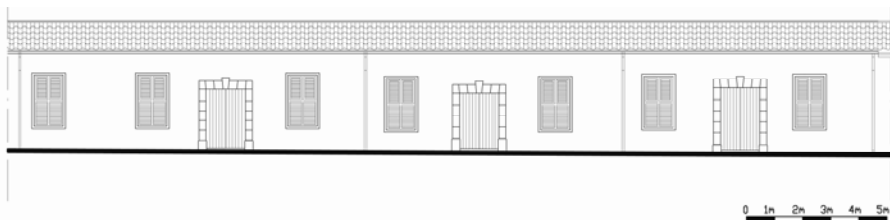


Figure 6. Partial street silhouette of Samanbahçe Houses (Evkaf Documents, 2004)

The original plan of the standard dwellings reflected the layout of the traditional Cypriot house, which has one main difference from traditional Turkish House. Unlike the elements of privacy maintained in the traditional Turkish House --significant and dominant forming factors, the Cypriot houses provide direct access to the street; thus, the ground floors of houses are combined with the streets, resulting in common living-socializing spaces with neighbors. Even though the typology is the same, the houses around the fountain were built with a slightly different plan from the rest of the houses. As Doratlı et al. (2001) stated that the differentiation, which stems from the formal qualities, shows a round character at the corners in order to surround the existing fountain on the site.

Field Survey

Questionnaires were carried out with forty-five residents, since five of the houses were locked, seven out of total number of residents did not want to participate and fifteen out of total number of residents could not be reached. The questions in the questionnaires focused on:

- Satisfaction with the neighborhood,
- Satisfaction with the relationships with neighbors,
- User preferences for the future,
- User profile (demographic and socio-economic characteristics).

Satisfaction with the Neighborhood

Respondents were asked about their satisfaction with the neighborhood on a Likert scale with five intervals (from very satisfactory-1 to very unsatisfactory-5). According to the results, most of the occupants of the Samanbahçe Social Houses were satisfied with living in their neighborhood (average mean: 2.24). Respondents were also asked to describe the most positive features of their neighborhoods. Most of them (21%) described their satisfaction using adjectives such as calm, quiet, comfortable, spacious etc. that can be combined under the category of perceptual quality of the environment. Other important features were determined as the visual quality of the neighborhood (18%), including façades of the houses, appearance of streets, being a historical place, the central location of the area (16%) and neighborhood relations among the residents (15%). The other mentioned positive features of the area are pedestrianised streets; accessibility of the area and the comfortable climatic conditions of houses since building material is local mud brick.

On the other hand, the most negative feature that respondents voiced are the physical features of the houses (43%), including complaints related to small size, humidity and limited natural light of interior spaces. Many of the residents described the neighborhood as calm and quiet and only the residents whose houses are located near a restaurant which is on the axis of the central fountain and elderly residents who complained about children's noises gave noise pollution as one of the negative features of the neighborhood (20%).

Regarding to the physical conditions of houses, the majority of the residents (78%) stated that they have made interventions to their houses, including spatial additions

and/or maintenance. Due to the insufficient physical and sanitary conditions in kitchens, baths and WC s, 80% of residents have converted their courtyards into interior space and rearranged wet spaces. 17.1% of residents needed both additional spaces and maintenance, whereas 2.9% undertook only maintenance. It is also observed that maintenance levels are lower in buildings inhabited by the elderly; thus, the percentage of the household size of one person also indicates that 16.2 % of Samanbahçe houses almost entirely retain their original plan with no additions.

Since there is limited/or no courtyard space left in many of the houses, the remaining open spaces are used as storage, and include water tanks and antennas. This kind of utilization of open spaces damages the unique identity of the area and creates a “visual pollution” in term of the perception of environmental quality (Figure 7).



Figure 7. “Visual pollution” in Samanbahçe Houses which is caused by the misuse of courtyards

Briefly, interpreting all the data about neighborhood satisfaction, it is observed that users are much more satisfied with the visual quality of their neighborhood, whereas they are quite dissatisfied with the physical quality of houses.

Satisfaction from the relationships with neighbors

Neighborly relations are generally defined as “very good” (88%) by the residents. As it comes to frequency, respondents stated that they meet with their neighbors every day, even two or three times during the daytime. In addition to this, respondents were asked about the places of meeting with neighbors. According to the results, they preferred to use the pedestrianised streets in front of their houses, so all of the open space activities take place on that street. The street is used as a common place where all the neighborhood relations occur by sitting and chatting together, especially

during long summer nights (78%). They also use this space for drying clothes outside, growing plants and as a play ground for children (Figure 8).



Figure 8. Different use patterns of outdoor spaces.

Most of the residents defined the street as the “guest room” of their houses, which means that the streets are like outdoor communication rooms for users. All the analyses of the neighborhood relations showed that the role of the streets is the most significant factor for the sustainable transformation of the area. This verifies that outdoor use of streets which is one of the traditional characteristics of the walled-city, is also the major characterizing feature of the Samanbahçe area.

User preferences for the future

Residents were asked about their preferences for the future: whether they prefer to stay or move to another house. Most of the residents (80%) prefer to remain living in their current houses for two main reasons, the most important being the place-attachment (46.9%), especially for elderly Turkish Cypriot people, while the second is economic incapability (36.7%). These two reasons were followed by the central location of the area (10.2%) and neighborhood relations (6.1%). The residents who stated that they would rather not remain in the neighborhood (20%), are considering moving to another place and living in a new house with better physical conditions.

User profile

Household size: According to questionnaire results, the majority of the families comprise two people (34%), four people (18.6%) and one person (16.2%), with an average household size of 3.25 (Table 1). The data show that 44.1% of the families include more than 3 people, meaning that almost half of the residents live in insufficient sized houses since Samanbahçe houses’ physical conditions are only appropriate for families with one child, or 3 person families.

Period of habitation: According to the survey, the average period of habitation is 24 years. The majority of the families (71.4%) have been living in the area for over ten years (Table 1).

Income level: Even though the residential population of the Walled City has changed over 40 years from higher and middle income to low income, the Samanbahçe area has always been occupied by low-income families. As shown in Table 1, the majority of the residents (61%) consist of low-income families whose individual average income is 0-500TL per month.

Tenure and rent paid: Since the Samanbahçe Houses are the legal property of the Evkaf Foundation, all of the interviewed families are tenants. The amount of rent varies between 50 TL and 300 TL per month. The older tenants generally pay lower rent than the newer tenants. The data show that 63.3% of residents pay a rent that ranges between 0-100 TL per month (Table 1).

Table 1. Data showing household size and income level of residents and the amount of rent paid by residents

Household size	Percentage 100%	Period of habitation (years)	Percentage 100%	Income level (TL per month)	Percentage 100%	The amount of rent (TL)	Percentage 100%
1	16.2	0-5	9.5	0-500	61	0-50	26.8
2	25.5	6-10	19	500-1000	33.3	51-100	36.5
3	13.9	11-20	28.5	Over 1000	5.7	101-150	21.4
4	18.6	21-30	21.4			151-200	12.1
5	11.6	over 30	21.4			201-300	2.4
6	13.9						

Education level: The vast majority of residents graduated from elementary school, 36.9% females and 29.8% males, which is a tight correlation with the occupational ranking of residents. As it is shown in Table 2, most of the working population are workers (37.2%) and the majority of families have no working households (39.5 %), which also shows the percentage of retired elderly population. Overall, all these data show that the majority of Samanbahçe residents belong to low-social class status.

Table 2. Data showing education level according to gender, number of working household and employment

Education level (%)	female	male	Number of working household (%)		Employment (%)	
No education	17.4	11.4	0	39.5	Laborers	37.2
Elementary school	36.9	29.8	1	25.6	Civil servants	20.9
Secondary school	17.8	17.9	2	23	Freelance	18.6
High School	13.6	19.4	3	6.9	Other	23.2
University	12.3	20.8	4	2.3		
Master	1.3	1.4	5	2.3		

Age distribution and nationality: According to survey results, most of the female population is elderly widows (25.9 %) and most of the male population is aged between 21-40 (adult). The majority of wives (57%) in the families are original Turkish Cypriots (TRNC), whereas the majority of husbands (49.2%) are from Turkey (TR) (Table 3).

Table 3. Data showing nationality and age according to gender

	Age (%)					Nationality (%)		
	0-10	11-20	21-40	41-60	over 60	TRNC	TR	other
Female	6.8	19.1	24.5	23.2	25.9	57.5	36.9	5.4
Male	10.4	10.4	35.7	28.3	14.8	44.7	49.2	5.9

As a result of the analyses and evaluations of the field survey, recommendations will be given for the enhancement of the built environment's quality for the next step.

REGENERATION PROPOSALS FOR THE SAMANBAHÇE AREA

Considering the findings of the field survey, which are explored in the previous section, the first proposal is to keep the traditional district on its own as a housing area, while the other proposals are based on the "functional restructuring / adaptive re-use" principle. In this respect, the regeneration proposals for Samanbahçe area can be outlined as below:

1. Samanbahçe as a housing area for a mix of family-elderly-single occupants:

The first proposal is based on the sustainability of the area with its present characteristic as a residential area only by rearranging the user profile. In the present condition, the spatial characteristics of the houses are inadequate and very poor, thus having no possibility of expansion. It has been determined that there are families with more than two children and the physical condition of the houses are insufficient for that kind of family structure. It is also observed that this user profile causes some problems for other residents, especially for elderly residents. By taking all these reasons into account, it is clear that these houses are suitable only for families with a maximum of two children. Furthermore, because of the traditional Turkish family structure, there is generally only a limited number of houses for singles in Nicosia. On the other hand, as there are more elderly people living in the area, providing accommodation only for elderly people may result in their social isolation. For this reason, it is proposed that the Samanbahçe houses need to be reorganized in order to serve three different user groups: families with a maximum of two children, singles and elderly people.

2. Samanbahçe as a hub of student accommodation: As students are the other potential user group providing congruity with the environment, the second proposal is to reorganize the area as a hub of student accommodations. Considering the great number of university students living in Cyprus, the proximity to universities and central location in the city are the main reasons for opening the area to university students. In addition to student accommodations, some of the houses can be used

as spaces for international workshops. In this way, it is expected that the Walled City of Nicosia can be enlivened by the presence of students.

3. Samanbahçe as a mixed-used touristic complex: The third proposal aims to transform the area into a mixed-used touristic complex and create a central place in order to attract tourists to the area. Because it is a solely residential area and is occupied by low-income users, the area becomes deserted during the night time. For this reason, some supplementary functions need to be added to keep the area as a 24-hour living place. With this in mind, recreational areas such as restaurants and cafes, the offices for civil society institutions and partial touristic accommodation can be proposed for the livability of the area. By locating the restaurants and cafes close to the main axes of the walled city and the tourist accommodation at the rear side of area, it is possible to isolate the houses from the noise pollution of the recreational functions by placing the offices as a buffer zone. Therefore, the Samanbahçe area can be transformed into a centre living during both day and night time. However, a more comprehensive renovation is needed for the interior spaces of the houses.

For each of the proposals, there are some common renovations which are required for the physical structure of houses in order to provide their sustainability. These renovations can be summarized as the followings:

- Rearrangement of the wet spaces,
- Removal of water tanks, antennas and all the other storage materials that have been added to the courtyards in order to regain outdoor space function of that space. With this purpose, a basement floor can be added to be used as storage space,
- Provision of street furniture like shading and sitting elements,
- Repairing roofs and preventing leakage,
- Rearrangement of the car parks located in the north and south parts of the area.

CONCLUSION

Samanbahçe residential area has many unique values deriving from its cultural, climatic, geographical characteristics and, accordingly, the life-style of local people. The restoration project carried out earlier with the financial support of the UNDP served to renovate only the exterior spaces and the facades of the houses, whereas the major problems of the neighborhood are due to interior spaces and the incongruity between environment and users and these problems continue to exist. In this respect, regeneration proposals for the Samanbahçe area should take into account all the socio-economic and unique physical features of the environment.

No income is being expected from the rents, since the district is managed by the Foundation of Evkaf. On the other hand, this kind of management also prevents the development of the quality of the physical environment in the area. While tenants are currently trying to repair their own houses through their own economic resources, the participation of the private sector to this regeneration process will encourage the development of quality of environment. Private and public sectors working together should attract people from different socio-economic backgrounds.

As the outcome of this paper, the three proposals reflect the combination of different aspects between continuation of the unique characteristics of the district and the features that need to be changed so as to accord with contemporary needs. In other words, it is thought that they can be mediating points between the problems and opportunities of the area with the applications of appropriate interventions to achieve the regeneration process. This paper intends to bring these proposals into discussion in order to determine the best solution for the area. As is clear, the appropriate regeneration proposal should be a sum of the past experiences and should explore new solutions that extend beyond the existing models.

ENDNOTES

- [1] Samanbahçe Housing Estate reflects the philanthropic philosophy of Evkaf Foundation based on the love of human beings; the Evkaf Foundation is a funder member of the Brussels -based European Foundation Centre. Available at: <http://www.kktcbasbakanlik.org/baglibirlik.php?L=EN&B=31>

REFERENCES

- Broudehoux, Anne-Marie, 1994, **Neighborhood Regeneration in Beijing, An Overview Of Projects Implemented in the Inner City Since 1990**, Minimum Cost Housing Group.
- Doratlı, N., Onal, S., Numan, İ., Mulladayılar, N., Abbasoglu, M. S., 2001, **Revitalization a Declining Residential Area- Samanbahçe -In the walled city of Nicosia, Traditional Environment in New Millennium Defining Principles and Professional Practice**, Amasya-Türkiye.
- Evkaf Foundation Document, 2004, **Proposal for the Restoration of Samanbahçe Social Housing Estate**.
- Gunnies, R. 1973, **Historic Cyprus**, K. Rustem & Bro., Nicosia, Cyprus.
- Kaufman, J.B. & Carmon, N., 1992, **Encouraging Residential Revitalization: A Method for the Selection of Target Neighborhoods**, The Journal of Architectural and Planning Research, 9:1.
- McGill University School of Architecture, Canada, Available at: <http://www.mcgill.ca/mchg/student/neighborhood/>
- Numan, İ., Dinçyürek, Ö., & Pulhan, H., 2001, **Multi-cultural Influences on the Development of Traditional Urban Fabric of Nicosia, Traditional Environment in New Millennium Defining Principles and Professional Practice**, Amasya- Türkiye.
- Palen, J.J., 1984, **Gentrification, Displacement and Neighborhood Revitalization**, Suny Press, London.
- Roberts, P.W & Sykes, H., 2000, **Urban Regeneration, A Handbook**, Thousand Oaks and New Deli: Sage Publications.
- The Nicosia Turkish Municipality, 2009, **Historical Places, Samanbahçe**, Available at http://www.lefkosabelediyesi.org/english/index_eng.html
- UNDP, 2007, **Samanbahçe Area**, Available at http://www.undp-pff.org/index.php?option=com_content&task=view&id=94&Itemid=158

A METAMORPHOSIS INTERROGATION ON CONSERVED HISTORICAL BUILDINGS: TRABZON KUNDURACILAR EXAMPLE

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ABSTRACT

Within the contemporary culture, all material products that constitute the basics of present applications and give information about their construction period are defined as an object that has the value of conservation. The aims of “*Preservation*” is to preserve something and to interact when it's needed. The goal of preservation is to understand the cultural development, to gain personality and identity, to create a qualified and profitable historical environment that have the richness to give an answer to the various tendencies in communities.

The Historical Environments and the Historical Buildings that are agreed to create the historical sites, are remained standing until today as damaged, repaired, or re-built. It is tried to develop historical buildings to be able to give an answer to the needs of present time by changing their original functions and shapes to conserve them until today. Within a period of time, the buildings which are tried to adapt to the present day's context are seened “*metamorphosed*” because of the effects of cultural changes, functional changes, the changes in architectural styles, economical reasons and the functional needs.

Metamorphosis Conception; is explained with Parmenides's thoughts as the loose of one of the attributes surely in the period of time while the attributes are reciprocating; also it's handled with the opposite thoughts of Herakleitos to Parmenides as; not to loose and not to change of any attributes of objects while reciprocating, only to keep in background in terms of sensation. Aristoteles is explaining the metamorphosis conception with the same thoughts with Herakleitos as; the existent and disappeared one is not the object, it is the attributes of the object. Aristoteles is going on his explanation with examining the relationships between the shape and the sensation which is a kind of qualitative change [1].

In this paper; “*Metamorphosis Conception*” which will be examined under “*Conservation Conception*” will be handled on the example “*Kunduracılar Street*” which is one of the important historical commercial districts of Trabzon. The facades of the Historical Buildings which are situated on Kunduracılar Street shows the architectural and aesthetics characteristics of their own time. The changes which are occurred on these facades in the period of time because of the economical, technological, cultural and administrative decisions reasons will be studied in this paper. This study will especially become intense on the sensation dimensions of the metamorphosis of the facade systems on historical buildings in the context of continuity. In this meaning, the changes which are occurred because of the repairs on the Historical Buildings that are situated on Kunduracılar Street will be researched.

Keywords: Conservation, Metamorphosis, Trabzon, Kunduracılar Street, Continuity

INTRODUCTION

Conservation Conception is defined as to keep away, to preserve an object from internal or external effects and to interfere when it's necessary. Within the contemporary comprehension of history and culture, every physical product that forms a basis for present day's applications and gives information about it's production period is defined as an object that has a value of protection. Conservation bears the aims of understanding the cultural improvement, to bring in personality and identity, to develop relation sensations, to create a productive and high quality historical environments that have the wealth to respond the various orientations of the community [2,3]

The Historical Environments and the Historical Buildings that are agreed to create the historical sites, are remained standing until today as damaged, repaired, or re-built. It is tried to develop historical buildings to be able to give an answer to the needs of present time by changing their original functions and shapes to conserve them until today. Within a period of time, the buildings which are tried to adapt to the present day's context are seen "*metamorphosed*" because of the effects of cultural changes, functional changes, the changes in architectural styles, economical reasons and the functional needs [3,4,5].

Metamorphosis Conception; is explained with Parmenides's thoughts as the loose of one of the attributes surely in the period of time while the attributes are reciprocating; also it's handled with the opposite thoughts of Herakleitos to Parmenides as; not to loose and not to change of any attributes of objects while reciprocating, only to keep in background in terms of sensation. Aristoteles is explaining the metamorphosis conception with the same thoughts with Herakleitos as; the existent and disappeared one is not the object, it is the attributes of the object. Aristoteles is going on his explanation with examining the relationships between the shape and the sensation which is a kind of qualitative change [1,5].

When the metamorphosis conception is considered in the concept of conservation, it's defined as becoming stranger to it's original architectural identity as the result of the interferences that happens to the historical building with the aim of providing the physical needs of present time within the building's evolutionary development. From this point of view; the interferences happens in the aim of providing the comforts conditions and maintaining the structure of historical buildings which are projected to reuse within the context of continuity, do not effect the identity of the building when the interferences are not more than continual-upkeep or repair [4,5]. But when these interferences are like;

- changing the mass proportions of the building,
- changing the building's physical style by adding some new additions in the same / different properties with building,
- destroying the ruined parts and then rebuilding them,
- restoring the each parts separately which were become deformed,
- changing the architectural plans of the building,
- transforming the unused flats of the building (generally ground floors) especially into the simple spaces with the aim of trading,
- changing the elevations of the building,

- renovating the construction with the materials which are not suitable for that building style,

then we can say that the historical buildings are metamorphosed. Larkham defines the metomorphosed buildings which were able to stay until today as “Bad Practices”; and the historical buildings which were conserved their original characters until today by continual-upkeep and repair, as “Good Practices”. He attracts attention on the subjects especially on the small scaled commercial buildings; the harmony and the similar characters of the window systems between the ground floor and the upper floors, taking shape of the fascia signs such as not to upset the elevation aesthetics, and to advertise the whole building by itself not only with the fascia signs, define the “Good Practices”; to provide the commercial advertisement activities only by the facial signs which are exceptional for the ground floors, to lose the completeness of the front elevation of the commercial building in this meaning, to lose the attractiveness of the upper floors in the same meaning, and to form an unsystematic view on the whole elevation which is now away from aesthetics, define the “Bad Practices” [5].

Table 1. Larkham’s definition for good and bad practices in conservation [5].

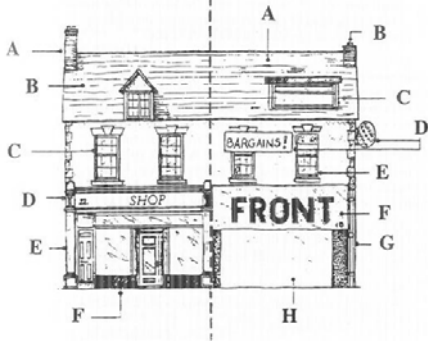
<div><div>GOOD PRACTICE</div><div>BAD PRACTICE</div></div> 	
Good Practice	Bad Practice
<div>A. Chimney repaired; retains character. B. Roof repaired and maintained: guardsstructure from decay C. Sympathetic restoration of original features D. Console bracket: helps to frame fascia board E. Pilaster: provides a frame to the opening and interest to the eye F. Stallriser provides base to display window.</div>	<div>A. Leaking roof in need of attention: threatens whole building! B. Alteration to chimney: out of character C. Flat roofed dormer window conflicts with traditional building style D. Advertising 'clutter' obscuring design and proportions of building E. Neglect of unused upper floors: supporting income lost and decay passes unnoticed F. Over-large fascia sign alters balance of design and encourages moisture trap which may start decay G. Decorative plasters removed or covered over: detail and proportions lost H. Large areas of glass are uninteresting and, without a stallriser, can be prone to vandalism.</div>

Table 2. General assesment for Larkam's Example

Good Practice	Bad Practice
<ul style="list-style-type: none">• Whole building is attractive and a good advertisement.• Simple but effective shop sign, building well maintained.• Display window relates well to upper floors in design terms.	<ul style="list-style-type: none">• Only the ground floor aims to attract custom, though at the loss of character to the whole shopfront.• Upper floors detract – the chance to give a good impression is lost.• An image of clutter and disorder; again a bad impression.

THE CONSERVATIVE METAMORPHOSIS ON KUNDURACILAR STREET

The application area which is the topic of this study is determined as Kunduracılar Street which is the only one pedestrian trading road that reflects the historical environment in the historical city Trabzon. In all it's history; Trabzon was one of the most important trade centers of Blacksea Region that connects the transit road between Asia and Middle-East. However in the city center of Trabzon whether in history or nowadays, this trade axle carries on it's function as the most intense in Kunduracılar Street.

Kunduracılar Street is linked to the beach with Semerciler Street from the west and with Gazi Paşa Street from the east. The Erzurum Street which is located at the South side links Kunduracılar Street to the Iran road. There are two and three flatted commercial buildings in Kunduracılar Street whose average wide is so narrow as 5m. Kunduracılar Street was built by Turkish and Christian merchants in XIX. Century and constituted from a lot of commercial buildings whose upper floors are used as offices or warehouses and the ground floors are used as shops. These strong and secure buildings are built by giving importance to the architectural qualities in terms of showing the prestige of the merchants. There are details like decorations, band courses, fascias, cornices, columns and head pieces of the columns on the facades of some of these buildings [6].

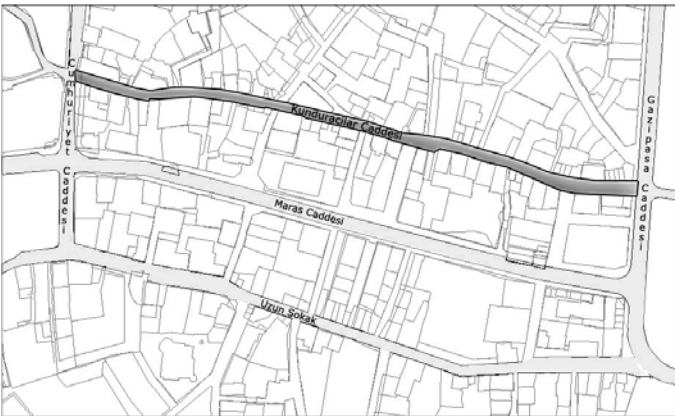


Figure 1. Kunduracılar Street

Developed rapid urbanization and as a result of this fact, the uncontrollable growth and condensation of the cities caused a big destructive process for the historical streets. The way of wider / larger space formation is selected to invent the physical form of the city to the current conditions by demolishing or transforming the existing buildings.¹ However, in addition to these changes, Kunduracılar Street is started to use more by the users because of the new dimensions gained by the trade. This intensive usage is caused to have various deformations on the street and the historical buildings located on the street. The buildings which are quickly started to the deterioration process are lost their identity by losing their original values, and the street is lost its traditional texture and historical continuity. This process was accelerated because of the wrong restorations and the unconscious usage although the street was one of the districts that were declared as "historical site" in 1974. The deformations were started to become evident especially because of the structural deformations that were occurred on the buildings, the change of the facade proportions, the material deteriorations, the fascia signs that were added to the facades, the materials which were not suitable for the historical building in terms of format and size like shade screens. This formal changes occurred on the facades influence the effect of historical urban texture and the architecture in negative way. Most of the interferences to the historical buildings were happened in the aim of renovation instead of conservation. In this concept; the most confronted tendency in Kunduracılar Street is occurred as the change of the original cover materials on the facades. Buildings in this direction were re-coated with a contemporary plaster or covered with various materials.

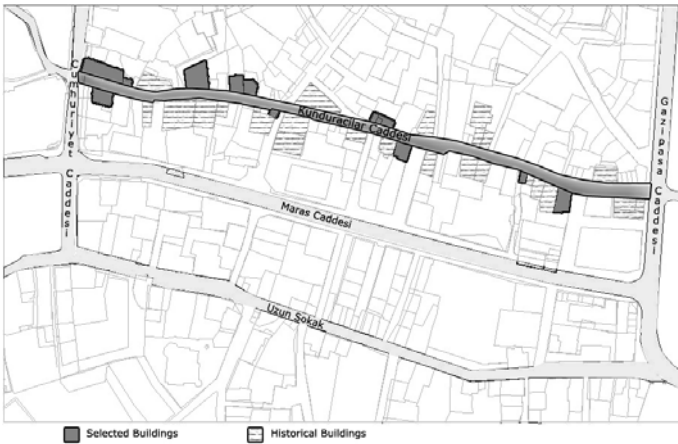






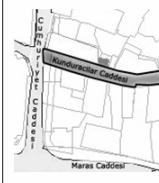

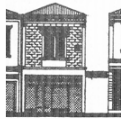

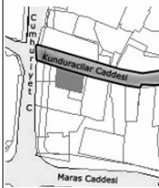









Figure 2. Selected Buildings and Historical Buildings in Kunduracılar Street.




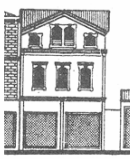
The amount of the problem metamorphosis is researched on historical buildings on Kunduracılar Street as a result of the changes that were happened on the facades of historical buildings because of the renovations in the aim of conservation. For this purpose, an evaluation is made as a result of the researchs which are done in the context of form, number of floors, the proportion of rigidity-cavity, door-window systems, ground floor usage, material changes and the repairs on the selected historical buildings located on the street.


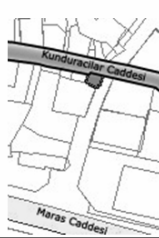



Example 1	General Informations			
	Side Plan	Existing Conditions	Original Conditions	Drawing
				
Inventory Number: 195 Sheet/Block/Lot: 45/279/99-103 Registry Condition: Monumental Construction Period: Ottoman Construction System: Block Original Function: Commercial Present Function: Commercial	Metamorphose Criterias for Facade			
	Form	Number of Floors	Rigidity-Cavity Proportion	Door-Window System
	--	--	--	●
	Ground Floor Usage	Material Changes	Repairs	<i>Metamorphosed</i>
	●	●	●	






Example 2	General Informations			
	Side Plan	Existing Conditions	Original Conditions	Drawing
				
Inventory Number: 196 Sheet/Block/Lot: 45/279/98 Registry Condition: Monumental Construction Period: Ottoman Construction System: Block Original Function: Commercial Present Function: Commercial	Metamorphose Criterias for Facade			
	Form	Number of Floors	Rigidity-Cavity Proportion	Door-Window System
	--	--	●	●
	Ground Floor Usage	Material Changes	Repairs	<i>Metamorphosed</i>
	●	--	●	


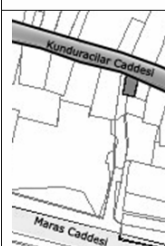


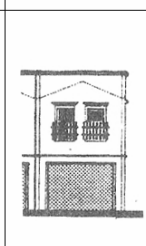
Example 3	General Informations			
	Side Plan	Existing Conditions	Original Conditions	Drawing
				
	Metamorphose Criterias for Facade			
	Form	Number of Floors	Rigidity-Cavity Proportion	Door-Window System
Inventory Number: 197 Sheet/Block/Lot: 48/278/3-4-5 Registry Condition: Monumental Construction Period: Ottoman Construction System: Block Original Function: Commercial Present Function: Commercial	--	--	--	●
	Ground Floor Usage	Material Changes	Repairs	<i>Metamorphosed</i>
	●	●	●	






Example 4	General Informations			
	Side Plan	Existing Conditions	Original Conditions	Drawing
				
Inventory Number: 202	Metamorphose Criterias for Facade			
Sheet/Block/Lot: 45/279/84	Form	Number of Floors	Rigidity-Cavity Proportion	Door-Window System
Registry Condition: Monumental	--	--	●	●
Construction Period: Ottoman	Ground Floor Usage	Material Changes	Repairs	<i>Metamorphosed</i>
Construction System: Block	●	--	●	
Original Function: Commercial				
Present Function: Commercial				

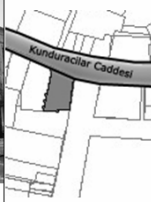
Example 5	General Informations			
	Side Plan	Existing Conditions	Original Conditions	Drawing
				
Inventory Number: 203 Sheet/Block/Lot: 45/279/81-82-83 Registry Condition: Monumental Construction Period: Ottoman Construction System: Block Original Function: Commercial Present Function: Commercial	Metamorphose Criterias for Facade			
	Form	Number of Floors	Rigidity-Cavity Proportion	Door-Window System
	--	--	--	●
	Ground Floor Usage	Material Changes	Repairs	<i>Metamorphosed</i>
	●	--	●	

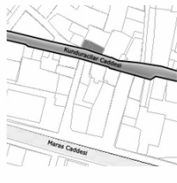


Example 6	General Informations			
	Side Plan	Existing Conditions	Original Conditions	Drawing
				
Inventory Number: 205 Sheet/Block/Lot: 48/276/14-15 Registry Condition: Monumental Construction Period: Ottoman Construction System: Block Original Function: Commercial Present Function: Commercial	Metamorphose Criterias for Facade			
	Form	Number of Floors	Rigidity-Cavity Proportion	Door-Window System
	--	--	--	--
	Ground Floor Usage	Material Changes	Repairs	<i>Metamorphosed</i>
	●	●	●	

Example 7	General Informations			
	Side Plan	Existing Conditions	Original Conditions	Drawing
				
Inventory Number: 212 Sheet/Block/Lot: 48/271/3 Registry Condition: Monumental Construction Period: Ottoman Construction System: Block Original Function: Commercial Present Function: Commercial	Metamorphose Criterias for Facade			
	Form	Number of Floors	Rigidity-Cavity Proportion	Door-Window System
	●	--	●	●
	Ground Floor Usage	Material Changes	Repairs	<i>Metamorphosed</i>
	●	●	●	

Example 8	General Informations			
	Side Plan	Existing Conditions	Original Conditions	Drawing
				
Inventory Number: 220 Sheet/Block/Lot: 47/270/18 Registry Condition: Monumental Construction Period: Ottoman Construction System: Block Original Function: Commercial Present Function: Commercial	Metamorphose Criterias for Facade			
	Form	Number of Floors	Rigidity-Cavity Proportion	Door-Window System
	●	●	●	●
	Ground Floor Usage	Material Changes	Repairs	<i>Metamorphosed</i>
	--	●	●	

Example 9		General Informations			
	Side Plan	Existing Conditions	Original Conditions	Drawing	
					
Inventory Number: 339 Sheet/Block/Lot: 45/279/96 Registry Condition: Monumental Construction Period: Ottoman Construction System: Block Original Function: Commercial Present Function: Commercial	Metamorphose Criterias for Facade				
	Form	Number of Floors	Rigidity-Cavity Proportion	Door-Window System	
	--	--	●	●	
	Ground Floor Usage	Material Changes	Repairs	<i>Metamorphosed</i>	
	●	--	●		

Example 10		General Informations		
	Side Plan	Existing Conditions	Original Conditions	Drawing
				
Inventory Number: 383 Sheet/Block/Lot: 47/270/23 Registry Condition: Monumental Construction Period: Ottoman Construction System: Block Original Function: Commercial Present Function: Commercial	Metamorphose Criterias for Facade			
	Form	Number of Floors	Rigidity-Cavity Proportion	Door-Window System
	--	--	●	●
	Ground Floor Usage	Material Changes	Repairs	<i>Metamorphosed</i>
	●	●	●	

Example 11		General Informations		
	Side Plan	Existing Conditions	Original Conditions	Drawing
				
Inventory Number: - Sheet/Block/Lot: - Registry Condition: Not Monumental Construction Period: Ottoman Construction System: Block Original Function: Commercial Present Function: Commercial	Metamorphose Criteria for Facade			
	Form	Number of Floors	Rigidity-Cavity Proportion	Door-Window System
	--	--	●	●
	Ground Floor Usage	Material Changes	Repairs	<i>Metamorphosed</i>
	●	--	●	

	Form	Number of Floors	Rigidity-Cavity Proportion	Door-Window System	Ground Floor Usage	Material Changes	Repairs
EXAMPLES							
1				●	●	●	●
2			●	●	●		●
3				●	●	●	●
4			●	●	●		●
5				●	●		●
6					●	●	●
7	●		●	●	●	●	●
8	●	●	●	●		●	●
9			●	●	●		●
10			●	●	●	●	●
11			●	●	●		●

CONCLUSION

The active participation of the historical streets to the urban life must be provided by meeting today's needs without losing their natural forms, characters and historical datas. In these reuse activity based applications, one of the basic thoughts of conservation is as carry on the technology and the culture to the next generations must not be overlooked.

The result table is prepared by examining the selected examples on the tables. The result table shows that all the examples have been repaired. The changes in form and the changes in number of floors are seen only in two of examined examples. But

the changes in ground floor usage, door-window systems, rigidity-cavity proportion and the changes in materials are seen in general. These changes generally seen on the commercial functioned ground floors. When the examined examples are handled in this point of view, it's possible to say that they have been **metamorphosed**.

While adapting the historical buildings to today's comfort conditions, it's needed to preserve and reintegrate their characteristic properties like the original forms and the original materials. Therefore, before the interventions which are planning to apply on the historical buildings, detailed measurement drawings must be obtained, the restitution drawings must be prepared and after all, the renovation and restoration projects must be planned. So while adapting the historical buildings and the streets to today's needs, we suggest to make changes by detailed restorations and renovation projects.

ENDNOTES

- [1] Tanrikulu, O.E., 2006. Aristoteles'in Ontolojisinde Form Kavramının İşlevi, Gazi Üniversitesi, Sosyal Bilimler Enstitüsü, Felsefe Ana Bilim Dalı, Yüksek Lisans Tezi, Ankara. <http://www.scribd.com/doc/7630502/Oya-Esra-TANRIKULU-Aristotelesin-Ontolojisinde-Form-Kavramnn-lev>.
- [2] Ahunbay, Z., 1999. Tarihi Çevre Koruma ve Restorasyon, YEM Yayın, Ankara.
- [3] Kuban, D., 2000. Tarihi Çevre Korumanın Mimarlık Boyutu – Kuram ve Uygulama, YEM, Birinci Baskı, İstanbul.
- [4] Appleyard, D., 1981. The Conservation of European Cities, Second Press, The MIT Press – Cambridge – Massachusetts and London, England.
- [5] Larkham, P.J., 1996. Conservation And The City, Routledge Publishing Company, London and New York.
- [6] Benzergil, G., 2006. Tarihi Sokak Strüktürlerinde Cumhuriyet Dönemi'nde Meydana Gelen Değişimlerin Koruma Bağlamında İrdelenmesi: Kemeraltı – 871 Sokak Örneği, Yüksek Lisans Tezi, Dokuz Eylül Üniversitesi, Fen Bilimleri Enstitüsü, İzmir.

TRANSFORMATION OF HALIÇ AND RE-INSTITUTION OF BUILDINGS AS A UNIVERSITY

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Haliç University, Faculty of Architecture

ABSTRACT

Haliç locating at the centrum of İstanbul and connecting the Historical Peninsula and Galata is a settlement which has a historical value for İstanbul and where historical industrial buildings for the re-institutions of which the projects are developed are densely located.

In this study, the urban transformation of Haliç from past to present will be analyzed and especially bringing re-institution projects of historical industrial buildings to agenda for reviving the city's spatial, economical and social structure and among these projects the buildings transformed to the university will be emphasized.

Keywords: Haliç, Transformation, University buildings, Industrial buildings, Re-institution

INTRODUCTION

The urban transformation concept appeared as a result of socio-economical changes that occurred after the 19th century Industrial Revolution. Also the urban transformation has been encountered in the requirements of re-structuring of big destructions that the Second World War caused.

The solution of problems that appeared with the industrialization in the 20th century started with the transition from the industrial society to the information society at the end of 20th century and at the beginning of the 21st century. This transition period has had important effects to the urbanization processes of especially the developing countries. The usage of areas where the industrial sector drawing back from city centers emptied has gained importance in terms of urban transformation.

The urban transformation means the re-planning and re-structuring of especially the regions of cities which lose their functions and which are idle, for participating to the city's social and cultural lives, serving to their economies and responding the needs of persons living in that region.

The urban transformation projects realized in Turkey are not considered comprehensively and they are solved in a sectional manner. Therefore, negative results appear in the implementations. As an example to this, in this study the urban transformation of Haliç region which is an important settlement in terms of its location and the historical heritage it possesses will be analyzed and the buildings transformed to the university will be researched.

TRANSFORMATION PROCESS OF HALIÇ REGION

Haliç locating at the centrum of İstanbul and connecting the Historical Peninsula and Galata has a strategic important. With this importance, it has been the centre of attraction of administrations and private sectors in all periods. In the Ancient Age, the name of Khrysokeras given to Haliç has the meaning of "Golden Horn". This has passed to the western languages as Golden Horn, Goldenes Horn and Corne d'Or. Haliç, which is one of the most distinctive types of the deep gulf (valley experiencing alluvion) which is called Ria in the physical geography and which resembles to the arch in appearance, has a length of 8 kilometers. Its width changes between 200 and 700 (1).

Kasımpaşa, Hasköy, Halıcıoğlu and Sötlüce are located on the northern side of Haliç; Cibali, Fener, Balat, Ayvansaray and Eyüp are located on the southern side of Haliç. Three bridges as Galata, Unkapanı and Haliç connect two sides of Haliç to each other. In the Ottoman period, Haliç was a region famous for its very green plains with the world's most fertile lands and its water in which all kinds of fish and rare sea foods were available. Also, Kağıthane festivals became a byword in the Tulip Age. (2). The situation of Haliç region in 1900's can be seen in the Figure 1; its aerial photograph taken nowadays can be seen in the Figure 2.

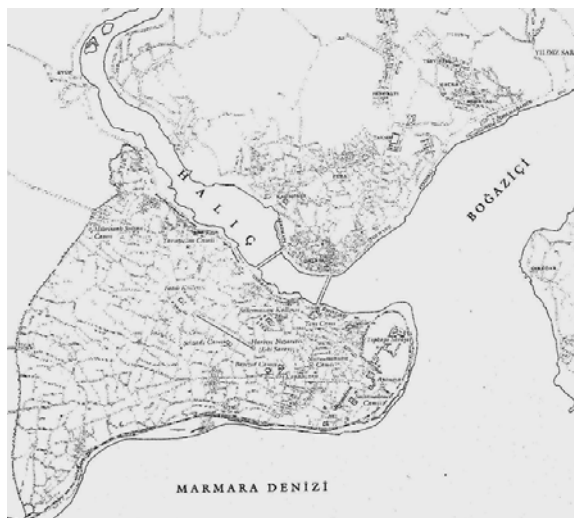


Figure 1. İstanbul and its surroundings in 1900' s (Çelik, 1998)



Figure 2. Aerial photograph of Haliç at present (Google Earth)

Historical Course

In the Antiquity, Haliç could not fully function as a harbour due to the fact that it was very wide and deep compared to the needs of that age, it was only used as a fertile and sheltered region. In the Medieval, Haliç became an important and active trade center of Mediterranean and Near East (Eyice, 2001).

In the Ottoman period, the maritime facilities locating between Balata and Hasköy on the northern coast of Haliç became favorite, maintenance and construction center of Ottoman navy. The civil navigation developed on the southern coast of Haliç with trade centers. Haliç which was a harbour, trade and shipyard region, anchorage of merchant and battle ships in Turkish period, also had the characteristics of a region meeting the town people's open air and green area needs especially in the upper sides. There were many villas, palaces, residences and cospes on the extension of Kağıthane creek and on the coasts where it reached to Haliç together with Alibeyköy creek. For example, Aynalıkavak pavilion, Eyüp palace, Sadabad palace, Kağıthane pavilion can be seen in Bartlett, Melling, Gouffier and Allom's pictures in a magnificent way. Also, it was one of the most important settlement and recreational centers of the city where people went rowing. On Kağıthane creek, Sadabad festivals were realized. In summary, in Turkish

period, lower sides of Haliç became trade and maritime center and its upper sides became holiday resorts (Eyice, 2001) (3).

The holiday resort appearance of Haliç changed with the construction of bridges over Haliç and that the plate bottom steam ships superseded the wooden ships, the factories, workshops and small industrial facilities were established on the coasts. With the advice of Henri Prost, who was brought to İstanbul as urban development expert, regarding Kağıthane valley as industrial region, the future of Haliç imperiled. With the development of the industry in parallel to the technological developments of the age, the industrial facilities established in Haliç ruined the ecological balance of Haliç; the destruction process started in Haliç due to the fact that no precautions were taken to eliminate these threats. (Eyice, 2001).

With Haliç becoming İstanbul's industrial center after 19th century Industrial Revolution, the number of industrial facilities in the region increased. In this period, the villas and residences of courtiers were left, the factories and workshops were built there. The prestigious housing zones shifted from Haliç to Beyoğlu, Boğaziçi (the Bosphorus) and Kadıköy.

Till the second half of 20th century, the world's most important planning expert developed some proposals and plans in the development of Haliç Settlement. In the year of 1933 Hermann Elgöztz, in 1937 Henri Prost, in 1949 Prof. Gerhard Kessler, in 1958 Prof. Luigi Picciano made various proposals and plans. The Industrial Areas Plan the studies of which started in the year of 1963 and which was started to be implemented in the year of 1966 with the aim of preventing the unplanned development accelerated in Haliç with the industry brought in Prost period was not very effective and this unplanned development could not be prevented (Oral, 2006).

The Planned Development Period in Haliç Settlement started in the year of 1966 with the establishment of Big İstanbul Master Plan Bureau. With the İstanbul Metropolitan Area Master Plan made in the year of 1980, it was emphasized to protect the cultural structure in Haliç's Historical Peninsula and Galata-Beyoğlu regions. In 1985, Haliç Landscaping Master Development Plan was made and in this plan, important decisions regarding public green areas on Haliç coasts were made. With İstanbul Historical Peninsula Protection Master Development Plan made by Prof. Dr. Gündüz Özdeş in the year of 1990, it was aimed to develop the region by protecting its historical, cultural and natural heritage. Lastly 1995 İstanbul Metropolitan Area Sub-Region Master Plan were prepared and with this plan, important decisions regarding historical and natural structure of Haliç Settlement, prestigious areas etc. and many issues were made. However, this plan expires at present and 1980 İstanbul Metropolitan Area Master Plan has become valid with the decision made for Haliç settlement (Oral, 2006).

Urban Transformation Process

In Haliç Settlement, many undefined and dysfunctional areas appeared at the places of industrial facilities started to be left after 1980's. Some of these facilities are collapsed and ruined and new buildings are constructed at their places, some are in abandoned conditions and the others are re-instituted.

Due to the fact that Haliç possesses historical identity and development potential, many projects are realized in this settlement. These realized projects are important in terms of ensuring Haliç's historical sustainability.

Together with the announcement of Haliç as an industrial region in the year of 1954, it started to be rapidly polluted due to the fact that many industrial institutions established at the surroundings of Haliç left their wastes there. Haliç which was even hard to come near due to pollution and malodor in 1990's, is restored to its old situation at present. "Haliç Environment Protection Project", one of the world's biggest projects, has been started with the co-operation with İstanbul Metropolitan Municipality and İSKİ (İstanbul Water and Sewerage Administration). With the aim of rescuing Haliç there are 5 stages in this project: Survey and Project, Scanning, Construction of waste water interception collectors and facilities, Environment arrangement, Region's arrangement as tourism, culture, art and recreation valley (2) With the cleaning operations İSKİ started in the year of 1995 and realized Northern and Southern Haliç Projects, Haliç was rescued from being a marsh.

The reasons of changes appearing in Haliç, in a way, are parallel to the changes encountered in İstanbul. That the lives of existing buildings are finishing, population increase and the problems arising together with it such as illegal housing and transportation can be shown as reasons. In Haliç region, there are buildings which are functionally changed and still continuing this change.

The social and cultural structure will revive with Haliç's urban transformation and it will be an attractive place in terms of tourism, the cultural heritage of the regions will be reached today by protecting and renewing the industrial buildings. To achieve this aim, the region's transformation should be handled in municipal scale in an integrated approach.

The facilities such as Silahtarağa Electricity Plant, Cibali Tobacco and Cigarette Factory, Feshane, Lengerhane, Haliç Shipyards, Northern Sea Area Commander, Kasımpaşa Flour Plant are main industrial facilities reaching today in Haliç. Apart from these, the butcheries in the area where Sütlüce Butchery is located were ruined and another complex in the same structural character was constructed at its place.

During the urban transformation process in Haliç Region, it has been aimed to re-institute the above-mentioned historical industrial facilities and maintain them today. Cibali Tobacco and Cigarette Factory and Silahtarağa Electricity Plant of these facilities have been restored by being re-instituted as University. In this study, the interventions that these two industry heritage had during their re-institutions will be shortly mentioned.

EXAMPLES OF TRANSFORMATION OF HISTORICAL INDUSTRIAL FACILITIES IN HALIÇ REGION TO UNIVERSITY BUILDING

CİBALİ TOBACCO AND CIGARETTE FACTORY -KADİR HAS UNIVERSITY

Cibali Tobacco Factory, which was constructed at the end of 19th century, reflects its period's architectural environment with both that it is located at the municipal

environment and the characteristics it has presented as a single building. The factory is located at Unkapanı neighbourhood of Haliç coast which was selected as an area for industrialization in a period in which urban transformation and change movements were densely occurred as of the second half of 19th century.

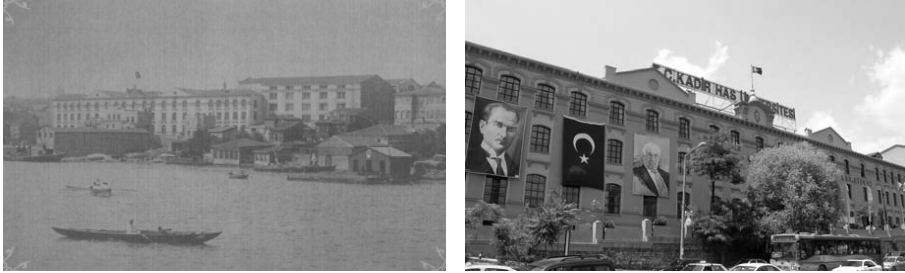


Figure 3. Picture First and last situation of Cibali Tobacco and Cigarette Factory (Erdoğan, 2002)

The factory, which was started to be constructed in the year of 1884 as the building of regie company with the aim of producing tobacco products, was designed by Alexandre Vallauray and Hovsep Aznavur. It was enlarged with new rooms and additions that were constructed by Eugene Bottazi at the beginning of 20th century. Cibali Tobacco and Cigarette Factory had reflections of its period's building and construction techniques. In the building, the construction materials that were used in the western countries after the industrialization period such as bricks, iron, casting carrier columns, and glass were used. Cibali Tobacco Factory had been an important industry center for long years with its building, plants, hospital, kindergarten, school, and fire station and sports units having 40000m² of covered usage area on 10385m² of land. (Alioğlu, Alper 1998).

In addition to being an industry heritage, Cibali Tobacco and Cigarette Factory is also important in explaining a different aspect of the past century; concepts such as "tobacco", "regie" and "republican will". The construction of Cibali Tobacco and Cigarette Factory coincided with the period in which Ottoman Empire was foreign debt crunch. The regie administration kept hold of tobacco monopoly till the year of 1923; in 1924 all privileges were removed and all rights of the factory were transferred to Republican Government. The factory continued to be the most important cigarette factory of the Republican Period till İstanbul Cigarette Factory was established in the year of 1970. The factory which lost its functions due to the fact that Maltepe Cigarette Factory was put into service with high production technology was completely evacuated in the year of 1995 and given to Kadir Has University with build-operate-transfer model to be utilized as a training institution. Kadir Has University officially started its training in this industrial building in the year of 2002. In the re-institution of Cibali Tobacco and Cigarette Factory the sections reflecting the style characteristics of the building were protected and re-designed with minimum intervention, some places were used in their original conditions, in some places

segmentation was realized by considering the structure and removing some unqualified additions was taken as a basis (Alper, 2004).

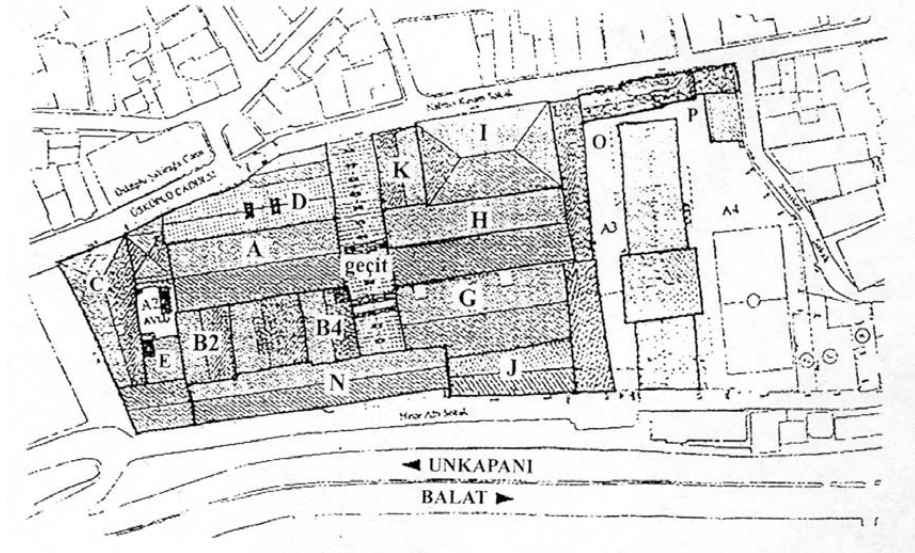


Figure 4. Building Survey Layout Plan of Cibali Tobacco Factory (Erdoğan, 2002)

Factory Re-Institution Principles

- Usage of the building's sections, which were constructed at the end of 19th century and at the beginning of 20th century and which had the style, material and technical characteristics of the period, without breaking down,
- Sorting unqualified additions which are not original and are irregularly added later, making suggestions for some of them,
- Re-equipping of the building with the least intervention in the direction of its new function,
- Strengthening building's structure for bringing it to future in a good form and realizing its structural consolidation works against possible earthquakes,
- Preparation of the building for present with high technology in technical, installation, equipment and hardware terms and bringing it to future,
- Reminding the building's original with the used details. (Globe lamps and tobacco colour walls) (Alper, M., 2004)

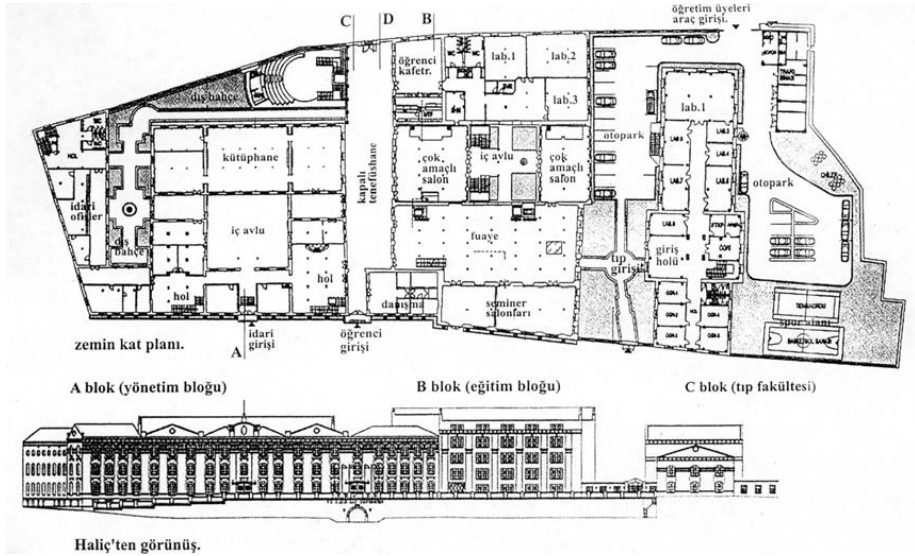


Figure 5. Ground floor plan and section after transformation to Kadir Has University (Erdoğan, 2002)

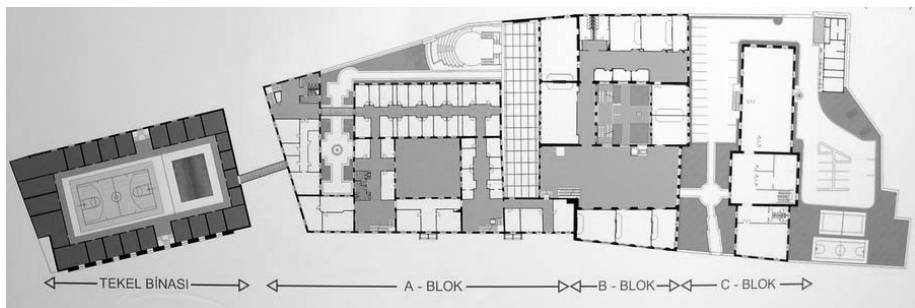


Figure 6. General layout after transformation to Kadir Has University (Erdoğan, 2002)

Interventions Made During Re-institution of Factory

The clay roofing tiles in roof texture of Cibali Tobacco Factory, gray cast iron, and steel beams which were used in floor coverings are thought to be brought and applied from France. Factory consists of several structures which are linked with gateways or backyards. We can see these structures as one group consists of A,B,C,D, and E, blocks G,H,I,J,K,L,M another group and O and P as another group. There is a gateway having transparent covering between first two groups. (Figure

3.32). The structures in first two groups were realized at the end of 19th century and in the first years of 20th century when factory started manufacturing. (Erdoğan, 2002).



Figure 7. Model Photograph of Kadir Has University (Erdoğan, 2002)

Some of the realized interventions are as follows:

1. The floor covering of block D which is adjacent to western facet of block A is removed to have its original situation, and therefore, the basement facet of block A was revealed.
2. The supplementary parts in back yard were removed and net place were obtained and transparent roof coverings were added. (Figure 3.33)
3. The architectural properties of Library and conference hall which are the first and oldest parts of the plant were protected and load bearing system were transformed from wood to steel.
4. The part which was added as 4th floor in Block B was removed and roof turned into its original appearance in photos.
5. The campus structure mainly composed of three blocks: The block A was designed for management and administrative offices in all floors. The student affairs and library locates in basement, accounting and deanship locates in second floor, rector's office, dining hall, and meeting halls locate in third floor.
6. The seminar halls, computer laboratory, multi objective hall and student cafeteria are located on the basement floor of Block B. On the second floor there are academic members' rooms which combine with Block A and on the third floor there are multi-aimed salon and lounge. The entrance of Faculty of Medicine and laboratories are located on the basement floor at Block C. The classrooms in the first and second floor are designed as lounges for the students.
7. The gateway which is used as closed break room was covered with transparent roof cover. Outer gardens were arranged suitable with student's usage and a small amphitheatre was constructed. Also there is basketball field near faculty of medicine and car park entrance behind campus area.
8. All places which are necessary for university were located in groups within original structure of the construction, spatial construct were obtained between floors suitable with functions. The building which faces to Haliç continues its public notion and value within the region by means of its facet and its social attraction power.

9. The original carriers of structure were revealed as independent sculptures within plan scheme, and used without causing obstacle against place dimensions. The large backyards were formed under truss having large openings and those places turned into break rooms for students.
10. The multi-aimed hall which was obtained by closing present blocks between lightweight steel items; it is opened to the cafeteria with one facet and to the Contemporary Art Gallery with other facet. Historical cisterns which are integrated with the gallery by means of glass steel structures are displayed as part of the location.



Figure 8. Views form Cibali Tobacco and Cigarette factory and Kadir Has University which is instituted as university at present (Yıldırım,2007)



Figure 9. Interior views after transformation in Kadir Has University (Erdoğan, 2002)

SİLAHTARAĞA ELECTRICITY PLANT- SANTRAL İSTANBUL BİLGİ UNIVERSITY

Santral İstanbul is a culture, art and training center starting to operate in İstanbul-Haliç in September 2007. The focal point of the center is old Silahtarağa Electricity Plant complex spreading to 118 decares which was transformed to Energy Museum and Main Gallery by İstanbul Bilgi University. Santral İstanbul is also hosting facilities such as artists' workshops, public library, training buildings belonging to İstanbul Bilgi University.

Silahtarağa Electricity Plant which was constructed in 1913 was built in an area of 120.000 square meters for meeting electricity requirement of İstanbul and it is the first thermal plant of Ottoman Empire. It was devolved to İstanbul metropolitan municipality and joined to İETT (İstanbul Electricity, Tramway and Tunnel General Directorate) management department. The plant which meets the electricity requirement of İstanbul by just itself continued to meet the requirements with Çatalağzı Plant after 1952 and North Western Anatolia Plant. Its power was increased after studies in 1956 and Silahtarağa Thermal Plant was devolved to TEK in year of 1970. It continued to operate by the year of 1982, its production finished in year of 1983 since it became older and finding cooling water became difficult. It was registered by the Ministry of Culture in 1991 and decided to be re-instituted. It was devolved to İstanbul Bilgi University for transforming into museum in year of 2004 (Ensari,1994).

Interventions during re-institution of Factory



Figure10. Views from Silahtaraga Electricity Plant and Santral İstanbul (www.mimarizm.com)

In building which operates as “Santral İstanbul” since 2007, there are energy museum, International residence, Library and Education Centre, Urban Transformation units, as well as Concert Halls, Outdoor Amphitheatre, Café, restaurant, and recreation areas:

Main Gallery: After finish of electrical activities of Silahtaraga Electricity Plant, two broken down boiler rooms were rebuilt. Form of older buildings was protected in 7000 square meter structure.

Energy Museum: It is formed by transformation by preserving Engine rooms of old electricity plant with number 1 and 2 as the times it operates. Turbine and generator groups which started to be rusted after the year of 1983 when factory finished its operation; and other machinery cleaned by specialist team, and rusting was ceased by covering with special preventive material. Later turbine generator group with number 1 was preserved with its appearance in the year of 1931 when it started to operate. Turbine generator group with number 3 was left as its inside part was open when production was ceased. This group was preserved as its opened form. Also walls of engine room preserved after cleaning, distortion which had occurred in time was repaired by using similar methods which were used in its operation time and by using similar materials. Windows and cuttings were renewed with iron profiles and glasses in its original state. During preparation period of energy museum pipes which locate under turbine generator groups and which provides steam and water circulation was removed from asbestos material which is harmful for health and this floor was transformed into museum’s entrance area by preserving cross sections and technical components.

Library and Information Center: The old boiler rooms of electricity plant are transformed into library and information center.

International Residence: The public houses of electricity plant were transformed into residences for hosting artist, architects, designer and thinkers for variable time periods.

Education Buildings: They are the buildings for location of several graduate and undergraduate programs of İstanbul Bilgi University.

Recreation Areas: They consist of garden and cafeteria area which meet the resting and entertainment requirements of visitors of Santral İstanbul.

CONCLUSION

After Economical recession which occurred in second half of 20th century, change in production organization, new market searches, environmental pollution and developments in transportation, transition from industrial society to information society, production and commercial units which are located in the city centers are slowly transferred to outside of city. Haliç is an important region in İstanbul where this event is densely lived.

Transformation which automatically occurs maybe expensive and can cause troubles. Therefore probable transformations in Haliç are planned and those planned transformations are both seem to be economical and health in terms of urban design. After 1980's usage diversity occurred after removing industrial zones surrounding Haliç coasts. Especially after the year of 2000, urban transformation studies became faster after year 2000. Haliç is tried to be improved by means of areas such as tourism, recreation and several objectives.

While these studies are realized, an upper scaled urban transformation project should be prepared. By means of this project transformation of industrial zones that had lost its functions should be considered as point, they should be considered as whole. It can be seen that architecture, urban and regional planning, landscaping architecture, civil engineering, mechanical engineering, and sociology and other several branches should cooperate. During determination of urban transformation project, this process should be scientifically determined; it should not be based on unearned income. Urban transformation projects should coincide with vision target of city. "Cultural valley" vision was adopted by İstanbul Metropolitan Municipality in Haliç, and studies are performed within this direction.

During Haliç region transformation process, many historical industrial structures were re-instituted and by means of this they survived and there will be positive points in region in terms of culture, tourism, education and recreation. Feshane, Lengerhane, Silahtarağa Electricity Plant, Cibali Tobacco and Cigarette Factory, and Sütlüce Butchery which are within the context of industrial heritage are actively used after re-institution. Meanwhile Haliç region has become more active after building new parks and new structures which are constructed around those structures. Some of those structures are Miniaturk Park, Aquarium Water Park, Pier Loti Café, and Boutique Hotel, Kasımpaşa and Balat Municipality Plants, and lastly older Galata Bridge and Feshane and Sütlüce Congress Hall were combined. The entire Haliç coasts become green.

In this study re-institution of abovementioned Silahtarağa Electricity Plant and Cibali Tobacco and Cigarette Factory and transforming them into university were examined.

Changes which were made during transforming Cibali Tobacco and Cigarette Factory into Kadir Has University were mentioned. Also changes occurred during transforming of Silahtarağa Electricity Plant into a campus İstanbul Bilgi University's science and letters faculty and energy museum, library, and information and training center were mentioned.

As a result of all these a significant active transformation study continues in Haliç region. Within this context, re-institution of two old industrial plants as universities made great contribution to Haliç. Kadir Has University and Santral İstanbul transformation projects will trigger future studies.

REFERENCES

- Alioğlu, F. Alper, B. 1998, Cibali Tütün ve Sigara Fabrikası Sanayi Yapısından Üniversiteye, İstanbul Dergisi, Sayı 27, s. 40-48, İstanbul.
- Alper, M. 2004, "Cibali Tütün Fabrikasından Kadir Has Üniversitesine", Arredamento Dergisi Sayı 07, s. 83-86.
- Ensari K, H Fahrünisa, 1994, "Silahtarağa Elektrik Santralı", Dünden Bugüne İstanbul Ansiklopedisi, Cilt:6(Tarih Vakfı Yurt Yayınları, İstanbul),s.554.
- Erdoğan, S., 2002, Endüstri Arkeolojisi Kapsamında İstanbul'daki 19.yy Endüstri Yapılarında İşlev Dönüşümüne Bağlı Mimari Mekan Analizi, YTÜ Fen Bilimleri Enstitüsü, Yüksek Lisans Tezi, İstanbul.
- Eyice, S., 2001, Haliç ve Tarihçesi, Haliç 2001 Sempozyumu, İSKİ, s 104-130.
- Oral, A., H., 2006, İşlevini Yitirmiş Endüstriyel Alanların Dönüşümü İçin Bütüncül Yaklaşım: Haliç Yerleşimi Örneği, Yüksek Lisans Tezi, Gebze Yüksek Teknoloji Enstitüsü Mühendislik ve Fen Bilimleri Enstitüsü, Şehir ve Bölge Planlama AnaBilim Dalı, Gebze.
- Yıldırım, N., 2007, Endüstri Arkeolojisi Kavramı Ve Tire'de bulunan Endüstri Yapılarının Endüstri Arkeolojisi Kapsamında İncelenmesi, Yeni "İşlev" Önerileri, Y.T.Ü. Fen Bilimleri Enstitüsü Yüksek Lisans Tezi.
- Yüceltürk, E., 2001, Haliç Silüetinin Oluşum – Değişim Süreci, Haliç Belediyeler Birliği, İstanbul.
1. AnaBritannica Genel Kültür Ansiklopedisi, 1992, Cilt 10, Ana Yayıncılık, İstanbul.
 2. <http://www.iski.gov.tr/WEB/statik.aspx?KID=1000470>
 3. Büyük Larousse Sözlük ve Ansiklopedisi, Interpress Basın ve Yayıncılık A.Ş., İstanbul, 49, 61 syf.

STRUCTURAL PRESERVATION AND RE-PRESENTATION OF CULTURAL HERITAGE

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ABSTRACT

Conservation of cultural heritage is the main step for its transfer to the next generations. Importance of conservation could surely be discussed by sound and righteous causes in the discipline of history and other social sciences.

In the recent decades, presentation of historic structures has been as important as the principles and techniques in restoration. Some restoration approaches make protecting the structures in their original state a principle. In this case, the building is inevitably more vulnerable to future threats as it has already been damaged and lost stability due to several natural and manmade damages.

Parallel to the developments in technology, there have been a great number of challenging researches about conservation of cultural heritage around the world. Among them all, the most striking applications are transferring, re-installing and re-presenting the historic structures by using innovative techniques.

Finite Element Analysis is the most convenient method to examine the behavior of historic structures. Also, it is the best means to predict the structural performance of historic buildings during probable future threats. Especially, when a partially collapsed or damaged building is in question, the analysis software makes it possible to demonstrate existing situation of the building.

In this study, as the Hasankeyf district will be flooded by Ilisu Dam in near future, studies about re-presentation of the Grand Palace Tower in the citadel are explored in terms of structural performance. The Grand Palace Tower is analyzed with different load combinations to see the lateral displacements and stress distribution in its current state. These analyses are considered to be useful when proposing re-presentation as the structural performance of the building would be of utmost importance during un-install and re-install processes. If interpreted well, the outputs of the analyses would guide the team correctly to preserve and re-present the invaluable content of cultural heritage.

Keywords: Finite element analysis; Historic structures; Hasankeyf; Grand Palace Tower, Re-presentation

INTRODUCTION

Increasing engineering and academic interest reveal importance of the survival of historical monuments and structures. As an essential part of our cultural heritage, historical structures and monuments should be well preserved. Historical structures constitute a very important connection between today and the past. They provide us with the sociological, economic, political and religious experiences of our ancestors. A truthful interpretation of this information will help us plan our present and future policies more accurately.

Unfortunately, most of the historical structures and monuments are neglected. Irreplaceable historical assets were destroyed by natural disasters such as earthquakes, heavy winds, fire, floods, land slides, soil settlement problems and even by human vandalism. It is therefore very important to protect remaining historical buildings especially in terms of their structural systems. Most of the historical buildings are unique and consequently priceless; therefore economy and cost of the preservation efforts can be disregarded for sake of the protection of our cultural heritage.

A lot of historical buildings are not in very good condition. As a result of the ignorance and negligence of centuries, physical and chemical deteriorations due to natural and man-made factors slowly erode the historical merits of these buildings. Presently, many historical buildings exhibit large cracks in their essential structural elements if not completely or partially destroyed. Primitive and unskillful repair efforts such as the infilling of cracks remain ineffective because they are made without a proper understanding of the reasons of the failure. It is critical that the load transfer mechanisms of both the original and the damaged parts of the building be understood and analyzed before any repair effort otherwise; these repair efforts may inflict unpredictable damages on the structure (Unay, 2001).

In this study, the remarkable findings of the series of numerical analyses are discussed. The aim of these analyses is to explore the current structural capacities of historical buildings and monuments in the Medieval City of Hasankeyf, which has important historical and cultural values. Also, the analyses aim to research about several strengthening methods that could be considered for the buildings that need repair or restoration on the same site. These results would be helpful; they would easily be understood by experts who have different professions and roles in the protection and preservation of historical structures.

DETERMINATION OF STRUCTURAL CAPACITY OF HISTORICAL BUILDINGS AND MONUMENTS

Earthquakes and support settlements constitute the major structural hazard risks for historical buildings and monuments. The majority of the historical buildings are centuries old, therefore, the soil-structure interaction has reached a certain balance through such a long period of time, one cannot expect a critical support movement unless there is an external effect. However, earthquake poses a significant source of threat as it has destroyed many historical buildings. Due to the problems of protecting historical structures and monuments against earthquakes, classical engineering

approach asks the following question: How safe are historical buildings and monuments against a major earthquake? This question can be answered in two folds: Firstly, the structural analysis of the building under the loads generated due to earthquake must be carried out by developing appropriate analytical models. This way, the seismic vulnerability of the structure can be determined. Secondly, the strength and the load bearing capacity of the structural elements for the internal forces that occurred due to earthquake should be calculated. With the comparison of these two boundary values, the ultimate safety of the building can be determined (D'Ayala, Speranza, 2003).

The structural capacity of a historical building or monument can be evaluated by advanced structural analysis methods. There exist many examples of such analyses in technical literature. However due to the highly inconsistent and non-linear properties of building materials, it is very difficult to calculate the actual load bearing capacity of essential structural members. Significant structural differences can be observed in load bearing member built with same type of materials. Therefore the accurate definition of the actual material properties of structural members in the analytical models for the numerical analysis becomes very complicated (Boothby, 2001).

Numerical analysis conducted to determine the present structural capacity of a building has two objectives: First, to understand the structural behavior of the building under various loading patterns and second, the definition of the load transfer mechanism of the overall structural system. For structural resistance of historical buildings, firstly, load bearing members having a tendency to be damaged due to any kind of external disturbances should be determined. Then these elements should be analytically modeled in detail for more accurate structural analysis solutions. In historical buildings, slender structural elements such as arches, columns and pillars are known to be more vulnerable to external loads whereas elements like domes, vaults and solid walls are more rigid thanks to their geometric properties (Croci, 1998).

Most of the historical buildings have extremely complex geometries in terms of their structural form. As a result, almost all structural elements are subjected to both large axial forces and bending moments. The most accurate way of calculating the load bearing capacity of these elements is to observe the interaction between the applied axial force and the bending moment. However; in some structural elements shear forces and shear stresses play a more critical role in the failure of the element. It is often difficult to determine the physical and geometrical properties of such elements. This makes it impossible to calculate the actual shear capacity of the element (Lourence, 2002).

Keeping all of the above in mind, the importance of understanding the load transfer mechanisms and developing appropriate structural analysis methods for historical buildings with complex geometric configurations is obvious. Especially for the analysis of large-scale structures, it is both practical and economical to reduce the number of structural elements which otherwise constitute an almost infinite number of static indeterminacies. In this way, the analytical model of the structure can be prepared very accurately when compared with the actual condition.

Architects and engineers should develop certain methods for the repair and strengthening of the structural systems of historical buildings. This is only possible with a proper understanding of the structural behavior and an accurate determination of structural elements that are most likely to be damaged due to external loads. The repair and strengthening of historical structures is only possible through the collaborative effort of various disciplines such as architecture, structural engineering, history of art and restoration therefore it is necessary for the specialists of various disciplines to have a common language for the preservation and repair efforts (Croci, 1998).

UNDERSTANDING THE STRUCTURAL SYSTEM

The term “structural systems of historical buildings” include a large variety of definitions. However; in the past the most frequently used building materials have been the natural ones which do not require modern technology. As a result, the majority of the building materials of historical buildings have been stone, brick, adobe, timber and very rarely iron and some other ore metals.

Both natural and man-made threats should be taken into consideration for the structural repair and conservation of historical buildings. The factors that can damage the structural system of a building vary according to environmental factors, geometrical configuration, scale and the construction materials. For example, while fire and strong winds pose the greatest threat for timber buildings, earthquakes and material deterioration constitute the most critical danger for masonry stone or brick buildings. The major cause for the seismic vulnerability of masonry structures is their significantly larger mass because of their scale and geometric configurations. The factors described above are not the only ones threatening the survivability of historical buildings. Sometimes the most unexpected natural effects can damage a building. For example the Church of the Redeemer located in the medieval city of Ani (Figure 1) is damaged in the most interesting way because of a lightning during a storm.



Figure 1. Church of the Redeemer in Ani, Kars

NUMERICAL ANALYSIS METHODS

The structural analysis is essential either for the design of a new structure or to determine the load bearing capacity of an existing structure. To evaluate the safety factors of historical structures the internal forces and stresses determined through the structural analysis are compared with the load carrying capacity calculated for existing elements.

It is very important for structural analysis to inspect the history of a building. The uncertainty about loads the building was subjected to in the past or the doubt about the load resisting properties of the building materials render the safety factor of the building obtained through structural analysis unreliable. Studies conducted through parametric structural analysis method, which makes use of loading conditions based on realistic assumptions and variable material properties, diminishes the negative effects of the uncertainties due to the lack of material data, to a certain point (Boothby, 2001). Assessments based on the results obtained through structural analysis are valid only if they coincide with the actual signs of deformation, material degradation or lines of crack observed on the building (Mainstone, 1997).

The structural systems of historical buildings and monuments usually have very complex and three dimensional geometric configurations. This makes it difficult to realize the structural behavior of the entire building through basic rules of mechanics and structural behavior of individual structural elements. The best way of analysis to assess the present structural condition of the building is the numerical analysis method. The latest developments in computer software technology have made the equilibrium, mechanical, linear-elastic and nonlinear structural analysis of quite comprehensive analytical models very fast and accurate. One of the best techniques for the structural analysis of historical buildings is the finite element analysis method.

EXPLORATION OF STRUCTURAL PERFORMANCE OF HISTORICAL MONUMENTS IN HASANKEYF

With a history traced back to the 7th century BC, Hasankeyf district had hosted many different civilizations. It is one of the most important natural and archaeological sites for the historical background of humanity. It is particularly composed of hundreds of natural caves and caverns in the deep canyon. This is the chief reason that it is called as the main city of "Mesopotamia cavern inhabitant". The majority of the historical buildings and monuments in Hasankeyf district date back to Artukid and Ottoman periods. Besides the influence of Islamic culture, the buildings involve the reflections of Byzantine and Roman cultures as well.

The ruins of the Ancient Silk Road Bridge are among the most striking features of Hasankeyf. This bridge was built in the 7th century with around a 100 meters length; but unfortunately nothing but three of its piers have survived until the present time (Figure 2). It is still possible to see the fortification walls that were located 100 meters above the River Tigris. These walls were built in the 12th century by the Artukids on a massive rock hill. At the top of the hill, the Grand Mosque, which is a work of the 14th century, takes place.

The Upper Town (also known as the Citadel) is on a high terrain surrounded by deep canyons. These canyons were formed by the floods of River Tigris in hundreds of years. The structural conditions of the fortification walls and the buildings inside are poor. The majority of Hasankeyf district will be flooded by the dam water that will be constructed nearby. An intense archaeological excavation has been started in the district in the recent years to save the historical monuments and treasures that have not been exposed yet. Also, strengthening and/or relocation of particular buildings have come up within the scope of these searches. The tower in front of the Grand Palace in the citadel is among the buildings proposed to be relocated (Figure 3).



Figure 2. Hasankeyf Bridge



Figure 3. The Grand Palace Tower in Hasankeyf Citadel

With a rectangular plan scheme, the tower has 4.7 m x 4.0 m cross-sectional dimensions and 14 m height. Up to 10 meters height of the tower, regular-cut stones are used for construction. Above this level, the construction is coarse due to the use of rubble stones. The upper part of the tower is partially collapsed and has lost its rectangular scheme.

From the base up to 2 meters height, the tower suffers important loss on the material and cross-sectional dimensions on the side that faces the entrance to the palace as it is seen in the Figure 3. Similarly, due to material loss, 150-200 mm abrasion is seen at the base level on the side that faces the cliff. Also, the eastern side of the tower suffers from material loss at the base level. As a whole, it could be said that the tower has lost an important portion of its structural section. This condition is not allowable in terms of limiting values and safety factors in any of the current codes and regulations used for the modern buildings. Under these circumstances, it is not pretentious to claim that the tower stands only by pure luck.

Detailed finite element models of the Grand Palace Tower are prepared to explore its current structural behavior and capacity. Former surveys of the structure were used to create the models. Stone and mortar are assumed to act as a single material and approximate elastic material characteristics were taken into consideration.

FINITE ELEMENT ANALYSES AND INTERPRETATION OF THE RESULTS

The mathematical model of the Grand Palace Tower is subjected to gravity, wind, and earthquake analysis, respectively. At the first place, the gravity analysis with only the self-weight of the structure was performed. Due to the geometrical irregularity, which is caused by excessive material loss at the base level of the structure, 0.2 mm ($\Delta=0.2$ mm) displacement is observed at the top of the structure as it is seen in the Figure 4. Consequently, axial compressive stresses varying between $\sigma=150$ kN/m² ile $\sigma=675$ kN/m² are seen at the base level of the structure (Figure 5). As it could be seen, even the self-weight of the structure creates significant stresses due to bending moments. The excessive material loss that consequently leads to asymmetrical layout is the reason for these high values.

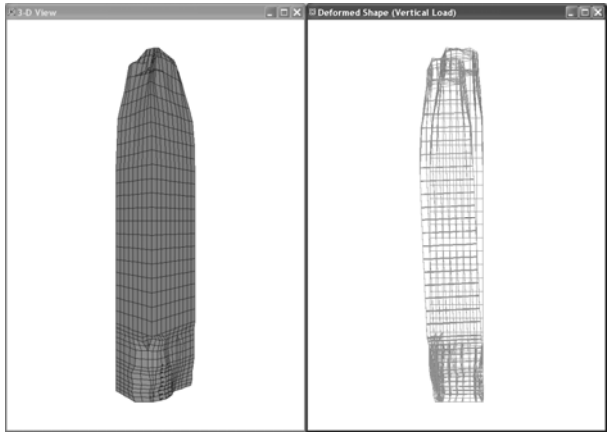


Figure 4. Lateral displacement of the Grand Palace Tower in gravity analysis

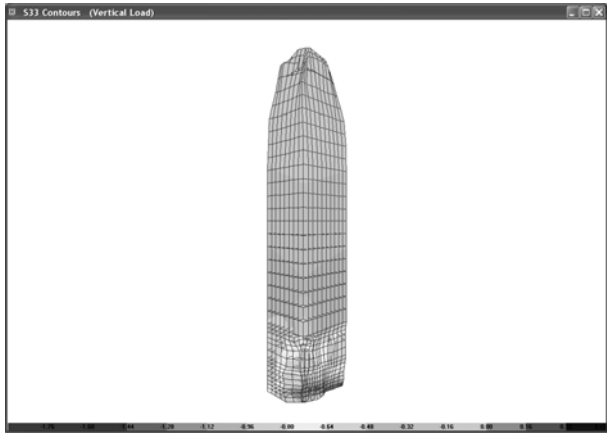


Figure 5. Compressive stresses at the base level of the Grand Palace Tower in gravity analysis

After the first process, the model is analyzed by finite element method according to the specifications of Turkish Structural Loads Specifications (TS498) with $p=2.08 \text{ kN/m}^2$ wind pressure. As Figure 6 and Figure 7 show, the lateral displacement is seen as $\Delta=1.95 \text{ mm}$ at the top level while the stresses vary between $\sigma=880 \text{ kN/m}^2$ (compressive) and $\sigma=885 \text{ kN/m}^2$ (tensile) at the base level.

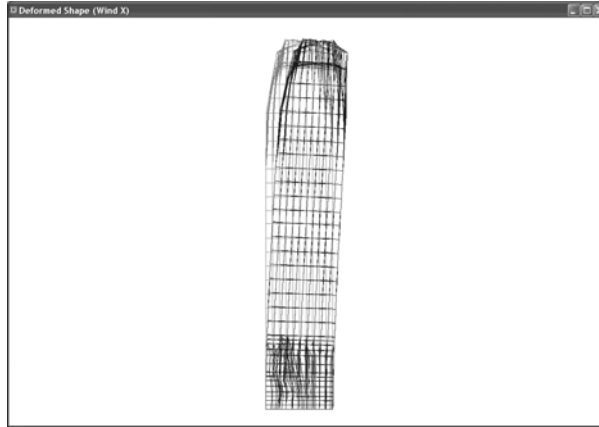


Figure 6. The lateral displacement of the Grand Palace Tower in gravity and wind analysis

As a whole, under the gravity loads and wind loads combination, the structure sustains $\sigma=1555 \text{ kN/m}^2$ compressive stress at the base level. The Turkish Code specifies the allowable values as $\sigma=0.9 \text{ MPa}$ (compressive) and $\sigma=0.135 \text{ MPa}$ (tensile) for stone masonry structures. Based on these limit values specified in the codes and the rather limited information about the strength of the material, the tower could collapse in a violent storm.

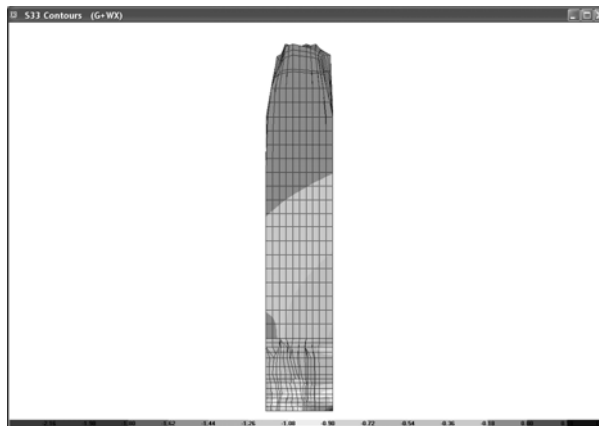


Figure 7. Compressive and tensile stresses at the base level of the Grand Palace Tower in gravity and wind analysis

The next step covers the dynamic analysis with mode superposition. The specified values in the Turkish Earthquake Codes for Hasankeyf are used in this analysis. The first 3 periods of the structure are obtained as $T_1=0.23$ sec, $T_2=0.17$ sec, and $T_3=0.04$ sec (Figure 8). The stress value for the base of the tower is $\sigma=\pm 8000$ kN/m² as it can be seen in the Figure 9. Also, the lateral displacement at the top of the tower is obtained as $\Delta=16.32$ mm.

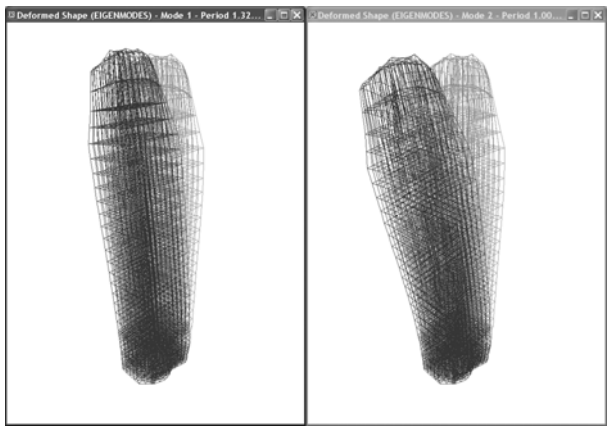


Figure 8. The mode shapes of the Grand Palace Tower in dynamic analysis

As a result of the detailed computer analyses, it is seen that The Grand Palace Tower in Hasankeyf Citadel is seen to be in great danger in its current condition. Unless the necessary precautions are taken, the tower is likely to collapse partially or totally in case of a strong wind, lightning, earthquake or physical disturbances.

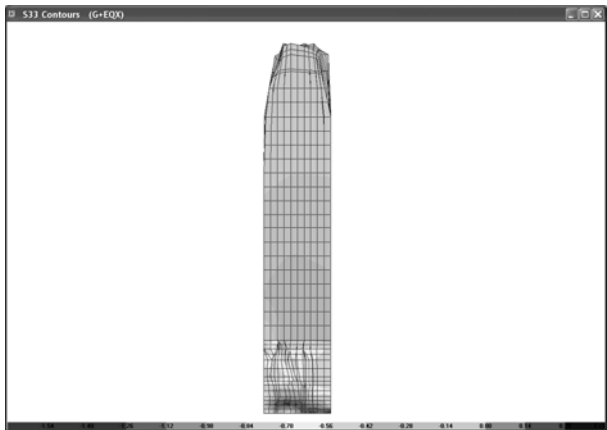


Figure 9. Compressive and tensile stresses at the base level of the Grand Palace Tower in dynamic analysis

EXPRESSION OF STRUCTURAL INSIGHT BY STRESS CONTOURS

Every stage of the structural actions within the members of historical buildings can be observed by numerical analyses. Finite element analysis of structures assure a variety of graphical outputs that give an idea about the realistic structural behavior of structures in terms of deformed shape, stresses due to in-plane forces and bending moments under any specified loading conditions. Engineering approach fulfill the problem, dealing with incredibly complex formulas and inadequate conclusions which do not promote any denotation to architectural historians. On the other hand, understanding structural behavior would provide a significant advantage to restoration specialists and architectural historians in terms of understanding the past and future destinies of historical buildings and guiding technicians in their restoration efforts. This is not as difficult a skill to acquire as one may think. Advanced computer software are of course developed for the solution of engineering problems, however with the acquisition of some basic information and the interpretation of easy-to-understand graphic outputs, architectural historians, whose role is critical in the preservation of historical monuments, will be exceedingly efficient in the guidance of restoration efforts.

In Figure 5, one can observe the compressive stresses that propagate with an increasing intensity along the height of the tower, which is performed by SAP2000 finite element analysis software (Computers and Structures Inc., 1999). In Figure 6, the deformed shape of the tower due to wind loads can be seen. After this basic example demonstrating the interpretation of the numerical analysis of a well-known structural element, let's examine the results of a finite element analysis conducted in order to understand the structural behavior of a historical masonry structure with a very complex geometry.

In Figure 8, one can observe the various mode shapes adopted by the structure during an earthquake. In their first mode, buildings are swayed in the direction determined by their stiffness, in other words, geometrical form of structural members insists on this mode shape. As shown in Figure 9, results of an earthquake analysis exhibit very complex stress variations in the structural members (Unay, 2001). The design and dimensioning of these members have a significant influence on the architectural form and construction technique. Structural influences such as this may have an effect on the way architectural historians evaluate the artistic merits of the building.

One of the most interesting examples of this kind is the finite element analysis of ruins of the tower of Hasankeyf Palace, which continues to remain standing seemingly challenging all the fundamental rules of engineering mechanics (Computers and Structures Inc., 1999). The eroded base of the tower is modeled in detail. Earthquake and wind analysis solutions demonstrate very convenient outcomes for the protection of the tower. The effect of the eroded parts on the overall stability of the tower and the related stress distribution within the structure can be observed in a simple and understandable way with the help of colored stress maps.

In finite element analysis, modeling sequence follows this order; the actual behavior of the prototype, the behavior of a single finite element and the behavior of the finite element model. Important assumptions are made at all levels, and a sense of

proportions must be maintained when choosing the elements. Therefore, to create a perfect model, detailed material behavior and element behavior must be studied (Unay, 2001).

CONCLUSIONS

It is especially important to know the structural properties of the building during the interpretation of the architectural and artistic value of historical monuments in terms of the reliability of the achieved conclusions. Previous damages, especially the ones caused by natural disasters, provide valuable information about not only the individual building at hand but also the historical and architectural values of the region and the epoch. There is a fundamental relation between natural disasters and disturbances, and the architectural style that people develop according to the geographical location and geological properties of the region they live in.

The structural analyses conducted to determine the structural behavior of buildings against natural disasters remains within the scope of engineers. However, the engineers' point of view for the historical and cultural values of buildings is quite different from architectural historians'. On the other hand, due to the reasons stated in this article, although it is very necessary, architects, restoration specialist and architectural historians are unable to involve the interpretations about the structural behavior of historical buildings. Ever-developing computer analyses, such as the examples demonstrated in this article provide many opportunities for researchers from outside the field of engineering through easily interpretable graphic outputs.

REFERENCES

- Boothby T E, Analysis of masonry arches and vaults, *Progress in Structural Engineering and materials* 2001; (3), 246-256
- Computers and Structures Inc., SAP2000 linear and nonlinear static and dynamic analysis and design, Berkeley, California, 1999
- Croci G, The conservation and structural restoration of architectural heritage, Southampton: Computational Mechanics Publications; 1998
- D'Ayala D, Speranza E, Definition of collapse mechanism and seismic vulnerability of historic masonry buildings, *Earthquake Spectra* 2003; 19(3), 479-508
- Lourence PB, Computations on historic masonry structures, *Progress in Structural Engineering and Materials* 2002; (4), 301-319
- Mainstone RJ, Structural analysis, structural insights, and historical interpretation, *Journal of The Society of Architectural Historians* 1997; 56(3), 316-340
- Unay A I, Earthquake resistance of historical structures, Ankara: METU Faculty of Architecture Press; 2001

RULE OF CASSOON IN RECONSTRUCTION

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ABSTRACT

In the age of the technology, knowing the traditional build methods is the key to solve the architectural problems nowadays. There for we gain the experience of several centuries, so that we can use it to developing our technology.

When we do reconstruction, we should follow three items consist of demolition, clearance and rebuilding. And in rebuilding, two items that is so important than others is remodeling and reintegration.

In this way and to generate new and orchestrate urban space or organized space also innovative debate between past and future, firstly we should gain knowledge about tenet of buildings then do reconstruction whit this tenet. One of tenet in Middle East, especially in Iran, is cassoon.

Cassoon is one of the permanent traditional methods in building arches. Building with arch most of them cases with waffle slab, cross vault, wag vault, annular barrel vault. Substructure of arches and domes is a cassoon.

Cassoon is phenomenon that is made from part of arches that is cover of main roof and often as a second cover and it builds shorter than main roof.

The materials always were used in the past and nowadays are clay, gypsum, brick and finally tile. These materials caused heavy weight. And finally cassoon causes thickness of walls. Reason of these, is thrust of the arches increase.

In this paper which dwells upon the cassoon, presented is a method to use metal profiles in cassoon construction. This method, decrease the weight of structure and is a reliable method of repairing architectural heritage.

Keywords: Technology, Cassoon, Reconstruction, Arch, Structure, Dome

INTRODUCTION

Building the raise construction is a principle comes from tent dweller that is settled in the salt desert. Subsequently knowing that the worm weather is settling in high and cold weather remain in the under parts; cause to occasion that this high become the part of Islamic architectural constructions.

On the other hand in order to a special religious construction can be visible from far should be constructed high. But how this high raise in the inner parts seen and how does match with human scale cause to create the elements such as vaulted or arched in places decorated with paintings. This principles need to powerful tracing in the land and enact and minute transfer to the high and them fill the space between them with the wall.

But today's new ways of manufacturing can change this method and we can use light material to lighten or alleviate the structure without making heavy.

Know we should consider that needing to such element does in todays architectural exist or not? And also is the reconstruction useful or deconstruction? If we want to reconstruction, how should it be done? Should it be exactly as same as the older one? Or should it be changed?

The answer of this question and many other questions this assay.

Just as it was said the idea of manufacturing; high raise structures was taken from tent dweller that are comforted in the desert.

Notion to this matter that Islamic countries such as Iran, Iraq, Saudi Arabia, Turkey and... are settled in this areas, confirm or admit this affair. (pic 1-3)

In this areas raising the worm weather to higher parts cause under parts become cool. Besides this factor when we want to make a structure in a city under consideration and propound it we should eliminate it. In order to visible from far but this over head manufacturing shouldn't cause that the men feel fear or receive insignificant.

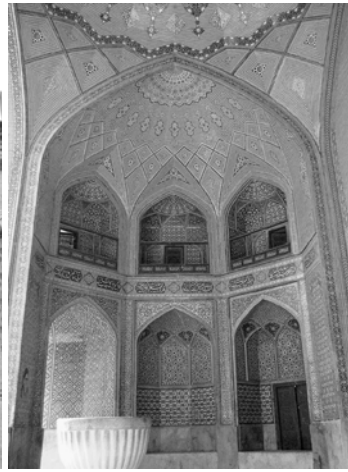
There are some ways in traditional architectural in this areas to point. First, double partitions especially in the form of dome roofs. (Drawing 1)

The second way that we can refer to it is the decorative that cause the roof become closer to men and can be adjustable in the inner parts.

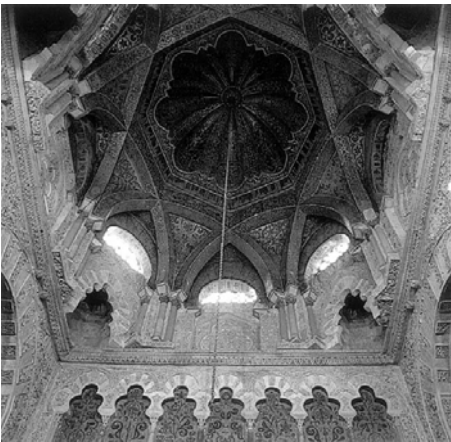
Although this principle can be as decorative elements but one of them is playing the part of structure too. This element is "Karbandy". It can support the weight and because of this tolerance sometimes dome was structured above it.



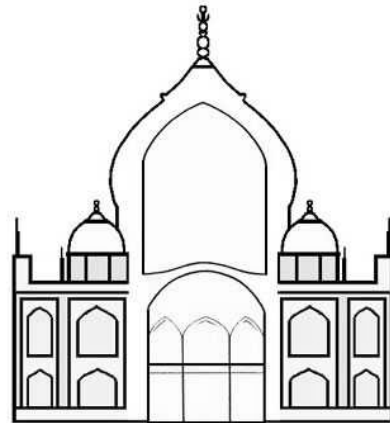
Picture 1. Blue mosque, Istanbul, Turkey



Picture 2. Chaharbagh (4garden) school, Isfahan, Iran



Picture 3. Cordoba, Spain



Drawing 1. Double partition Dome, tajmahal, India

RECONSTRUCTION OR DECONSTRUCTION

It is obvious that in all of the since to progress we should use the ancients findings. If know we are in the thence and technology century, it is because of ancients guidance's and if know we can shot this ship to the space, it is because of Einstein's findings and if he could propound relativity hypothesis, it is because of gravity of the earth that was invention by Newton and this ripple continued until receive to the first human.

So being indifferent to the ancient's findings mean to be annihilated and disappeared. This fact in architecture is also true.

If the man can design high raise structure about 1 km high or removable structure, is because of the progress in since of manufacturing. So being indifferent with the ancients findings and demolition the structure without any protection and deconstruction means return to basic level and deconstruction instead of making head way.

The signatures that taken from the people in this field, show that most of the common people believe to reconstruction at the moment of repairing traditional building.

By putting a question to the vote about Re/Deconstruction, 64% of people who lived in a new cities, believe to reconstruction and 26% believe to deconstruction and 10% believe that the local condition is determined.

But in old cities 86% of people persuaded to reconstruction and only 10% persuaded to deconstruction and 4% haven't any idea.

After discussion between specialists near 80% of them persuaded to reconstruction and 10 % consideration is deconstruction and 10 % believe to less remaining traditional elements with reconstruction. (fig.1)

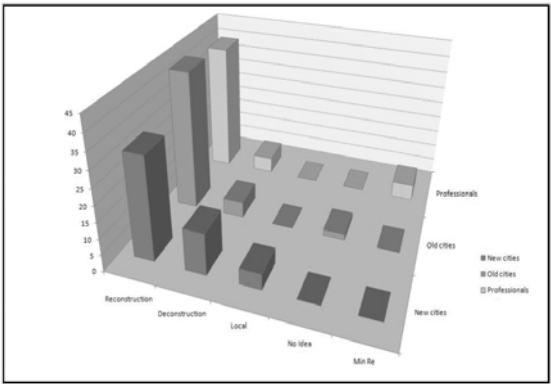


Figure 1. Opinion about Re/Deconstruction in old cities and new cities and between specialists

In the mean time view point of 96.65% of the old man's show that they believe to reconstruction and only 3.35% believe to deconstruction and between middle age people 77.5% believe to reconstruction and 11.25% believe to reconstruction with protection of traditional terms and 6.25% believes to reconstruction with the effect of local condition and 5% believe to reconstruction with less protection.

Between juvenile 60% believe to reconstruction 32.5% believe deconstruction and 2.5% believe to reconstruction with less protection and 5% haven't any idea. (fig.2)

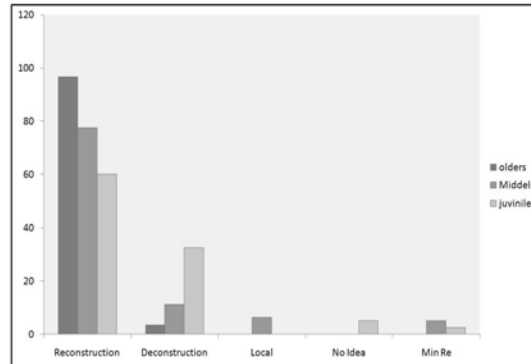


Figure 2. Opinion about Re/Deconstruction between youngsters and older.

In this way we can conclusion that most of the people believe reconstruction of traditional elements rather than deconstruction.

RULE OF RECONSTRUCTION

Social construction is a complex collection of norm, value and social role.

Therefore the rule of culture in the social construction is very important.

If we face with this matter from architectural view point we see that the buildings create the culture and if we make more attention to it, it will be obvious that the elements of a structure such as decoration, bijouterie, method of manufacturing and etc introduce that structure.

So when the reconstruction is occurring, the first case that must be considered is the culture of that building or region. As we know, different countries have different cultures and in the countries various cities, village have antithetic culture and also there are many differences in the structures of cities and villages.

The second (case that should be considered), is the architectural elements of that culture. Some of these elements may be similar in several cultures. For separating the elements that should be hold or omit looking the history of that culture is enough.

Which pattern was repeated in the history and fixed as the element of that culture should be kept and protected and which was only in a short time of history of that culture, must be disappeared or deleted completely.

On the other hand the condition of today's culture has an important rule on architectural reconstruction.

The best way for achieving a special rule in this field is interview with people, in order to inter the people's opinions in the reconstruction of a building.

So the diagram of reconstruction rules will be like this: (Diagram. 1)

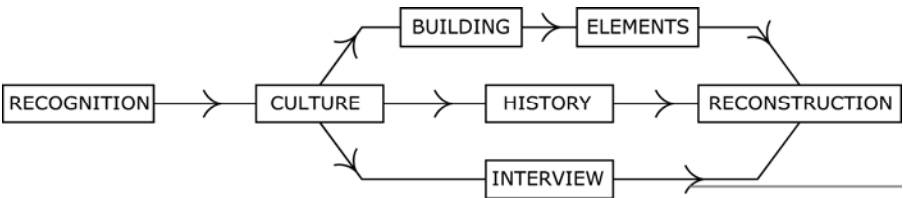


Diagram 1. Diagram of reconstruction rules

CASSOON

Cassoon is an element that is seen in the cultural architectural of many Islamic countries such as Iran, Iraq, Morocco, Egypt and Turkey.

Sometimes this element is a structural element and at the same time decorative and completed one.

It can be considered as a historical element in architectural of this countries and also according to a 150 people idea that were putting in a question in Iran 118 person was agree with keeping of the various cassoon and 23 person disagree with that and 9 person agree with keeping beside up to date them. (fig.3)

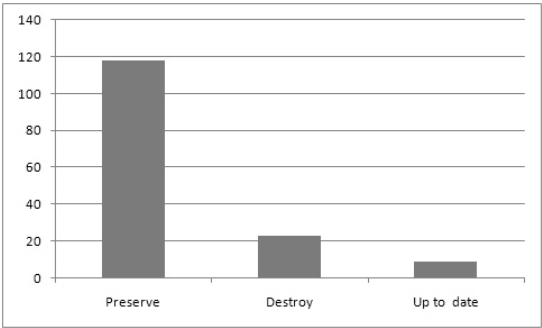


Figure 3. Opinion about preserve or destroy cassoon in Iran

So as elements that always was in the peoples mind and commemorated the cultural reminiscence its conservation is necessary.

On the other hand casson is arcs beside each other and fill the roof that this roofs can be either main roof or shorter than the main roof.

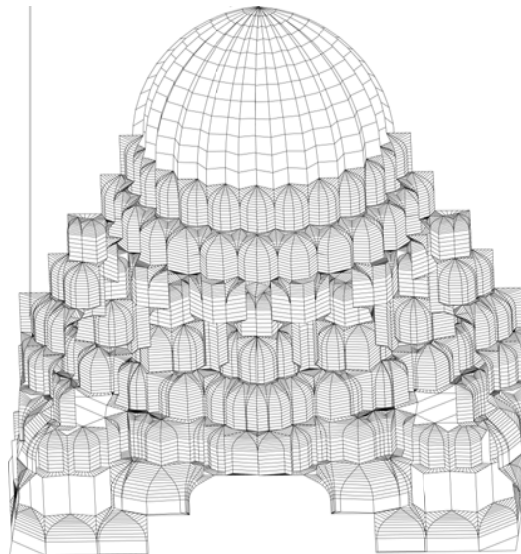
We can point to these advantages of casson:

1. Heat and sound isolation (non-conductor) for inner areas.
2. Decrease the height giving the human dimension to the area
3. Decrease the broken and perpendicular lines in the linier parts and change them to the curve.
4. Controlling the roof forces in the all sides and consolidation and rehabilitation the structure against earthquake.

THE METHOD OF CASSON CONSTRUCTION

In the past first the plane of casson was drawn in the ground and then executed by using gypsum and building materials .This made the building heavy and decreased the resistance of it against the earthquakes.

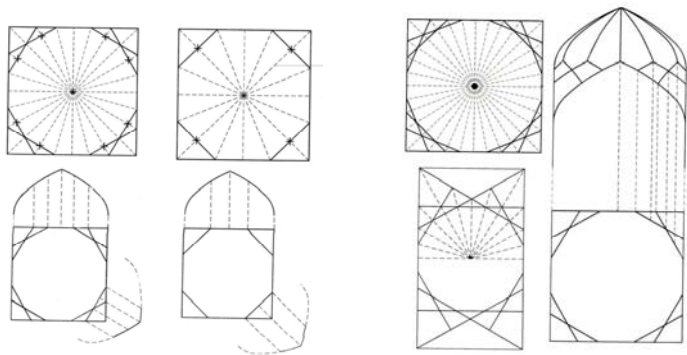
With improvement in the technology and with using of computers and different drawing instruments, now, we can build this architectural element simply by using building profiles and screen. (Drawing. 2)



Drawing. 2. Usage of computer in drawing Muqarnas

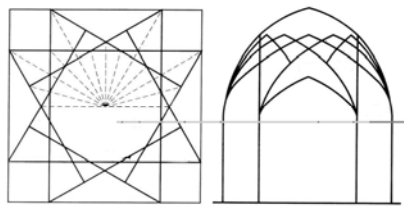
This cause to decrease the weight of cassoon and raise its resistance and cause to restored and renovated of this element.

This pictures and drawings show the kind of cassoon and method of structuring that element with new way: (Drawing 3-5, Pic 4-8)



Drawing. 3. Usage cassoon under dome

Drawing 5. Other usage cassoon in covering floor And under dome



Drawing. 4. Usage cassoon in covering floor.



Picture 4. One type of light cassoon under construction.



Picture 5. One type of light cassoon after construction.



Picture 6, 7. Other type of light cassoon under construction; Back of one type of light cassoon (muqarnas) under construction.



Picture 8. Back of one type of light cassoon (muqarnas) after construction.

CONCLUSION

This investigation(research)shows that by finding new method's of building .we can protect the traditional architectural elements of various countries and in this way the history and culture of country can be saved from disorganization.

Although this way (method) was executed only for few elements in Middle East areas and in some projects, but it needs more study and research.

If the structural points will consider completely, it would be accessible many other benefits of this element and other elements like this.

ACKNOWLEDGEMENTS

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REFERENCES

- M. Habiby, M. Maghsoody (2001). Urban Renovation.
H. Zomarsheidy. Building execute with traditional materials.
H. Zomarsheidy(1994). Vault and arch in Iran architecture.
N. Fokoohy. What is construction?, Iran Newspaper.
S. Noroozi. Process of social construction. <http://iransociety.blogfa.com/post-62.aspx>
H. Lorzadeh. Renovating lost traditions.
Z. Bozorgnia. Geometry in Iran architecture.
M.K. Pirnia, G. Memarian (2005). Islamic architecture.

EDUCATION

(De)/(Re)Construction in Architectural Education: A Qualitative Inquiry in an Individual Case

Pınar Dinç

Issue- Based Research Methods versus a Single Method for All Subjects at Hand

Ali Güney

Re/Construction of Architectural Thought

Dilay Güney

Reconstruction in Design Education: Creative Drama

Hare Kılıçaslan, Ali Asasoğlu

Students Re-Construct their Environments

O. Osman Demirbaş, Sibel Ertez Ural, Meltem Gürel

Studio 'bdytrcs-plc': Body-Trace-Space-Place

*Levent Arıdağ, Fitnat Cimşit, Şebnem Sözer Özdemir, Zulal Nurdan Korur,
(Advisor of the Studio: Sercan Özgencil Yıldırım)*

Construction of Social and Physical Environment in Design Studios

Gamze Özkaptan Alptekin

Sensing Spaces: A Body Oriented Architectural Design Education

Burkay Pasin, Gül Kaçmaz Erk, Selma Göker

(De/Re)Construction" of an Upper Grade Design Studio via Fundamental Principles of Design

Tuğyan Aytaç-Dural

Re-Construction of the Design Studio in the Digital Age

G. Ufuk Demirbaş, O. Osman Demirbaş

A New Approach to the use of Communal Gardens and Spaces in Cities: A Design Studio Experience

Evren Burak Enginöz

Computer Simulations to Improve Perception of Structural Concepts in Architectural Education

Saadet Toker, Cengiz Özmen, Ali İhsan Unay

(DE)/(RE)CONSTRUCTION IN ARCHITECTURAL EDUCATION: A QUALITATIVE INQUIRY IN AN INDIVIDUAL CASE

Pınar DİNÇ

Gazi University, Faculty of Engineering and Architecture, Department of Architecture

ABSTRACT

For diagnosing the key values that shape re/de-construction of a school, i.e. the Department of Architecture, Gazi University, two qualitative data resources were used in combination; the discourses of seven Gazi graduate professionals and the deep-interview texts of seven academicians who were actively involved with the constructional processes of the institute. Qualitative analysis indicated that (i) vocational character of education, (ii) vertical organization of design studios and (iii) developments in international relations to be the merits that should be reconsidered in reconstruction. On the other hand, (i) physical and social fragmentations and (ii) conformism/superficiality in student attitudes were found to be the demerits causing deconstruction. Although findings were case-specific, issues were thought to be representing the constructional adventure of all architectural schools working with high determination.

Keywords: Architectural Education, Vocational education, Vertical design studios, International projects

INTRODUCTION

The skills, knowledge and understanding that a graduate architect should acquire through education were defined in a series of documents, charters and directives. Such definitions found reflections in national scales too, educational institutions in each country started to define and declare their missions, visions and methods which make them not only *unique* but also *integral* to the European & world culture of professionalism.

Symposiums/congresses, special issues of professional journals, international/national workshops, institutional/inter-institutional reorganizations, accreditation boards and exchange programs, etc. all put the new definitions in the core. Curriculum (re)arrangements allowing student and staff exchanges played the central role. Little number of distinguished institutions leaded these changes whereas majority preferred to go with the flow or rather keep an observational position until a settle down.

Apparently, being forced for reorganization, architectural schools need to question their institutional construction. Good questionings become possible through the critical inquiries conducted within institutes. External evaluations that assess institutions on a comparable basis have already been done regularly within the frame of aforementioned developments in higher education. Quantitative nature of such external evaluations is not very suitable for explaining the unique and idiosyncratic constructs of architectural schools. Therefore, qualitative methods need to be applied.

THE SCOPE OF THE PAPER

An internal discovery of the dynamics that shape the construction of an institute was aimed. Thus, the paper proposes a qualitative methodology for discovering the main values that lead a department. In this frame, researcher gathered data from her own institute, Department of Architecture, Gazi University, shortly Gazi Architecture (GA).

As known, qualitative studies are not as well-defined / pre-defined as the quantitative ones since they are not based on positivist paradigm. They are complex in nature (i.e. under the effect of several paradigms and thus politic) and open to be developed during the research process. They highly depend on personal observations and the researcher's perception of the problem. Being conducted in natural settings, they focus on the context-bounded subjective responses of individuals and use multiple tactics in order to attain a comprehensive understanding for facts. (Punch, 2005; Kümbetoğlu, 2005; Groat & Wang, 2002)

In this research, the researcher used two qualitative data resources in combination. The first data was from the eminent practicing professionals of the institute. The researcher conducted a series of seminars with them, named *Competitors in Architecture (2008)*, and discovered the need for a more specific inquiry representing academician's point of view as well. Undoubtedly, such an inquiry will not be completed until it includes students. Therefore, the present paper should be considered as a section from an ongoing project.

THE TWO SUCCESSIVE PROJECTS: THE METHODOLOGY AND THE DATA

Competitors in Architecture: Gazi Graduates in National Architectural Competitions was a research project. [1] Seven distinct architects, who were eminent old graduates of the school and prolific winners of national architectural competitions, gave structured seminars during the Spring Semester in 2008 about their educations, professional practices and competition works. [2] Each seminar took at least one and a half hour and was carried out with the participation of students and teaching staff of the institute and the invited professionals of Turkish Chamber of Architects. As they were informal lectures about the professional life, they were also valuable retrospections on the education history of GA and the last 30 years of the national architectural practice. All presentations were recorded and decoded. [3]

Reconstruction and Values in the Department of Architecture in GÜFEA is another succeeding and ongoing research project funded by Gazi University. Student

qualifications, physical environment, teaching staff, curriculum, relationships, cultural milieu, information and media technologies, the library, foreign language, scientific thinking and international collaborations were the items of the qualitative study. The qualities that the department seems to be losing lately, the most significant characteristic(s) of the department that should be kept/sustained, the traits on which a *good future* can be established, the changes in the individual's attitude and function in time and the possible implications of being an independent faculty of architecture rather than being a *department* in a faculty of engineering & architecture were also addressed. Eleven issues were questioned firstly through a simple questionnaire and then through deep interviews with 7 academicians who were with the institute for at least 20 years, so had the opportunity for observing and actually conducting the changes during the time period. Most were Gazi graduates so were able to tell about their education in Gazi too. All interviews were recorded and decoded.

The texts from the two successive projects were the main data resources for diagnosing the values that has active role in de-re/construction of the institution. The texts of the first research had supplementary role whereas the second one was the main inquiry focusing directly on the current structure of education.

THE RESEARCH: DIAGNOSES

Reviewing two data sources, five issues were diagnosed to be the possible active values in de-re/construction of the GA. Positive values are the merits that should be kept/used in the reconstruction whereas the negative values are the demerits that have already caused deconstructions in the present being of the institute.

Merits: the positive issues that should be kept/improved in reconstruction

Vocational education

"ADMMA had a tradition within the education process. It was a competitive and market-based cult. Education program was based on that as well, it was an environment where the experience from there is embedded more or less in education." Murat Uluğ

"As I was sophomore, Ankara Court House competition was resulted. Mr. Umut İnan, Yüksel Erdemir and Edip Önder Us won the competition. The building with an area of 80,000 m² was the biggest competition of the time. Mr. Erdemir and Mr. Us were the workshop teachers at our school. Coincidentally, Mr. Erdemir was my group teacher in the 1st semester. My group teacher at the 2nd semester was Tanju Kaptanoğlu, he won the TEK building at that time... My group teachers won two big competitions of Turkey in the same year, which made me proud. If our teachers were that successful, then we could also be. I have had a considerable confidence that time (1973)." Cem Açıkkol

"... one of our most significant characteristics of ours is that students leave the school confidently and equipped with updated information relevant to the market and real life... I think that our student graduates from the school equipped with

the knowledge useful for him on the market... Achievements of our students at the recent architecture project competitions also support what we have just said. I think we have trained architects relevant to the current conditions of Turkey.”
Füsün Demirel

GA started its life as a private school of architecture (Yükseliş, ADMMA and ADMMYO) allowing its students to work in day time and follow their courses in evenings. Students were able to work in professionals' offices thus were in the special society of master architects of time. Some of these masters were also teaching in the school. Nearly all teachers were practicing professionals assisted by newly graduates who then became the academicians of present time. This direct contact with the professional world was a kind of *training* rather than a full time / formal academic education. The practicing architects who were leading design studios were both *mentors* and *role-models* from whom students learned the basic values of the profession and the daily knowledge of architectural practice.

Role of practicing professionals has lost its intensity in time after the academic reform and the foundation of Turkish Council of Higher Education in 1981. Without losing mentorship and role-modelness characteristics, they became part-time teachers in the institute. In present situation, nearly half of the studio teachers are this kind new generation part-time people, who practice their professions in their private offices and participate in design studios. They neither get involved in academic decisions nor give theoretical courses. Their knowledge on the daily practice (e.g. competitions, construction methods, materials, regulations) and values of the profession (e.g. ethics, responsibilities) are transmitted to students only in design studios.

“All of our part-timers were really qualified in particular areas. They have proved themselves... Part-timers are like fresh blood, a feed in and mutual interaction. They are also fed from us. They undergo some information refreshment and learn about new things and update previous knowledge.” Gökürk Gültek

“We have around 20 part-timers. That is very important. It is very important and necessary for a professional to come here to hold a course. Yet it is necessary to carefully select part-timers because training is a hard job and the person to talk about training should be considerably knowledgeable. If you do not know about training, it does not necessarily mean that you can give the relevant training as a very good architect or designer. Therefore, it is very important that the individual has close ties with training. Not all good designers are good trainers. It is very difficult, you will work at the market, you will know about the training, and you will link training with the market.” Hakan Sağlam

Obviously, choosing right part-times is a critical issue. Ability, skills, experience and proficiency in design and construction do not necessarily guarantee good teaching. A professional, who has been approved in the professional milieu for several times, can hardly collaborate with the other part-times who have similar approvals and with the academicians who have a totally different world of approvals (e.g. having scientific papers in indexed journals). So, it is not only a matter of competency but also a matter of constructing positive/appropriate relationships.

Apart from the part-time teachers' involvement, organization of summer trainings (one in a construction site and another in a professional office), trips to nearby construction sites and newly built masterworks, periodically renewed course contents and collaborative studies with private sector (e.g. material producers) and with The Turkish Chamber of Architects were the other issues that were pointed at as the positive indicators of vocational education in GA. Though the satisfaction felt from these issues was found high, improvement and support through international projects / collaborations were mentioned to be necessary for the near future reconstruction of the department.

Vertical design studios

"Basic Design was a horizontal studio only, previously. Then, vertical workshop was adopted instead and all students received training in those vertical studios. 201 was turned into horizontal workshop and 102 was also horizontal. Students almost spent half of the education in horizontal and half in vertical. This (vertical) was particular to us, which was also appreciated and adopted by other schools. I am concerned that we are losing it a little bit." Hakan Sağlam

A vertically organized design studio involves students from different years. In the current structure of design studios in GA, 1st year students have their Basic Design education without mixing with elders. For the 2nd year-1st semester students there is a special organization named *"the threshold studio"* which aims easing students' process of transition from basic design thinking to architectural design. After this, and until the diploma project, students choose a studio among five possibilities and continue their design education in vertical order. Therefore, each vertical studio contains students from 4 different levels. Final year is special since students do not attend studios with their younger friends; they present their works four times in a semester to their studios which are again one of the five vertical organizations.

Table 1. The current structure of design studios in Gazi Architecture

Time	Code	Name	Structure (horizontal/vertical)				
1 st year 1 st semester	M101	Basic Design 1	Horizontal Design Studio 1				
1 st year 2 nd semester	M102	Basic Design 2	Horizontal Design Studio 2				
2 nd year 1 st semester	M201	The Threshold Studio	Horizontal Design Studio 3				
2 nd year 2 nd semester	M202	Vertical Design Studios	Vertical Design Studio 1	Vertical Design Studio 2	Vertical Design Studio 3	Vertical Design Studio 4	Vertical Design Studio 5
3 rd year 1 st semester	M301						
3 rd year 2 nd semester	M302						
4 th year 1 st semester	M401						
4 th year 2 nd semester	M402	Diploma Studio	Vertical Design Studio 1	Vertical Design Studio 2	Vertical Design Studio 3	Vertical Design Studio 4	Vertical Design Studio 5

In a vertical design studio, students indirectly learn from each other. Proposals of experienced students illuminate the specific issues that novices cannot discover themselves. Elders become the first critics of the younger ones. Sometimes students of a studio are divided into teams. Although individuals are responsible for presenting their own design proposals at the end of the semester, they develop their first design ideas and the suitable presentation techniques within these teams through collaboration.

Vertical design studios facilitate variances in terms of experimenting original design topics and methodologies. One studio may decide to participate to a student competition and organize the semester's program accordingly as the other may have specialized teachers (e.g. ecology and energy efficient design) and carry out the studio work in combination with an elective course. Thus, actors and daily events have impact.

Students also like this variation. They can choose freely and decide according to their interests. Sometimes they are attracted by the topic but mostly by the design sites out of Ankara. Part-times of studios also attract students, since some are famous or are possible employers for summer trainings. In time, after trying a couple of studios, students start to decide more consciously, considering their own potentials and attitudes as pre-designers and choose the studios in which they can act harmoniously. Thus vertical organization of design studios satisfy and facilitate all parts.

International projects

"I always thought as I was supporting that if I bring them to this environment, if they come here, our students - undergraduate, graduate, research assistant, etc.- we overcome problems in reaching them, they can make better use of what they have in hand," Nur Çağlar

"I wish we had opened much before. Here the benefit is not only confined to the information acquired, all the time. I think it is very useful to identify our status. You look, you find out where you fall short, you observe the mistakes, you realise the false beliefs, you try to discard and fix them." Göktürk Gültek

"... I know that we do not have a huge participation. However such an international activity should be experienced as a festival" Tanju Gültekin

GA has been organizing EWSAD (the European Winter School in Architectural Education) for 7 years. The first 4 years were run through establishing bilateral individual agreements with European schools of architecture. In 2007, the project was approved as an ERSAMUS/SOKRATES IP (Intensive Project) program thus gained international validity (=3 ECTS credits), popularity and participation. [4] It is the researcher's observation that (as being the official evaluator of the EWSAD project) EWSAD is a good meeting point for smart students and has encouraging effect on relatively moderate people.

Obviously, participants of such programs learn a lot from other participants in terms of cultural differences and varying approaches to design issues. Such milieus are also useful for students for getting more conscious about their own abilities and knowledge. The friendships and teacher-student interactions facilitate summer training opportunities in abroad.

International projects and exchanges are not only useful for students but also for the young academicians. The ones who cannot afford going abroad or arrange an appropriate time-schedule and study frame for their personal developments may use such platforms for contact and developing further relationships.

Events are carried out with high enthusiasm. Number of participating students has risen within years. The internationally valid certificate and the social atmosphere became so attractive that the entire event was carried to facebook. There are European teachers who contributed to the events more than 4 years. Submission for another 3 years is on the agenda. Having been evaluated rationally, it is a self-referent and evolving international program.

Success of this program has inspired the birth of a new one, which is the EWTA (European Workshops on Tourism and Architecture). First EWTA will be held this year in Ayvalık (Balıkesir-Turkey) with the participation of 8 European schools and Gazi.

Demerits: the negative issues that has already deconstructing the institute

Fragmentation

"We are so closed. Our chambers are also responsible for that. Also, our joint projects are very less in number, unfortunately architecture is very individualistic. Yet today there is no room for individuality. The bigger your team is, the stronger you stand..." Füsün Demirel

"Actually the lecturers should most importantly work in coordination. This is not only exchanging information but also engaging in joint research and co-work. Cells weakened this environment. The concept of workshop, scientific area, chair and school is no longer ensuring the space where people can be side by side, introverted only when required (as in cells) yet open to communication, whenever needed... The reflex of co-existence and co-working is getting lost as communication breaks down." Göktürk Gültek

In the Faculty of Engineering and Architecture, each academician occupies a private office of 12m². As can be seen in the typical floor plan, 42 rooms take place in a floor and they are placed in line on two long and one short corridor. Occupiers of the two corridors cannot see each other because WCs, elevators, stairs and archive rooms take place in the middle. 1,5 floors of the 8 storey building has been allocated to the Department of Architecture. Such a spatial order was considered to be instigating physical isolation / individualism / fragmentation / atomization etc, the dissociation. Department's previous spatial organization, allowing each design group to have both private offices and a meeting room, was more credited.

“The hallways of our cells were designed in a way as to allow for the existence of each workshop. I can even say that it would form a fanatic situation as Fenerbahçe, Galatasaray fanaticism. Yet, in that, we had binding factors, such as Thursday seminars. We had a seminar hall on the 3rd floor and we had very pleasant time when we met there. There were very nice discussions... And we could not even wait for the next Thursday... I also see today, they get together on corridors or at café having a pleasant conversation. I say, human interactions are not that bad, then. However, there is such a fracture introduced by the physical environment that relationships are reduced to the minimum.” Göktürk Gültürk

Although the present spatial order was ideal for a faculty of 350 academicians and the total satisfaction felt from these units was high quantitatively (Dinç, 2007), it was found to be inappropriate by the members of the architectural department who said that the long corridors just allowing coincidental social contact were not enough and other meeting points that facilitate regular and continuous communication were urgently necessary.

Consequently, members of a single studio can either gather in a member’s office or use one of the anonymous meeting rooms which are allocated for graduate courses. Such weakened communication / gathering / socialization points were also found to be the reason for the lacking professional teams.

In fact, the researcher observes younger academicians’ short period dislocations for working in a friend’s office for completion of a task, e.g. designing for a competition or preparing a paper presentation for a congress. It is possible that young people are more skillful in using the present offices for teamwork. Presence of such mobility and the observed joy of the people sharing a small room together put a question mark on the claims accusing the existing spatial order for hindering social contact and solidarity.

Table 2. A typical floor plan of the Faculty of Engineering and Architecture, Gazi University, and some rooms from the Department of Architecture



After the foundation of the Turkish Council of Higher Education, fields of specialties were redefined for all academic disciplines. For the last ten years Turkish academicians have been developing their positions through their projects and publications. To become an associate professor in the field of architecture in Turkey, for instance, one must have at least one paper published in a journal indexed in SCI, SSCI or AHCI. Such an obligation requires intensive specialization of individuals. After attaining a certain level of specialization and scientification one can organize a team that can produce a noteworthy study.

GA does not have yet much number of academicians who won their titles through these obligations, though several are on the way. Therefore, the present teams work for the short-time-tasks like the juries for graduate studies, i.e. efficiency and completion exams. It seems that people come together for formal / bureaucratic occasions rather than running projects. Thus, fragmentation is not only a result of spatial isolation of individuals but rather institute's being in the threshold of running studies in solidarity.

Conformism and superficiality

"I am very pessimistic about the students. I ask the questions, have you ever gone to see Hilton or Sheraton Hotels, ever seen their lobby, as I give the critics, and I see that they have done nothing. This does not necessitate an extra effort, extra financial burden. I am talking about a building nearby Migros, my friends are not aware. The culture to see, to realise, to observe and learn, which is indispensable for an architect, is very weak." Tanju Gültekin

"If you are to work and live at a studio, you have to make it liveable. Using your physics, things that you use, music you listen to, tea you drink, sandwich you eat, the order you settle, lifestyle, the way you use the boards, etc. You make it your space as long as you transform the area with your instant psychology and your equipment. Otherwise, space is only a volume of three dimensions. This is usually prismatic. There are transformable environments yet there is no transformation." Ziya Utkutuğ

"I always give this example; lecturer is like a donkey, the more you run off, the more milk you get. I do not have to teach. Those who wish to learn, to get, to run off come along to get it. I cannot ask for it. Student should come here to receive" Ziya Utkutuğ

Many people blame post-modernism, both as a time in the history and as a state of mind of the humankind, for any superficiality and conformism. According to teachers, students are hardworking but unconscious. Their performance is incredible for the difficult tasks like the ones that require fast information gathering. They do not mind spending vast amount of energy and time for the tasks predefined in detail. They are constant for the problems for which the expected end-product is clearly visualized beforehand. On the contrary, they are weak in processing the information, for example; grouping, establishing a hierarchy, exemplifying, diagnosing the contradictions and incoherencies, etc. National policies in primary and secondary education were blamed for this weakness since the university entrance exam was

conditioning young brains to consider things as multiple choice problems. Acquisition and presentation was amplified whereas analyses and interpretation were neglected.

Consequently, undergraduates lost their curiosity. Even they were given the web addresses of specific sites they were just interested in the first pages, not clicking for further. Even they were given a format for presentation showing the hierarchy of the knowledge regarding the specific course they were unable to use it. Even they were given a bibliography for the course they were reluctant to read more than one reference, which was the simplest and shortest one indeed. Even they were advised to visit the state-of-art examples in the city and in the near environment they did not have any interest for the experience. Even they were given studio spaces which could have been transformed easily for long-term occupations and personalization they were in the mood of minimum contact and intervention. Even they had very eminent and famous teachers they were unaware of their teachers' works and the potential knowledge they could have from them. All these negative attitudes started to be valid for the majority. Of course there are still individuals who show the necessary care and sensitivity for their personal development. Their rareness was worrying.

Dealing with a group of students who do things just because they feel that they are obliged to do is a painful situation for teachers too. Instead of being asked / consulted and acting as mentors, teachers are forced to act like a commander or a manager who defines every task in detail and expects accurate and timely return. This situation delays and alters the establishment of the traditional master-apprentice relationships in which both parts do the design search together and the specific design discourse and excitement are bilateral. As a result, the drastic world of www seems to be the new master for which students have not yet developed appropriate benefiting methods. Students are vulnerable to the attraction of images and they do not question the knowledge behind the visions. Domination of presentation techniques is everywhere. Revitalization of questioning / reasoning minds and enthusiasm seem urgent. That is how graduates can internalize architectural design and its potentials for reorganizing their lives and in return act of design can attain a very specific role in individuals' lives.

"Not only for the competition but also all processes of design, one word, "enthusiasm" is required. I think that there is no creativity when there is no enthusiasm, therefore we should not let go of our enthusiasm. "Hasan Özbay

"...being a competitor is the trip between the dream and fantasy. It is more like a sheltered harbour for me. To me competing gives me the temporary environment where I can get far away from anything, focus on my own space, review my whole life, experience and relationships." Murat Uluğ

The other issues waiting in the purgatory

The other issues that were mentioned by the academicians were the following;

- Efficient and effective reorganization of the curriculum in terms of discovering who is teaching what and through which methods, establishing meaningful relations between courses,
- Employment of more number of research assistants so facilitating teachers doing their own duties properly,
- Defining a route for each young academician so that individuals advance accordingly and do not first go one way and then another,
- A reconsideration of all vertical design studios which have largely been dealing with concept design recently, neglecting details and sense of space,
- Overcoming the physical difficulties that both students and teachers face when they are doing their lessons in the studio, e.g. lack of computers or enough number of plugs for laptops, lack of a long lasting order in studios that facilitate juries and individual table critics,
- Overcoming the difficulties of relativistic approach of teachers, i.e. the obstinacy of individuals who consider their own ideas to be the only truth and neglect others' approaches for the truths,
- Establishing more collaboration with other disciplines such as engineering and arts, supporting design with related information, so students get used to teamwork and information exchange and
- Ascribing international projects and relations to the whole department instead of giving the responsibility to a certain group of people.

As can be noticed, most of these issues could have easily been inserted in one of the five headings given above. Therefore, the researcher can claim that the key/main values that shape GA in re/de-construction are the ones diagnosed through the current study.

GENERALIZING THE FINDINGS

Since the research was conducted in one specific institute, findings cannot instantly be generalized for similar constructs. On the other hand, the focused institute has several common problematic issues that stem from the *transitional position* of all national and global institutes of architectural education.

Coulby & Jones (1996), for instance, gave a brief description for the situation representing the end of the 20th century. According to them; *"No truth system is seen as superior. Identity is no longer single and heroic but fractured and even indiscernible. Individual taste and discrimination are prized, eclecticism encouraged and all canons subjected to furious attack. Modernist knowledge no longer now carries any widespread legitimacy."* Description still looks fresh despite the progresses. Bridges (2000) listed the *five contemporary competing epistemological pressures on the higher education curriculum* as the following; *"The deconstruction of the subject, as reflected in, for example, the modularization of the curriculum; the cross-cultural key skills movement; the learning through experience movement and the shift of the seat of learning outside the academy; the anarchic potential of web-based learning and the reaffirmation of the subject as the academic and organizational identity."* All these pressures seem to be valid and dominating our reconstructive efforts. Karseth (2006) classified educational discourses as *the disciplinary* and *the vocational / professional* and borrowed a diagnosis from John

Pratt (1999) claiming that as polytechnics became universities in time, universities became polytechnics too. As known, polytechnics were vocational education entities in which theoretical and practical competences were considered together whereas universities were structures through which students would acquire *conceptual structures* and *modes of arguments* (Karseth, 2006; 259). Jing (2008) emphasizes the tension between the designers of Bologna Process and its practitioners and the role of culture, traditions and academic autonomy in different cultures.

All these indicate the similarity of problems with which institutions deal with their own methods. Presences of associations like the MOBBIG (the Communication Group for Head of Departments of Architectural Schools) and the General Meetings for Architecture and Education in Turkey owe a lot to the individual efforts which reconsider the present situation in institutional and national scales. In addition, each university in Turkey has found academic evaluation and development committees which assess the performance and satisfaction of its members through questionnaires and disseminate the results so that each unit reconsiders its own position and acts accordingly. None of these establishments have yet discovered the specific issues that the current study introduces. Instead, they focus on the official problems of AE, e.g. accreditation, ECTS and curriculums.

CONCLUSION

The basic question, “what shall we do now?” can be investigated through several methodologies. The present study proposed a method through which the values that shape the institutional existence could be diagnosed. In a process of reconstructions, individuals play critical role since future is highly dependent on their capacity and expectations. Therefore, applying for their experiential knowledge was one of the ways for questioning present time. This study put an open-ended methodology for this issue.

It is the humble proposal / suggestion of the researcher that every institution runs such qualitative inquiries since each institute has an idiosyncratic nature that makes it cope with problems in an idiosyncratic way. Regardless of international definitions in terms of the skills, understandings and knowledge that should be given to students of architecture, institutions do it with their own potentials and with their own ways of doing it. Platforms for sharing recent efforts should devote time for institutional solutions rather than making decisions from above, imposing solutions and expecting implementation.

Approaches which take the individual (human and institution) to the center of the inquiry seem very appropriate in a milieu of individualism and singularity. After augmenting such researches, we may begin making decisions for all.

Briefly, it is early for producing general / overall / holistic solutions for architectural education yet. We have one more step; discovering the key values that shape re/de-constructions of individual units.

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ENDNOTES

- [1] The research was funded by Scientific Research Projects Unit of Gazi University and TÜBİTAK (The Scientific and Technological Research Council of Turkey).
- [2] Structure of seminars was designed by the researcher under seven headings; (i) reasons-effects-personal disputes, (ii) personal history-present attitude, (iii) competing-being a competitor-being a professional, (iv) winning the first prize-values and evaluations, (v) Turkish milieu of architectural competitions, (vi) being a jury member and (vii) foreign competitions/participation.
- [3] The researcher also invited another group of Gazi graduate eminent architects for writing texts about their own retrospections. Together with the seminar texts, a rich and profound collection of discourses were attained.
- [4] With the ERASMUS/SOKRATES support, the duration of the winter-school was raised from 5 days to 2 weeks and a theme, i.e. *Lost Space*, was determined for the 3 year practice. The number of participating countries is 11. Each year approximately 9 workshops are organized; 8 of them are conducted by European teachers and 1 by a Turkish one. All workshops are observed and supported by 1 part-time staff. The number of hosted students is around 200 from which at least 70 are Europeans. Rest of the EWSAD populations consists of Turkish students including Gazi and other schools of architecture. English is the formal language of the event.

REFERENCES

- Groat, L. & Wang, D., 2002, *Architectural Research Methods*
- Punch, K.F., 2005, *Introduction to Social Research*
- Kümbetoğlu, B., 2005, *Sosyolojide ve Antropolojide Niteliksel Yöntem ve Araştırma*
- Dinç, P., 2007, *Spatial and Behavioral Variables that Affect Emotional Attachment of Users: A Multi-Dimensional Approach for Private Offices*, *Gazi University Journal of Science*, 20(2), 41-50
- Coulby, D. & Jones, C., 1996, *Post-modernity, Education and European Identities*, *Comparative Education*, 32(2), 171-184
- Bridges, D., 2000, *Back to the Future: the higher educational curriculum in the 21st century*, *Cambridge Journal of Education*, 30(1), 37-55
- Karseth, B., 2006, *Curriculum restructuring in higher education after the Bologna Process: a new pedagogic regime?*, *Curriculum Reconstruction in Higher Education*, 12, 255-284
- Jing, X.U., 2008, *A critical analysis of the barriers to achieving the Bologna Process*, *Front. Educ. China*, 3(4), 607-622

ISSUE- BASED RESEARCH METHODS VERSUS A SINGLE METHOD FOR ALL SUBJECTS AT HAND

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ABSTRACT

Along with the evolution, human kind has developed several methods to reach their goals. Many books and text are written to represent and express diverse ideas about this issue thanks to instinctive curiosity of mankind. These methods can vary from subjects to subjects.

I will treat these above mentioned issue within this paper to exhibit an overview so that we can see all differences and resemblances. Besides this comparing of the research methods I will try to expose some research methods in relation to issue at hand since I believe these methods are partially case dependent besides their general resemblances.

Methods should be based on creative approaches; they ought to be designed to satisfy some norms of performances. These norms must be well defined. When we want to make a research, it is useful to find out the cognitive structure of the objective. Human mind gains knowledge more effectively if he/she uses suitable methods. Subjects may assume this idea as a departure point to develop diverse ways to make research. This paper will explain the inseparable relationship between human cognition, method and research; since the combination of this trio is the keystone of gaining knowledge.

Educators may have varying ideas about methods; yet, in my opinion, common sense would not allow them to think it is probable that one method should be used for all goals. Briefly, if the objectives which do not have characteristic likeness, they may require different research methods.

Finally, I will add some experiential evident to clarify why domains matter concerning research methods in relation to their contents and also the present research methods in education by comparing them with their cognitive structures.

Keywords: Method, Research, Education, Empirical data, Knowledge, Cognition

Human beings have always been using methods to reach their ends. These goals may differ from each other like using methods to learn some thing or to achieve some goals, or to make a decision and the like. We use methods for efficiency of our mental abilities due to constraints of our cognitive capabilities. It might be also fruitful to mention what method is in the general sense and in that of educational. I mean by method as a way of handling the issue at hand, in the widest sense as Creswell puts it: "Research designs are plans and the procedures for research that span the decisions from broad assumptions to detailed methods of data collection and analysis." (Creswell, 2009: 3)

When we want to apply methods to the domain of education, we should, first of all, understand the characteristics of all essential variables which play roles in it. Considering learning environment, both internal and external, as an example, we should analyze it well enough so that we can adapt our methods to that. Education research methods will also require a great deal of empirical data besides its being included by general methods. There are several sorts of learning methods such as learning by being told, by being taught, by discovery, by analogy, by being instructed, etc. According to Gagne: "Instruction means arranging the conditions of learning that are external to the learner." (Gagne, 1985: 20) It is obvious that external conditions are necessary for learner to gain knowledge; learning can be understood as gaining knowledge. Learning environment should be operate interactively with learner's cognition so that internal learning process get activated. Instructions should be suitable to stimulate learning. Gagne explains it clearly: "In the most general sense, instruction is intended to promote learning. This means that the external situation needs to be arranged to activate, support, and maintain the internal processing that constitutes each learning event." (Gagne, 1985: 20)

We should also understand that learning material can only become knowledge if it is transformed into meaningful state. This can happen after information's being processed into knowable state. Gagne clarifies this very clearly: "In order to enter and be stored in the long-term memory, the material of learning must be encoded. That is, it has to be transformed into a form that is semantic, or meaningful...Encoding, however, is the critical process by which incoming information is transformed into learned and memorable capabilities." (Gagne, 1985: 81-82) Some cognitive scientists state that there are three types of knowledge: 1- Declarative knowledge (knowing what which also has two sub sorts: a-language like representations, b- image like representations), 2-Procedural Knowledge (knowing how), 3-Tacit knowledge (some thing like implicit knowledge), and 4-Linguistic Knowledge (which is also a kind of Tacit knowledge since even if we can not explain all rules of our native language, we still can use it and can be understood by people who use the same language as his own native one. (Stillings et al. 1998) Although it is not clear distinguish between declarative and procedural knowledge, yet I believe much of our knowledge is declarative as Stilling et al. puts it: "Traditional epistemology distinguishes between 'knowing how' and 'knowing that'. Though this distinction is not the same as the one psychologists draw between procedural and declarative knowledge, the two are closely related. Much of our knowledge- that is probably encoded declaratively, since much of it is mobilized in controlled processes." (Stillings et al., 1998: 369) Tacit knowledge is very interesting; we can not explain what we know explicitly but it is very effective in thinking, as Holyoak and Thagard puts it: "Implicit knowledge often allows quicker reactions than does explicit knowledge and in some cases is

actually more accurate. Moreover, even when explicit knowledge is being manipulated, the process that uses it may itself be implicit.” (Holyoak and Thagard, 1996: 21) We should not confuse intuition with tacit knowledge; intuition is a kind of ‘built-in’ form in our mind which we have it by birth. I think it is a kind of cognitive ability that determines human’s first reaction to any kind of data or anything whatsoever so that we operate on those and then we know them explicitly or implicitly. Tacit knowledge is explained further by Stillings et al.: “There is a classical intellectualist suggestion: if an agent regularly employs rules in the integration of behavior, then if the agent is unable to report these rules, then it is necessarily true that the agent has tacit knowledge of them.” (Stillings et al, 1998: 371) Do all minds have exactly the same knowledge of anything what they learn, at all? Do we all have the same representations of external (conceptual) objects? I believe most of our cognitive mechanisms are alike, though each of us may have subjective personal ideas of anything. This issue can be represented by a scheme (Figure 1):

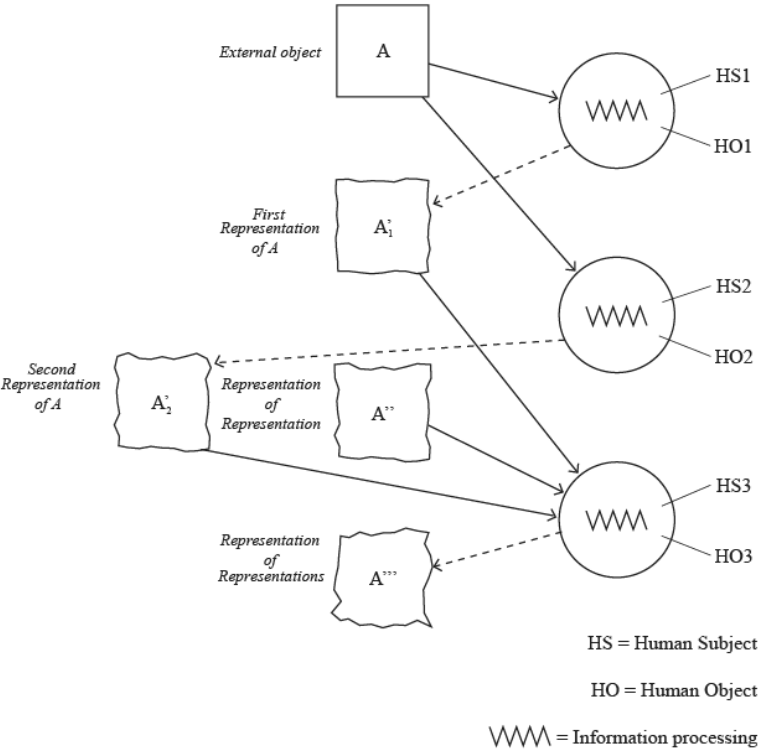


Figure 1. A possible schematic representation of representational mind. (Guney, 2011)

Research methods in education should exploit precedents to gain structured knowledge so that we can refer to them and, by using analogy, we can use them in a creative way. Nevertheless, I will explain more about “precedent analysis” through a chosen method, later on in this paper.

The objectives that we want to treat may have dramatic qualitative differences; they can possess extremely opposite characteristics, like a research method in education and that of in the practice of surgery, or in social sciences. We also need to design the proper methods, for example to make some research or anything else we want to do. Creswell mentions three types of designs in social sciences quite explicitly: “A study tends to be more qualitative than quantitative or vice versa. Mixed methods research resides in the middle of this continuum because it incorporates elements of both qualitative and quantitative approaches.

Often the distinction between qualitative and quantitative research is framed in terms of using words (qualitative) rather than numbers (quantitative), or using closed-ended questions (quantitative hypotheses) rather than open-ended questions (qualitative interview questions). A more complete way to view the gradations of differences between them is in the basic philosophical assumptions researchers bring to the study, the types of research strategies used overall in the research (e.g., quantitative experiments or qualitative case studies), and the specific methods employed in conducting these strategies (e.g., collecting data quantitatively on instruments versus collecting qualitative data through observing a setting).” (Creswell, 2009: 3-4)

However, we must distinguish research methods from research design for their having different underlying characteristics, whatsoever. Research methods are the chosen ways to realize the researches which are intended to be made. On the other hand, research designs are those need to be designed; researchers should design how they want to make research. Creswell describes three sorts of researches for social sciences, explicitly: “Qualitative research is a means for exploring and understanding the meaning individuals or groups ascribe to a social or human problem. Quantitative research is a means for testing objective theories by examining the relationship among variables. Mixed methods research is an approach to inquiry that combines or associates both qualitative and quantitative forms. It involves philosophical assumptions, the use of qualitative and quantitative approaches, and the mixing of both approaches in a study. Thus, it is more than simply collecting and analyzing both kinds of data; it also involves the use of both approaches in tandem so that the overall strength of a study is greater than either qualitative or quantitative research (Creswell & Plano Clark, 2007).” (Creswell, 2009: 4)

Researchers need a philosophical worldview which determines their approaches and it pervades into the details, as well. According to Creswell there are three components involved in a design research for social problems: “Two important components in each definition are that the approach to research involves philosophical assumptions as well as distinct methods or procedures. Research design, which I refer to as the plan or proposal to conduct research, involves the intersection of philosophy, strategies of inquiry, and specific methods. A framework that I use to explain the interaction of these three components is seen in Figure 2. To reiterate, in planning a study, researchers need to think through the philosophical worldview assumptions that they bring to the study, the strategy of inquiry that is

related to this worldview, and the specific methods or procedures of research that translate the approach into practice.” (Creswell, 2009: 5) Further he explains this issue by a scheme(Figure 2):

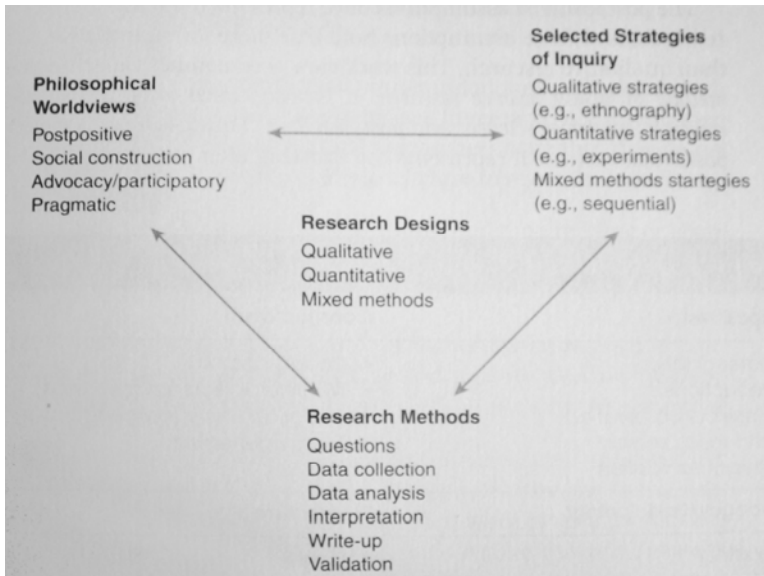


Figure 2. A Framework for Design – The Interconnection of Worldviews, Strategies of Inquiry, and Research Methods. (Creswell, 2009)

When we look at the question of education more closely, it can be seen also that we need a philosophical worldview, a set of strategies and a set of research methods to design a research program; but again based on the underlying dominant characteristics of the domains at hand, in the qualitative sense; i.e.: Figure 2 is a representation of an analytic domain within which we make relevant inferences. We can, then, use this scheme also for educational research if an objective is analyzed, I think; not if designed. Can we make researches on synthetical domains, then? Is it possible to make a research design for designing education systems? We can do that by following different procedures, methods and strategies in accordance with ‘design domain of education system’; not that of ‘analytical’ one. Nevertheless, we can not design any educational system without analyzing what learning requires and what it is. Motloch explains a kind of combination of the twin: “Since most learning is based on connecting the new to the familiar, education should develop the courage and skills necessary to connect new with familiar, extend existing patterns, and build new ones.” (Motloch, 2001: 35) He suggests also, education system should not flood students’ minds with data, instead; they should develop skills for interpreting information, exploring alternatives, developing insight, and synthesizing responses. Educators should develop student ability to self-educate and to engage in lifelong learning. (Motloch, 2001) These supporting ideas show also the necessity of analytic

domain for synthetic design domain, and also, perhaps, vice versa. Mothloch gives an explanatory good example for creative learning of R.Buckminster Fuller, by criticizing American education system for its learning existing knowledge and generating only new data: "...he used knowledge to discover relationships, potentials, and realities, as well as to develop new ideas. By so doing he developed his abilities of insight, and his ability to see failed experiments as 'models to stimulate imagination'." (Motloch, 2001: 36) He supports a holistic education system instead of a Cartesian-based one, since, he believes, systems are integrated wholes whose properties can not be reduced to those of smaller units and also relationships are more important than units by themselves. (Motloch, 2001) I think he is right about this system because of the synchronic and synergic effect of all mental abilities. However, this approach does not exclude the partial learning; we use this method due to the constraints of our cognitive capacity to learn. Besides, we know also, thank to new discoveries about our brain, that when some parts of it is damaged or undeveloped, the other ones take over the task for them; (Motloch, 2001) thus we should support all mental abilities of students as a whole to exploit their entire mental capacity.

This approach has a potential to be fruitful if we take emotions and empathy into consideration; both are prerequisite for internal concentration of learner. Emotions are studied by Ortony et al., in detail regarding cognitive structure of them, but I am not going in depth with it since it is out of this paper's scope; nevertheless, he explains the necessity of it: "Instead we have proceeded on the assumption that progress in psychological research on emotion can be attained through an analysis of the cognitions that underlie emotions." (Ortony, E. et al., 1990: 190) Another very important issue on this matter is 'empathy'. Educator had better have sufficient empathy with students to understand what they really understand from what they teach; they should see what the entire program of education offers is to students. I believe we should not meng our understanding of what we teach with that of learners by trying to imagining what we would do if we had stood in their shoes because it is about their minds, not ours. Goldie puts it in a very clear explanation; read: "Empathy thus involves what is often thought of as 'imagining being X', where 'X' stands for the narrator with whom I empathize. (...);"he disagrees with it and goes on: "...empathy, if successful, does not involve any aspect of me in this sense, for empathetic understanding is a way of gaining a deeper understanding of what it is like for him, not of what it would be like for person with some mixture of his and my characterization." (Goldie, 2000: 178-179) This is a matter of imagining other minds, as an analytic issue and then teaching body should behave accordingly. Concerning philosophy of mind, there are diverse ideas about other minds: "...philosophy of mind- a debate about the source our ability to explain and predict the thoughts, feelings, and actions of others." (Goldie, 2000: 177) Two of them, as Goldie explains, are 'theory theory'- means we have that ability as a tacit knowledge and 'simulation approach'- implies we use our imagination to simulate other mental states. Goldie believes the second one is limited in its scope. It is also more effective, I believe by my own teaching experience, if educators are alert and skillful enough to fight against students' emotional blocks. Teacher should exploit all abilities of students to let them catch-up with their weaknesses by trying to offer them suitable learning environment which can help them in using as many sensory abilities as possible. A supporting idea is that: "Failure to uses all our sensory stimuli, is also a perceptual block...Generally, we emphasize the visual the exclusion of other sensory stimuli. But the perception of place can be much richer if the place is designed so that all

senses contribute to, and intensify, the experience.” (Motloch, 2001: 39) “According to Adams, emotional blocks are perhaps the most inhibitive of all thinking blocks.” (Motloch, 2001: 39)

There is another emotional blocking matter which is really preventing minds to act creatively is ‘fear of failure’. Educators must fight against this by trying to free learners’ minds. Motloch explains this problem very clearly: “Together, the ego and superego introduce an insidious set of emotional blocks. Fear of failure is often the most devastating emotional block... A lack of appetite for chaos is a distrust of left-handed thinking that can result in premature judgment. Complex problems, on the other hand, often require a gestation period of tolerated chaos that the subconscious mind can intuitively weigh variables and discover relevant patterns. Shortening this period can result in poorly conceived solutions.” (Motloch, 2001: 39) Besides this dangerous emotional blocking, there is also another one which prevents students to dare to go into chaos. It is more creative if learners do not fear of implicit chaotic learning material or problems to solve, etc. as it is explained by Motloch: “Closely related to an intolerance for chaos is a tendency to judge rather than generate ideas. An idea generated but not judged can incubate and cultivate other ideas. Premature judging can eliminate the idea and its seeding tendency. Lack of curiosity results in too little conceptualizing. Lack of access to imagination, or an undeveloped ability to form and manipulate vivid images, and a failure to distinguish between reality and fantasy, although less common, are equally devastating emotional blocks.” (Motloch, 2001: 39)

All these above mentioned blockings stay in the way when learners or decision makers try to reach their ends. They should be wiped out or at least should be lessened. Creative mental behavior can be impeded by these mean impediments as Motloch expresses: “Any of the preceding blocks can function as impediments to effective decision-making. Removing or avoiding these blocks facilitates the consideration of appropriate stimuli, the pursuit of thought processes conducive to creative conceptualization, and the emergence of rich and relevant patterns in the mind’s eye.” (Motloch, 2001: 39) We can summarize his further ideas on this matter as following:

We should develop the ability to incorporate our intuitions and logic together in problem solving; while subjective and intuitive thinking creates chaos besides triggering new patterns and relationships, the rational mind would determine the appropriateness of these solutions. A creative designer is the one who can effectively integrate intuitive and logical thinking. The task of design education is to help the student to develop this ambidextrous, thus creative thinking ability. Before starting the design education in college, the students are equipped with behavioral filters, which indeed can block their imagination. In order to help them to gain creative thinking abilities, design education should first set free students’ minds from these blocks. Appropriate thinking form (visual, verbal or mathematical) should be employed for different situations. A wider perspective is necessary to grasp the problem at hand. If the problem is perceived through a narrow window without having an insight in its overall relations, the solution reached can only address parts of the problem or create more problems. Our mind reduces the amount of stimuli to cope with a situation practically every time. Therefore, to see a familiar situation through a different perspective, in

other words defamiliarize it, helps us in noticing parts of it which we miss through our daily sensorial experience. (Motloch, 2001)

Finally, I want to present some “Morphological Design and Analysis” domain methods which I also teach in our faculty of architecture. Before going in depth with these methods, it might be useful to describe what ‘analysis’ and ‘synthesis/design’ are. Guney describes these twin in terms of morphology (conceptual) built artefacts: “Analysis: it is a kind of representation of breaking up a whole into its components on such a way that the elements do not have to be broken down into more ‘unnecessary’ (in accordance with some criteria) details; besides, the structural (syntactic) and semantic relations between components must be preserved and exposed. This “unnecessary details” will lead us to the term ‘morpheme (smallest meaningful unit of a domain)’ in morphological analysis of (architectural or any kind of) design, and Synthesis: bringing the ‘undividable’ (in accordance with some criteria of a domain- morpheme) components into a possible whole(s) within their mutual structural (syntactic) and semantic relationships. This is, of course, a very short explanation of synthesis in general. Later on I will, further, explain what possible combinable mutual structure and semantic are in (architectural or any kind of) compositions through their components or morphemes /and or: combination of morphemes (objects).” (Guney, 2011) Figure 3 is a schematic representation of this complementary process:

Theoretically, it seems possible to assume this twin to be exactly the opposite of each other; yet, they may vary concerning instances since a party may yield a set of parametric alternatives.

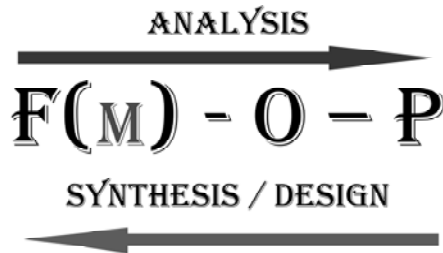


Figure 3. Analytic mental process v.s. synthetic design process. (Guney, 2011)

We use this method in both analytic and design domains in our lessons supported three more methods which analyze sub issues of artefacts (precedents). These are: Ching, Steadman and Clark & Pause which provide morphological data in relation to their relevant scales and aspects; that is to say: one deals with form/compositional aspects, the other physical aspects and parti, and the third one with topological and dimensionless aspects of artefacts to provide the relevant sub-data for F-O-P for that of ‘Analytic’ domain. We represent that knowledge by way of a kind of semantic network; see Figure 4-6. I mean by “Knowledge Representation” as a kind of representation relates data structures to each other; read Winston: “...a representation is a set of conventions about how to describe a class of things” (Winston, 1993, p 16) and it has four parts: a lexical, a structural, a procedural and a semantic. (Winston, 1993: 19), and “Semantic Net” is one of the representation techniques in which there are lexical, structural and semantic parts besides other ones which are: associational, structured object, formal logic based, procedural,

common sense knowledge representations and other approaches. (Brachman and Levesque, 1985)

We analyze precedents to find out the hidden principles which are not obvious if we look at them superficially. We can read a supporting explanation of Vosniadou: “For example, on the basis of readily accessible properties that can be seen, people presumably will not judge whales to be very similar to other mammals not fish, they will probably acknowledge that with respect to some important, although less accessible property or properties whales are similar to other mammals. This observation suggests that restricting oneself to relatively accessible properties may make it difficult to account for the perceived similarity of whales to other mammals. If one can not appeal to “hidden” properties, it is difficult to explain the fact that people might recognize such similarities” (Vosniadou, 2003, pp 179-180).

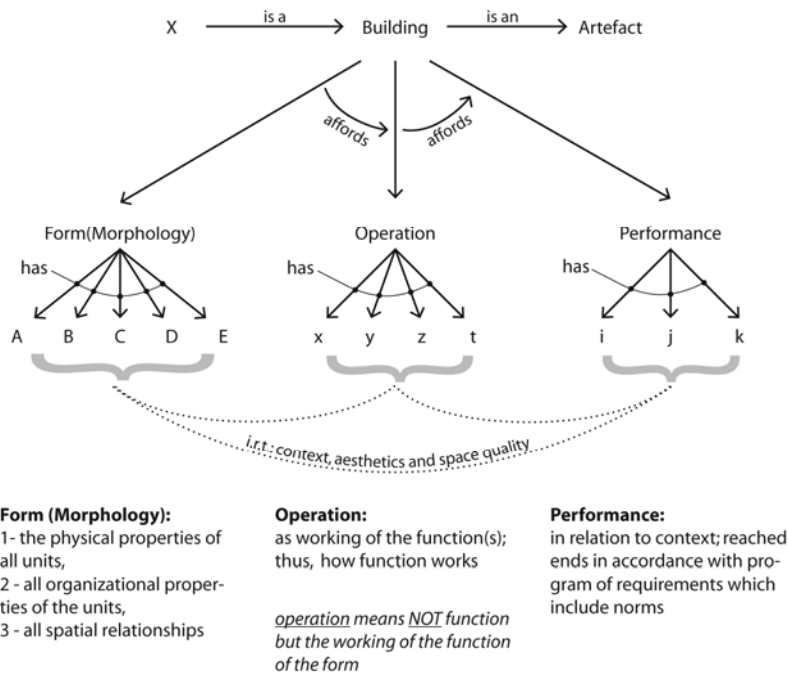


Figure 4. A possible cognitive structure of (architectural) precedent analysis, compare with figure 7. (Guney, 2008)

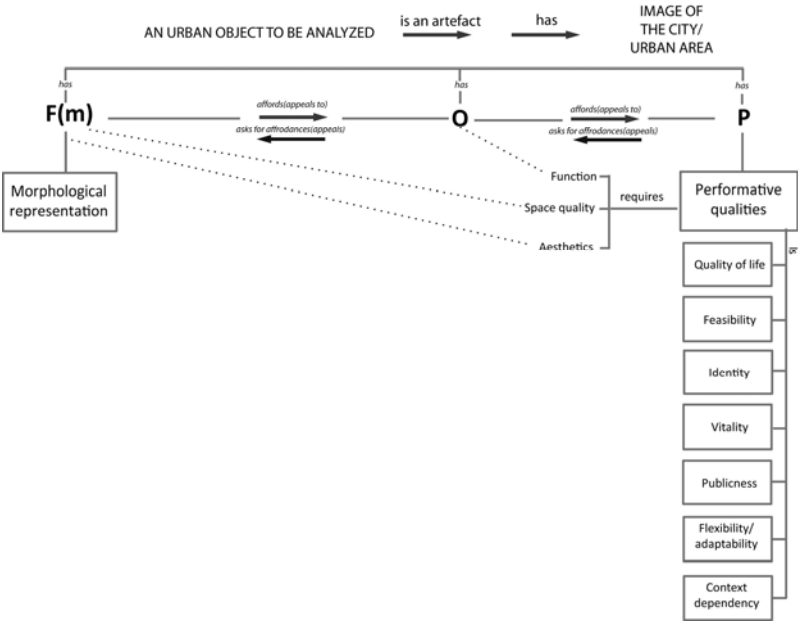


Figure 5. Application of FOP to Urban Design. (Guney, 2011)

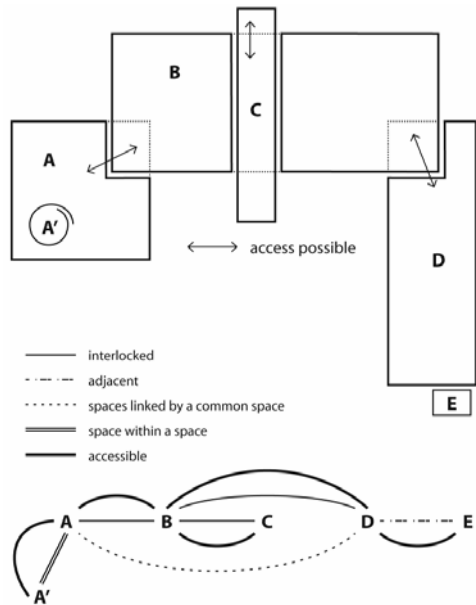


Figure 6. A schematic representation of the major units. (Guney, 2008)

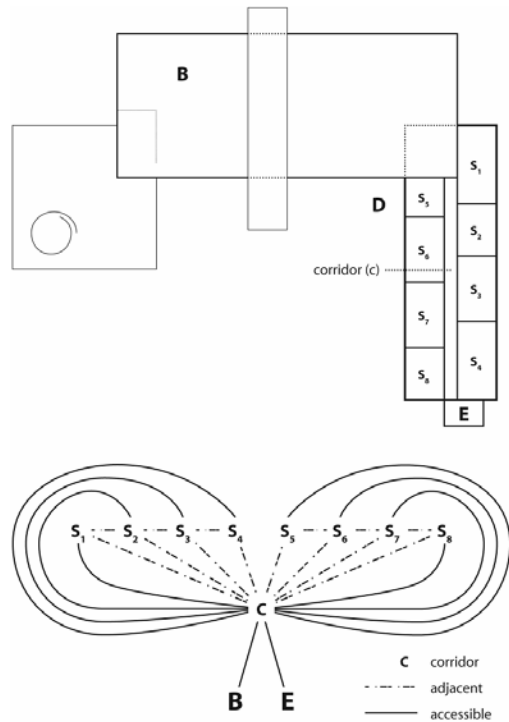


Figure 7. A schematic representation of the minor units. (Guney, 2008)

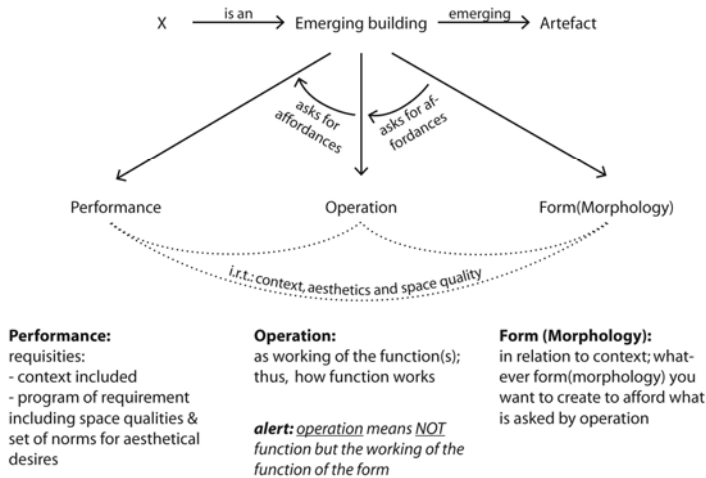


Figure 8. A possible cognitive structure of (architectural) design mechanism, compare with figure 4. (Guney, 2008)

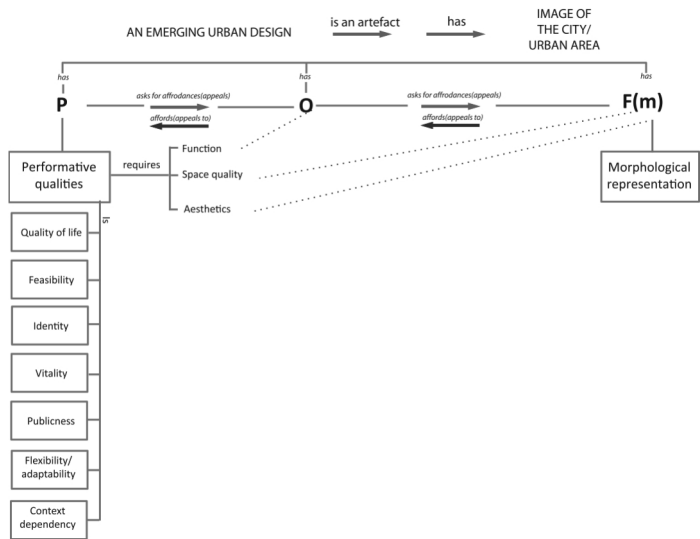


Figure 9. Application of POF to Urban Design. (Guney, 2011)

Explanation: All phases involve consideration: program of requirements, context, background knowledge(including precedent knowledge), design strategies(including design by study and study by desing).All the phases also include POF(M) and creativity.

Parti: dominant underlying characteristic idea

Recursive: 2: of, relating to, or being a procedure that can repeat itself indefinitely or until a specified condition is met.(M.W.)

Iterative: 1: marked by or involving repetition or reiteration or repetitiousness or recurrence.(M.W.)

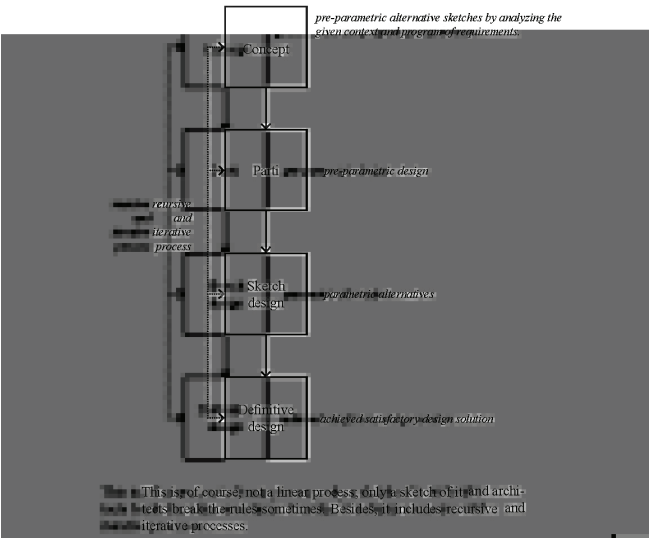


Figure 10. Some possible design phases. (Guney, 2008)

Besides all these methods I offer, there is another style of classifying design methods, too; Peter Rowe says designers may use top-down, bottom-up and mixed methods to reach their ends. (Rowe, 1992) Nevertheless, we use all methods by believing their to be 'creative'. It might be fruitful if I expose some question about what creativity possibly be. Creativity, to me, is a kind of complex property having multi facets. These recombinants can be tandem, defamiliarization, circumscribing, mental leaps and analogy. Analogy is a powerful mental activity which can be very effective in creative process. Analogy helps us to create new and more abstract concepts that help to see even more remote analogies and thus help us to see even more abstract concepts (Holyoak and Thagard, 1996). The authors clearly explain this powerful cognitive behavior: "Although the individual concepts in a person's semantic network are important for thought, the full power of human thinking depends on its capacity to combine concepts to create more complex structures." (Holyoak and Thagard, 1996: 24)

Finally, we design how to make research and related methods through philosophical worldviews in relation to the issue at hand which has certain domain(s); thus not only one method for all domains.

REFERENCES

- Brachman, R. J., Levesque, H.J., 1985. *Readings in Knowledge Representation*. San Mateo: Morgan Kaufmann Publishers.
- Creswell, W. J., 2009. *Research Design; Qualitative, Quantitative, and Mixed Methods Approaches*. Los Angeles, et al.: Sage.
- Gagne, R. M., 1985. *The Conditions of Learning and Theory of Instruction*. New York: Holt, Rinehart and Winston.
- Goldie, P., 2000. *The Emotions: A Philosophical Exploration*. Oxford: Clarendon Press.
- Guney, A., forthcoming book expected in 2011. *Creativity in Relation to Design and Analysis*.
- Guney, A., 2008 "Architectural Precedent Analysis" in: Zarzar, K. M., Guney, A. (Eds) *Understanding Meaningful Environment*. Amsterdam, The Netherlands : IOS PressBV.
- Holyoak, K. J., Thagard, P., 1996. *Mental Leaps: analogy in creative thought*. Cambridge: The MIT Press.
- Motloch, J. L., 2001. *Introduction to Landscape Design*. New York et al.: John Willey & Sons, Inc.
- Ortony, E. e. a., First 1988; First paperback edition 1990; reprinted 1990, 1994). *The Cognitive Structure of Emotions*. Cambridge, et al.: Cambridge University Press
- Rowe, P. G., 1992. *Design Thinking*. Cambridge: The MIT Press.
- Stillings, N. A. W et al., 1995. *Cognitive science; An Introduction*. Camb., Mass., Lond., England: A Bradford Book The MIT Press.
- Vosniadou, S. e. a., 2003. *Similarity and Analogical Reasoning*. Cambridge: Cambridge University Press.
- Winston, P. H., 1992. *Artificial Intelligence. Reading, Massachusetts et al.: Addison-Wesley Publishing Company*.
- Zarzar, K. M., Guney, A., 2008. *Understanding Meaningful Environment*. Amsterdam, The Netherlands: IOS PressBV.

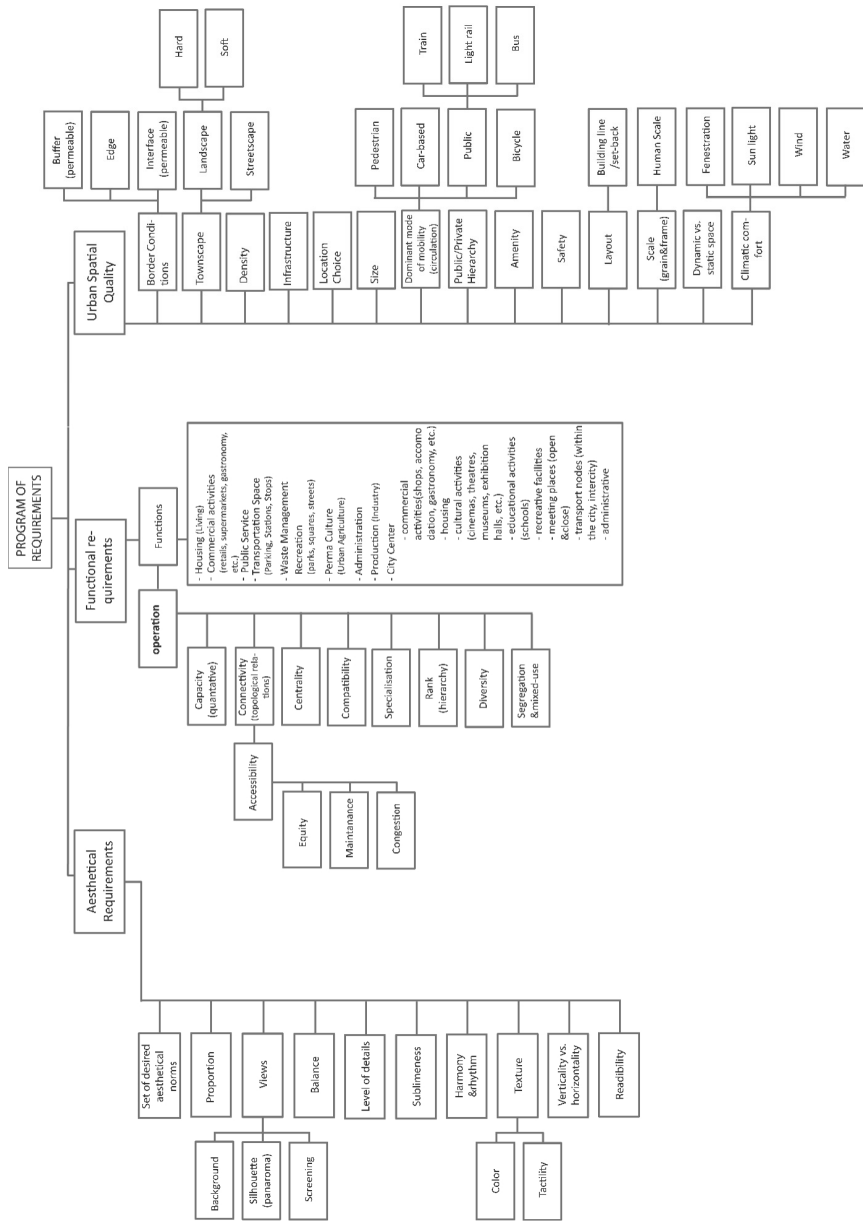


Figure 11. A proposal for Program of Requirements in Urban Design. (Guney, 2011)

RE/CONSTRUCTION OF ARCHITECTURAL THOUGHT

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ABSTRACT

Architecture always is used as a metaphor for other disciplines with copying constructional thought in order to construct their edifice. Additionally there is a reciprocal relationship between architecture and other disciplines, architecture borrows fund of knowledge from the other disciplines in order to re/de-construct itself. This reciprocal relationship constructs thought of architecture, and makes it open-ended process. The first place of this creation should be architectural education. The focal point of education should be perennial questioning of knowledge obtained by skepticism. It has been thought that essential aim of architectural education serves for practice since antiquity. Nowadays still, this approach forms curriculum of architectural school depending on tight relationship between education and practice. If we desire to re/construct or de/construct in architecture, we have to focus on re/construction of thought of architecture in order to be a participant of social transformers via architecture. In this article, it is going to be discussed what the apparatus of architectural thought in the architectural education. History-theory-critic is dealt with as apparatus of architectural thought. It is not implied that education of architecture should be based on history and theory. It will be argued how history-theory-critic is able to relate design studio in order to re/construct architectural thought.

Finally, three basic arguments are going to be held and these are:

- 1- To deal with **history of architecture** in architectural education via irreversible time approach instead of synchronic time approach.
- 2- **Theory of architecture** depends on western way of thought as a holistic approach deporting eastern way of thought. The new holistic way of thought including both of them may find a remedy for re/construction of theory of architecture.
- 3-Design studio should not be focused on merely final product of design even it has to be focused on producing a text including critic of students' own projects.

Keywords: Thought of architecture, Education, History, Theory, Critic

RE/CONSTRUCTION OF ARCHITECTURAL THOUGHT

The thought of reconstruction or de/construction belongs to realm of modernity. Change and transformation exist in thought as a will cherishing from reflexivity of modernity. Reflexivity is institutionalization of not being sure and skepticism within the context of knowledge (Giddens, 1998). In modern society, the institutionalization of reflexivity starts at area of education. That is why; idea of "Re/Construction of Architectural Thought" will be searched at architectural education.

Since antiquity, architectural education had been formed under what definition of architecture was. When the edifice of architecture defined as "making," rooted from the word of "techne" through mimicry of nature, architectural theories and education formed pragmatically serving what governing rules of "making" were. Marcus Vitruvius Pollio has started written history of architectural theory with *Ten Books-De Architectura*. He also focused on education of architect in the first chapter of the book (Vitruvius, 1993). According to Vitruvius an architect should be equipped with knowledge which are history, geometry, philosophy, music, a bit amount medical, law, science of sky within a holistic view, in order to serve architecture. His treatise are full of what ought to be, should to be, that is why; *Ten Books* does not cover critical thinking which contrary with level of philosophical thought of its historical period. Within the history of architectural theory, the second threshold is Leon Battista Alberti's *Ten Books on Architecture-De re aedificatoria*. Alberti pointed out that an architect ought to be a specialized person who is well educated on especially art and mathematic (Borsi, 1986). Agreeably both Vitruvius and Alberti proposal on education of architect depends on that architect is a person who try to uncover harmony of universe and apply to architecture as a creator rather than criticize them. The most influential architecture school in Europe, Académie des Beaux-Arts was founded in 1648 to educate the most talented students in drawing, painting, sculpture, engraving, architecture, and was spread out from France to whole Europe even USA. The school has been formed on classical antiquities, keeping these perfect forms. Tradition of critical thinking emerges during Enlightenment period. It was not reflected on architecture and architectural education swiftly. As same as Morales pointed out that each crises mark the moment of change, after industrial revolution, social transformation become avoidable and architecture started to be questioned (Morales, 1996). Pioneers of the Modern Movement declared their will of change within the manifestos. Reflection of the will at architectural education can be seen at foundation of Bauhaus and Vkhutemas. Both schools were planned contrast to Beaux-Art School tradition. They deal with intellectual materials, tectonics, and experimentation as a new approach on education rather than architectural styles, ornamentations, classicism.

When definition of architecture changed as a creating of object of mind, architectural education has been changed and focused on architectural thought regarding critical thinking. As same as architecture is as an edifice, architectural education construct its edifice in the history. If an assertion draws on "reconstruction of architecture," what may the essential point of view is within the context of architectural education.

Mostly current aspect of the architectural education based on departmental separation especially in Turkey. There are three basic departments in architectural educational license program; theory-history, design and technology. Architectural curriculums are planned according to this separation. At different architectural school,

curriculums are planned as same as design studio courses always are core of the architectural education. Theory and technology courses, tent to be as supportive courses to the design studio. If the definition of architecture is creating an object of mind, essentially architecture should be though at first as being constructions of though regarding reflexivity, which can be, obtain from theory-history and finally criticism. Since architectural education has not direct relation to realm of architectural practice, architectural education must emphasize on construction of architectural though rather than making. In the article, it will be discussed significance and problematic of history-theory-critic as being component of architectural though and relation with design in architectural education.

HISTORY

Le Corbusier:

"There is only one teacher of mine is the past."

History is an area, which consists of selected phenomena by historians. We never know anything what has already done in the past unless it was written and was selected valuable. In any case knowledge of history never define a problem, it tries to unfold phenomena. When the phenomena analyses, the problem can be defined by theorist using history as a tool. According to Morales, *"Historical conditions never repeat themselves. But analogies can offer an eminently viable means of signaling structure of behavior and signification by which they render themselves mutually intelligible, precisely on the basis of their similarities and differences."* (Molares, 1996:17). If all truths and problems are defined trough history by the way of looking backward, how can be done the future expectations? If future expectations are taken from history, the view will be historicist view that never covers intuitions. What we have in the history of architecture? History of architecture presents us what is permanent and impermanent by selection of historians. It serves as a laboratory of architecture. It builds up memories of individuals and societies. History prepares a database for architectural theory being in such figure-ground relationship.

What is problematic of history in architectural education? History has close relationship with conservation and historicism and eclecticism. Without denying to significance of knowledge of history, conservation and historicism implicate that what is perfect regarding to celebrate perfectionism. Conservation being a modern positive meaning related to architectural heritages, historical memory.

Contrarily, according to Vittorio Gregotti *"Conservation invokes not only memory... conservation demands recognition for the share of eternity connected with the idea of artistic practice, as opposed to the essentially linear concept of progress-one that inevitably abandons its own past- common all the natural sciences"* (Gregotti, 1996:6). Most radical approach in architectural education to history courses was taken in School of Bauhaus, and art of history given for understanding of method of historical study rather than chronological history of art and architectural styles.

Since history written by historian, there can be manifold histories for the same phenomena within the same period and it makes a break of on sequential flux of

time. Every single phenomenon tends to comprehend as unique reality and sequential flux of time turns in synchronic time conception. Since in architectural education history courses planned according to what is best and perfect in the history of architecture, every example can grasp as a model and can be pick from the coffer of history of architecture, this is a modern way of eclecticism rather than historicist eclecticism. It is impossible to not be effected from perfect examples at the first confrontation as icons of architecture for students. The icons of architecture should be discussed within the context of cultural, social environment. If we go more radically, it can be said that history courses may include discussions on bad examples. The question might be how they could test badly or good where the criterion of this kind of assessment is. This is the hard question regarding to validation of our tests. Since philosophy of history attempts to find the boundary between the mutable and immutable, the answer can be found in it.

THEORY

The word "theory" comes from Latin *theoria*, and *theros*, which means "spectator." (Johnson, 1994:30). English meaning of theory is a conception, mental schema of something to be done of method of doing it. Theory is a systematic statement of rules or principles to be followed.

Vitruvius (1486):

"Theory is the ability to demonstrate and explain the production of dexterity on the principles of proportion." (Johnson, 1994:30).

Peter Collins (1965):

"..An architect does not arrive at finished product solely by a sequence of rationalizations, like a scientist, or through the workings of the Zeitgeist. Nor does he reach them by uninhibited intuition, like musician or a painter. He thinks of forms intuitively, and then tries to justify them rationally." (Johnson, 1994:1).

Roger Scruton (1979):

"Architectural theory consists in the attempt to formulate the maxims, rules and precepts which govern or ought to govern, the practice of the builder...Such precepts assume that we already know what we are seeking to achieve: the nature of architectural success is not a issue; the question is, rather, how best to achieve it.. A theory of architecture impinges on aesthetics only if it claims a universal validity..." (Johnson, 1994:30).

Harry Francis Mallgrave (1995):

" Architectural theory can be heady experience, as a few adventurous souls have taken the occasion to discover." (Frampton, 1995: ix)

Before Renaissance during the medieval period, the guilds controlled praxis of architecture. Theory came to life with the institutionalisation of the profession during the Renaissance; the opening of the profession led to the practice of architectural education. Theory in every area makes classifications for each discipline and domesticates the knowledge of disciplines. Architectural theories are assumptions on concepts, which consist of ideas, behaviors, intentions, history, and creations. Beside the formal and abstract sciences (logic and mathematics) and formal science (physics, chemistry, biology, etc.), theories of architecture belongs to normative science which contain irreducible complexities of human and social aspects like psychology, sociology, aesthetics, ethics, etc (Özkan, 1999)

When the theory talks, the question comes like; what does architectural praxis talk? There are different approaches about what the relationship between praxis and theory of architecture is. Burke gives an example to show this separation has existed since 15th cc. When Milano Cathedral was on construction, masters of the masonry rejected to use science of geometry for construction of the wall by saying there is no need to use science of geometry because science (theory) and art (practice) are ultimately different areas. Architect came and rejected them by saying that "there is no value in art if there is no science within" (Burke, 2001).

Lang says, *"...Successful theories consist of simple but powerful generalization about the world and how it operates that enable us to predict accurately future operations.... A theory cannot be proved. It stands until it is disproved... Theory must address issues of practice... If theory does not do this, it is irrelevant."* (Johnson, 1994:3). Architecture produce single unique creations in every single productions and theory make them generalize by interpreting it. Theories crate a new language regarding the new architectural concepts. Foucault supports to this approach by explaining like "theory does not express, translate, or serve to apply practice: it is a practice" (Johnson, 1994:3).

Architectural theory constructs or creates a new language different from architectural practice. If architectural theory solely serves praxis, what may remain to us that different from architectural history? Since theories cover the future expectations, its relationship with practice become a problematic relation. Theory should be cherished from the external area like philosophy, which makes it open-ended. This diseased relation rooted from argument about source of architectural knowledge whether founded on a priori or a posteriori knowledge. The only place theory and practice should be integrated is architectural education in order to construct architectural thought.

Mostly theory of architecture course has similar problematic all around the world, which are;

- 1-theory courses planned in curriculums within a dissociated way with design studio courses,
- 2-theory courses always related profoundly with history,
- 3-theory of architecture courses focused on Western history of architectural theory all around the world.

Dissociation between theory and design courses

Theory creates architectural concepts and concepts can comprehend by the way of intuition. Intuitional knowledge is able to grasp by experience where it can be gain at the design studio. That is why in architectural education there must be a deep integration between them regarding discussed topics, simultaneous theory debates in design laboratories.

If design studio is not cherished by theory, students architectural design studio turn to a class master and apprentice relationship. This relationship coming from the guild system and still it could be seen in contemporary architectural education, if there is no theoretical questioning in the design studio and consequently all students became a model of the educator by copying him or her. Main problem is design studio courses and theory courses are planned independent each other given by different profession. As a teaching method of master and apprentice, relationship in education does not need to theory and architectural thought as being old-fashioned education style.

Profound integration between history and theory

In architectural education, history and theory courses are given still under the same name: Architectural history and theory. This situation causes to look at backward and understand throughout the history what architectural history have and all interpretation and comment and theories depends on. History has priority to architectural theory and theory becomes an elective courses rather than mandatory in the curriculum of school of architecture. If it runs within this structure theory can be understand as chronological analysis of the past. The question is that "what can be done in the future or now" within the area of architectural theory? Sibly Moholy-Nagy says that; *"if theory is as generalized principles, analysis of reality, the whole vast body of generalized principle... refers backward to established architectural facts. It can never refer forward to future design solutions."* (Johnson, 1994:21).

As it has explained the reason above, architectural theory must be independent from the history. First separation of history and theory courses can be seen in the mid-eighteenth century at the school of Jacques-François Blondel. Contrary Blondel's school, historicist view was dominant in the theory following Renaissance norms by Quatremère de Quincy at Ecole des Beaux Arts (in Paris). Bauhaus also planned architectural theory course as a single course separated from history (Conrads, 1991). Today current tendency for theory course is to be given under the name of architectural theory and history in the main curriculum.

Domination of Western history of architectural theory all around the world

In many countries of architectural schools where are out of Europe and USA, architectural courses formed on Western history of theory of architecture. It is almost planned to teach from Vitruvius to Modern Movements and still nowadays. Generally, classification of architectural theory in education can be like this;

Late 19th century: Classical Revival, Eclectician, Romantician

Before World War I: The Chicago School, Art and Crafts movement, Art Nouveau, Viennese Secession, Italian Futurism, German Werkbund

After World War I: De Stijl, Expressionism, Constructivism, Cubism

1920s-1960s: Modernism

1960s-1990s: Postmodernism, New Modernism Deconstructivism

Since 1990: European Rationalism, Minimalism, Classical Revivalism, Mega structure, Japanese Experimentation, LA Avant-garde, Phenomenology, Behavioral Architecture, Pattern Language, Ecological Architecture, Regionalism, Tectonics, Genetic Architecture.

Tradition of Western thought described rest of Europe and USA within whether oriental studies or local, vernacular studies. In architectural education, if there is a unique theory apart from Western history of architectural theories, they are given at master degree or elective courses. This situation locates Western thought on the center, all theories that produced and written in Europe and USA has almost accepted universal theories. Acceptances of those are universal theories by periphery, make them closer to the center, or unfold their wish about location to the center.

It can be said that, the reason of domination of Europe and USA in the area of theory of architecture depends on having rich written sources and their criticism tradition, which is rooted to antique Greek. The question can be asked like that, is there any unique identity of Western thought? Jameson pointed out that there is no unique identity definition and Europe and USA can be defined regarding the differences that make them dynamics and bring enrichment regarding to the world of thought (Jameson, 2004). Whole Europe consists of so many peripheries rather than being a center. If it is comprehended within this way, the world consists of peripheries. The real globalization means there is no centers in the world or every periphery can be described as a center.

According to Foucault, every theory is regional and tent to not be generalized. (Johnson,1994). We have to know cultural values whenever teach theory; Gothic styles never can comprehend without understanding of its period of the beliefs, culture, social institutions. If the styles or theories are given without cultural and societal milieu of their own period, the theories could be understood. That is why courses of theory of architecture should be given wider spectrum without domination of a center.

CRITICISM

Bruno Zevi (1983):

"The critic's responsibility is to contain and limit revisionism and keep alive the revolutionary values. I believe in creativity and if you want to call that permanent revolution, I have no objection." (Johnson, 1994:38).

Tafuri:

"Criticism set limitations upon the ambiguity of architecture" (Weiner 2005:29)

In English dictionary, word of critic could be seen in the middle of the 16th century. It comes from "kritikos" in Latin which means is "judge."

Criticism emerges during Modern Movement, Modern Movement architect were not against the criticism, and they use it for legitimacy of their architecture. After World War II, relationship between architecture and criticism was change and modernism starts to be questioned. During the postmodernism, architectural criticism and practice stands as opposition to each other. Criticism placed against the practice. Morales pointed out that criticism today in current condition, it is impossible to be anything other than a provisional system (Morales, 1996).

In architectural education, critic is done at design studio juries or every design studio discussion or students can produce a critic as an assignment for history or theory courses. While there is a jury, student position always is as a defender against to educator. Since student desire to pass their class, jury system makes student being out of objectivity like advocate of their project. Criticism usually asks from student in the master level regarding to a reading a building, writing an article about historical or current example of architectural practice. Contrast to those assignment type, students never write an article about his/her own project critics end of their design studio. It almost related to literally thinking on their own project. This approach can be extended with asking them to write critics about their friends' projects cherishing by architectural theory. The problem might be called here is objectivity. In any case, writing is a sort of refinement of thought. It will help them to think on why they are doing, rather than what they are doing.

In Turkey, criticism has not been institutionalised. We are suffering from the scarcity of historical sources related to architectural theory. This argument can be still valid: Our tradition history depends on oral history instead of written. We have just sublime architectural heritage, nevertheless, there are no so many written sources except the material documentary about big architectural tradition. Recent day all criticism depends on definition on the new buildings written by designer of them. If there is a desire to change and provoke the production of architectural theory in Turkey, we should starts at education.

CONCLUSION

Reconstruction of architecture should be searched at architectural education regarding to reconstruction of architectural thought. Accepting the design studio is a heart of the architectural education, it never be separated from architectural theory, architectural history and finally architectural criticism regarding to architecture is a creation of matter of thought. If we try to define a path of thought in education of architecture, it could summarize like this; design studio is an experimentation laboratory where concepts are able to comprehend in. Architectural concepts can grasp from architectural theory by using history, and then theory or practice needs to be criticized in order to set limitations. This path can be described like a helical line.

Design studio and history-theory-criticism are indispensable components of architectural thought and this quartet make the architectural thought open-ended. In education, we have to avoid of idea of separation of praxis and theory as separation between architectural theory courses, technology courses, and design studios. The program has planned within an integrated ways. Architectural education should emphasize on question of making of how and making of why rather than making of what.

REFERENCES

- Borsi F.,1986, Leon Battista Alberti, The Complete Works, Electa/Rizzoli New York
- Burke P.,2001, Bilginin Toplumsal Tarihi, Translated by Mete Tunçay, Tarih Vakfı Yurt Yayınları
- Conrads U., 1991, 20. Yüzyıl Mimarisinde Program Ve Manifestolar, translated by Sevinç Yavuz, Şevki Vanlı Mimarlık Yayınları Vakfı.
- Frampton K.,1995, Studies in Tectonics Culture, The Poetics of Construction in Nineteenth and Twentieth Century Architecture, The Mit Press
- Giddens A., 1998, Modernliğin Sonuçları, translated by, Ersin Kuşdil, Ayrıntı Yayınları, İstanbul.
- Gregotti V., 1996, Inside Architecture, translated by Peter Wong and Francesca Zaccheo, The MIT Press
- Jameson F., 2004, "Avrupa ve Ötekileri" in *Avrupa'yı Düşünmek*, Cogito, 39, 242-253, Yapı Kredi Yayınları
- Johnson P., 1994, "The Theory of Architecture", Van Nostrand Reinhold, New York.
- Morales I. S., 1996, Differences, Topographies of Contemporary Architecture, edited by Sarah Whiting translated by Graham Thompson, MIT Press
- Özkan S., 1999. The Dilemma of History: Theory and Education in Architecture. In Architectural Knowledge and Cultural Diversity, William O'Reilly, ed. Lausanne: Comportements.
- Vitruvius, 1993. Mimarlık Üzerine On Kitap, translated by: Suna Güven, Şevki Vanlı Mimarlık Vakfı Yayınları.
- Weiner F., 2005, "Five Critical Horizons for Architectural Educators in an Age of Distraction", *Writing in Architectural Education, EAAE Prize 2003-2005*, <http://www.archdesign.vt.edu/news/pdf/eaee-prize-2003-05-essays.pdf>

RECONSTRUCTION IN DESIGN EDUCATION: “CREATIVE DRAMA”

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ABSTRACT

In this study, lecturing of a predetermined subject using creative drama method in design education within the scope of a lecture is discussed. Purpose of the research is to test whether the use of creative drama is a beneficial method for visualization of design education.

Today, applications are made with various branches of science under several topics using creative drama techniques. Preschool courses, Turkish-Mathematics courses, Science, Social Sciences, Foreign Language and Art Education can be shown as an example. Such applications give the impression that drama method can also be applied in architecture and design education.

Presence of several common purposes and objectives of drama and design education indicates that drama can also be used for design education. Learning by seeing, hearing, doing and living can be achieved through supporting the subject with drama in design education.

In this context, in design education, for example in many lectures such as basic design, architecture and art history, it is very important with regard to permanence of knowledge and supporting creative skills. Creative drama applications in education offer a new perspective and direction for classes.

Keywords: Drama, Creative Drama, Architectural education, Visualization in design education, Drama in design education

INTRODUCTION

Examining the historical development of notions of design and drama, it is possible to mention many common traits between these two fields. The fact that roots of these two notions are focused on “humans” and “living” supports this observation. Drama is an expression technique including effects such as emotions, motion and sound.

San (2006) defines drama notions of creative drama and drama in education as follows: “Creative drama studies are the creation of dramatic moments by experts for processes of plays and living conditions within in-group interaction processes” (San, 2006).

In USA, notion of 'creative drama' is used more frequently. In United Kingdom, being the most experienced country in using creative drama for education processes, 'drama in education' replaces the use of 'creative drama' (San, 2006).

According to Adıgüzel (2007), creative drama as an education method consists of three basic stages;

- I.Preparation-Warming-Up Studies,
- II.Animation,
- III. Evaluation-Discussion-Sharing (Adıgüzel, 2007).

During these stages, visualization is achieved using several different techniques such as lecturing technique, writing in role, photograph, memoirs and improvisation, which include notions such as sound, emotion and motion. A class plan can be prepared using the techniques selected in compliance with the class and the topic (See Adıgüzel H. Ö., Üstündağ T., Öztürk A.(Ed.), 2007, İlköğretimde Drama, Eskişehir).

These techniques used in creative drama applications can also be implemented by being developed according to the attendees, purpose of the educator (leader) and the subject to be narrated. Using these methods, the educator will help the individuals to concretize abstract notions and to achieve personal development and self-confidence.

Design education also helps the students to see the visual world, improve their imaginative skills and raise their aesthetical admiration levels. The education also aims to create new perspectives, to improve problem-solving skills and to increase the permanence of knowledge.

Creative drama as an education method influences on raising the interest and motivation of the students on the work or the class, as well as improving their problem-solving skills. Additionally, the fact that a student is actively participating in the course contributes in the quality of learning and permanence of knowledge. By this method, students achieve to know themselves and discover their creative aspects in addition to the attainments mentioned above. In this context, many personal traits that influence the improvement of creativity which is essential for design education can be discovered.

Güneysu (2006) states that notion of drama in education is effective on being creative and the will to research, and emphasizes that it can provide an alternative field of education for education systems as a precaution for use of imperative and learn-by-rote education and training where the knowledge is used as a stack (Güneysu, 2006).

Drama in education explains any subject using application and visualization methods instead of learn-by-rote techniques. Therefore content of design education seems to be easily defined and expressed by drama method.

Thanks to Drama in Education method, students can gain the skill to develop and use their knowledge according to their attainments. Cognitive, affective, social,

kinesthetic and attending skills taking place in creative drama as a learning method easily correspond to design education as a visually-effective education method.

Visuality is one of the essentials of architecture and design education. The importance of visualization for the integrity of architectural education can be defined as opening new creativity paths by gaining the individual different perspectives.

It is also important to help the students to establish meaningful connections with architecture, to gain them different perspectives and to ensure the permanence of knowledge, as well as increasing the motivation of the students through visualization / animation methods. The students should gain the ability to recognize that the elements are gathered together in an intuitive, rational and conceptual way while perceiving the structured environment.

METHOD

In this study, it was investigated in a sample class applied by the researchers whether the drama method is effective on supporting visualization / animation in design education and therefore on learning.

In this context, content of department classes and application forms influenced the selection of the class during which the researchers would perform the application. 'Architectural Project' classes were not preferred due to the fact that these classes consisted of small groups (6-10 students) and that the students were more active during the course of the class than other classes because of the execution method, and classes during which the class leader could be active and could use straight lecturing with traditional methods were selected.

Under the light of the criteria specified above, it was decided to prepare a creative drama education program within the scope of "Environmental and Behaviour" class. Date of the class chosen for application was determined by discussing with the lecturer of the class. Creative drama education program was designed in relation with the topics of 'Privacy, Personal Setting, Domination Area (Limited Area) and Selfization (Making Individual)' covering the subjects to be lectured on the determined date, and the education program designed was applied.

The application was executed with the second-grade students being trained during 2008-2009 spring semester in Karadeniz Technical University, Department of Architecture. 58 students in total, particularly 41 female and 17 male students were enrolled in the research.

The students were divided into two different groups of 'experiment' and 'control' for the research. Experiment group included 28 students in total consisting of 20 female and 8 male, whereas the control group included 30 students in total consisting of 21 female and 9 male students. Previous levels of success of the students for the lecture to be applied were taken into consideration while creating these groups.

The related subject was given by the researchers to the students of experiment group by creative drama method, and by the lecturer of the class to students of control

group by traditional, oral lecturing. The exemplary class plans prepared by the researchers were applied with the experiment group in creative drama process of 4 hours, (Photograph 1, Figure 1).



Photograph 1. Application of Creative Drama

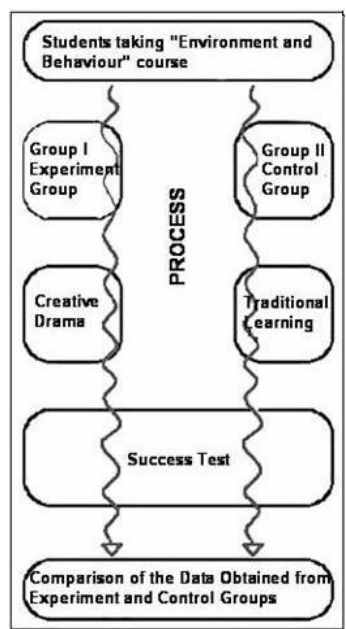


Figure 1. Research Model

Experimental study included the following:

- I.Evaluation Scale (Survey)
- II.Multiple-Choice Evaluation Test Consisting of 15 Questions (Test 1)
- III.Open-End Evaluation Test Consisting of 5 Questions (Test 2).

Comparison of both groups was performed according to the data obtained by the methods mentioned above.

“Evaluation scale (survey)” mentioned above was used to measure the attitudes of the students of experiment group where the creative drama method was used in the research about the application performed within the scope of “Environmental and Behaviour”. The evaluation scale consists of 11 articles and a fill-in-the-blanks table designed to examine the concepts learnt about the topics of the class.

Additionally, a section for taking the opinions of the students about the application was arranged. The scale including articles arranged positively was a measuring tool of Likert type with five grades. The reactions for the articles were graded as “strongly disagree”, “disagree”, “moderately agree”, “quite agree” and “strongly agree”.

The aforementioned “multiple-choice evaluation test consisting of fifteen questions (Test 1)” was also applied for each group at the end of the study. The findings of this test are as follows:

Average of the scores of students of the control group (86%) was higher than that of the students of experiment group (84%). Considering the average value, it can be concluded that the difference between the students of experiment and control groups is not statistically significant. Therefore, the result indicates that the students of each group are similar with regard to the success achieved in “Environment and Behaviour”. It is considered that the test conducted immediately after the completion of the class played a role on the results.

Therefore it is observed that the duration seems to be an effective factor on the permanence of knowledge. No significant difference was seen in this period between the two groups learning the same things with different methods. However, an “Open-end evaluation test consisting of 5 questions (Test 2)” was conducted on the groups after two weeks following the application in order to evaluate the relationship between permanence of knowledge and duration and to examine the effect of the method on level of learning. The results are given below:

Average of the scores of students of the experiment group (69 %) was higher than that of the students of control group (56,7 %). The results obtained from t test conducted to determine whether the difference between two groups was significant revealed a statistically significant difference ($t_{(28)} = 2,065$; $p < 0,05$), (Table 1).

Table 1. T Test Results for Scores of Experiment and Control Groups in ‘Evaluation Test (Test 2)’

	N (Number of Students)	X (Average)	df	t	p
Experiment Group	16	69	28	2,065	0,048
Control Group	14	56,7			

Therefore it can be concluded that there is a significant difference between two groups taking the test with regard to permanence of knowledge and level of learning. Evaluation results of the students of experiment group applied with drama method indicates a positive difference.

Besides, examining the “evaluation scale (survey)” applied to the students in the experiment group; it is observed that almost all of the students have positive thoughts and attitudes towards the study. Some of the comments in the evaluation scale applied to the students in this group are as follows: “We could know each other better in the class”, “A boring lesson became a fun game”, “I couldn’t even tell how the time passed”, “It was so nice to get rid of the position of “observer” and to become the “observed” in the class and to feel being a part of the class”.

Examining the research findings, we can say that we observed a difference in the learning levels and memorability of the information between the experiment group practicing the creative drama method and the control group practicing the conventional teaching method in favor of the experiment group.

CONCLUSION AND SUGGESTIONS

In the design education, we can benefit from the creative drama method in theoretical and applied classes to develop the imagination of students, to develop the productivity and enable aesthetic development, to help the individual form new ideas and perspectives and to increase the memorability of information.

It is quite important in terms of developing creativity for the students to comprehend the topics in many classes, to retain the obtained information and to attend the lessons in the design education. In other words, a high level of concentration and attentiveness is a must. With the drama method, the students are kept active all along the class and are enabled to convey their feelings and thoughts freely, thus a high level of attentiveness and concentration is obtained. In the subjective qualities that drama embodies, all these expectations can be fulfilled.

REFERENCES

- Adıgüzel, H. Ö., Üstündağ T., Öztürk, A. (Ed.), 2007. *İlköğretimde Drama*, Eskişehir.
Çepni, S., 2009, *Araştırma ve Proje Çalışmalarına Giriş*, Trabzon.
Güneysu, S., 2006. “Eğitimde Drama”, *Yaratıcı Drama 1985-1998 Yazılar*, H. Ö. Adıgüzel (Ed.), Naturel Yayıncılık, Ankara.
San, İ., 1990. “Eğitimde Yaratıcı Drama”, *Ankara Üniversitesi Eğitim Bilimleri Fakültesi Dergisi*, v. 23, 2nd edition, pp. 573-582.

STUDENTS RE-CONSTRUCT THEIR ENVIRONMENTS

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ABSTRACT

This study considers the creative process from the first insight of the design problem to the verification of the design idea through a “real-life” project. One of the most important things for the design activity is to realize and understand what the actual problem is. Ideally, design education does not teach conclusive templates for a solution. Rather, it encourages analytical thinking, which requires critical observation and seeks to improve the relationship between people and their environment. The paper examines how students approach a real-life design problem and how they re-construct their environment.

Keywords: Design education, Interior design, Design process, Re-construction, Real-life problem

INTRODUCTION

A meaningful design makes a difference for the better in the way we experience our environment. This was the starting position for an assignment (a short real-life project) that we adopted from a project that was sponsored by the Interior Design Educator’s Council (IDEC) Social Justice Network. The project was implemented in the fourth year interior design studio of Bilkent University. It asked students to critically evaluate their near surroundings on the university campus and find a real-life problem that they can improve by designing and installing a temporary or permanent solution. They were then asked to observe and record what happened when people encountered and used their installation.

The project gave the students an opportunity to re-construct the near environment in order to improve daily life. The outcome indicated that students were able to generate a wide variety of solutions even in a limited context. Their project descriptions showed that although some of the solutions appeared to be contextually similar, students’ recognition of the problem differed.

This paper examines how students approach a real-life design problem and how they re-construct their environment. We evaluate the outcome: (1) by classifying the

projects according to content and (2) by analyzing the students' considerations while handling this project, in order to discuss "constructs" of design education related to definition of the design problem, design process, and assessment of the product.

DESIGN ACTIVITY

Design activity enables to find concrete and practical expressions of theoretical design knowledge (Buchanan, 2001: 21). It is the link between invention and realization, which serves as a mediator between mental activity and social activity (Ruedi, 1996). It is an open-ended process of problem solving in which design theory functions as an instrument for supporting the cognitive abilities of the designer (Verma, 1997). Although the facts and rules are important inputs for solving the design problem, the extent of the experience of the designer is more important (Demirkan, 1998). While the facts and rules are more constant, the experience is a changing process that develops through time and the studio in design education is the first place for the novice designer to gain and develop experience in design profession.

Students gain theoretical and practical knowledge in the design studio through some experiences that are the demonstration and simulation of real-life design problems. The preparation of the design student for the world of practice together with the treatment of theoretical issues and design knowledge are structured in the studio through the reflection of all other courses in the curriculum (Demirbaş and Demirkan, 2003: 439). Design activity in the design studio is the transformation of this acquired knowledge together with the imagination of the student to a design (Attie and Mugerauer, 1991; Brusasco et al., 2000; Demirbaş and Demirkan, 2003; Yıldırım and Güvenç, 1995).

The process in the studio setting covers three successive stages in relation with each other: learn and practice some new skills, learn a new graphical and verbal language, and learn to think designerly (Ledewitz, 1985; Schön, 1984). For an efficient design process, the provision of the technical skills alone will not be enough. Design education primarily rely on thought development, subjective development, development of questioning abilities, using reasoning models, and finding out solutions for wicked problems (Demirbaş and Demirkan, 2003, 2007; Brusasco et al, 2000; Verma, 1997).

Design activity is an open-ended problem solving process in which design theory is the instrument that supports the cognitive load of design for the realization of what the actual problems are. So not only finding out solutions for wicked design problems, but also how to realize and define these problems are important and integral part of design activity (Demirbaş, 2001: 28). As different ways of seeing reveal different ways of designing (Hardy, 1996); different ways of learning may reveal different ways of seeing. Hence, the possibility of experiencing design activity and environment simultaneously from different perspectives will extend the abilities of the designer in realizing and defining the design problems.

DESIGN PROBLEM

Basically there are two kinds of problems: well-defined and ill-defined. The ends and the means of solution are unknown in ill-defined problems, while well-defined problems have prescribed and apparent ends with solutions through the provision of appropriate means (Rowe, 1987: 40). Immensely ill-defined problems are defined as wicked problems and design problems are generally classified under the category of wicked problems (Koyuncugil, 2001: 7-8).

There is no definite formulation or solution in wicked problems but every formulation of the problem leads to the formulation of an alternative solution. None of the alternative solutions are true or false, but they are good or bad. While solving the wicked problems there is no list of operations, and these problems do not have stopping rules. There is always more than one explanation for a wicked problem according to the cognitive abilities of the problem solver. Every wicked problem is unique but still be an indicator of a higher-level problem (Buchanan, 1995: 14). Design problems are considered in the context of wicked problems since there are usually more than one solution and one definite description for a design problem (Koyuncugil, 2001: 7-8). While same design problem will be defined and handled differently by separate individuals, it is also possible to see the shift of a single individual's perception of the same design problem in time through changing experience. In this sense, a design problem does not have entirely (verb?) objective formulations, but remains a matter of subjective interpretation (Lawson, 1990: 92). As Lawson (1990: 92) states design process does not have a finite end, the responsibility of the designer is to put an end with a satisfactory solution.

CONSTRUCTS OF DESIGN EDUCATION

The theory of experiential learning considers learning activity as a continuous cycle starting with experience, continuing with reflection, leading to an action, which becomes a concrete experience of the reflection (Demirbaş and Demirkan, 2003: 440). According to this point of view, knowledge is created through the transformation of experience in a series of learning activities (Kolb, 1984: 41). The four common learning activities are defined as learning by experiencing, reflecting, thinking, and doing (Demirbaş and Demirkan, 2007: 347).

Schön (1987) stated the design activity as a process of trying out meaning-establishing moves that are uncertain and indeterminate matters of experimentation to discover a total consistency in itself. According to this conception, design activity is to discover a framework of meaning in an indeterminate situation through practical operations in the situation (Waks, 2001: 44). This implies that design can be learned only in and through the practical operations of experimentation; parts of design cannot be learned in isolation, but as a whole because of its holistic character; and design activity relies on the ability of recognition of desirable and undesirable qualities of the discovered and experienced world.

Rather than teaching conclusive templates for a solution, design education encourages analytical thinking that requires critical observation and seeks to improve the relationship between people and their environment. One of the primary intentions

of design instructors is to bring in the abilities of observing, questioning, reasoning, and experimenting. For this reason, design education is considered as a model of experiential learning (Demirbaş and Demirkan, 2007: 346) and the learning activities handled through the learning cycle are the constructs of the design education.

REAL-LIFE PROBLEM

As mentioned above, the design activity in the studio is a demonstration and simulation of real-life situations in order to bring real-life contexts into the educational environment. Through real-life projects, theory is learned and confirmed through practice (Hill, 1998: 216), which enhances the effectiveness of design education process.

Some of the educational implications of problem solving in real-life context could be stated as:

- Increasing the level of confidence to explore, to discover and to take risks through design activity;
- Discovery of order in disorder involving cognition and application, knowledge and control, mind and matter, purpose and tools;
- The interaction between design knowledge and conceptual knowledge, and action and procedural knowledge;
- Increasing the awareness of the design activity as creation, invention and modification process that builds on knowledge making instead of knowledge receiving;
- Shifting situation of the end product from a representative model to a real product/mock-up;
- Supporting the research on situated cognition;
- Finding out direct links between the design solution/product with environment, culture and user;
- Providing a philosophical understanding of design activity for both students and instructors (Hill, 1998: 217; Waetjen, 1995: 165; Franklin, 1990: 15).

RE-CONSTRUCTING EVERYDAY ENVIRONMENT: “MAKE-A-DIFFERENCE PROJECT” AND ITS IMPLEMENTATION IN THE DESIGN STUDIO

We adapted “make-a-difference project” in order to give the students an opportunity to re-construct their everyday environment for the better. The project was sponsored by the Interior Design Educator’s Council (IDEC) Social Justice Network (inspired by Bryan Bell, founder of Design Corps, a non-profit group dedicated to world betterment through design). It emphasized the role of creativity in improving daily life for everybody and living being. The activity was implemented in the senior year undergraduate interior design studio with eighty-one students taught by six instructors. It had three stages. The first two stages were realized in one day, during the six-hour design studio period. Afterwards, the students were given three days to complete the final stage of the project.

In the initial stage, the students were asked to identify a real-life design problem in their near environment (i.e., central campus of the university) that could be made

better through a design of some kind. They were given three hours of studio time to do this. Following this period, students came to the studio and wrote a brief description of the problem that they had identified on an A4 size paper. Next, the students spend about two hours in the studio to propose a meaningful design solution for the real-life problem that they have spotted. Their proposal could be either temporary or permanent and was required to be safe and applicable. At the end of the second stage, students submitted mock-ups or sketches of their proposals on an A4 paper. They, then, produced and installed their design proposals. Finally, students observed and recorded what happened when people encountered and used their installation, which offered a design solution to the real-life problem that they had identified.

Upon the completion of the activity, the students documented their work through photographs, sketches, and a one-page description of the three stages. Each student submitted her/his project on a 50x70 presentation board. The criteria for evaluation/grading included creative thinking, usefulness or functionality of the idea, applicability, safety, quality of the documentation, and clarity in presenting the idea verbally and visually.

STUDENTS' APPROACH TO THE PROBLEM

The outcome of the project indicated that the students were able to generate a wide variety of solutions for different purposes. However some of the problems were prevailingly more popular. The analysis of the total of eighty-one projects showed that all of the students generated projects for common/public spaces, which they have used most frequently. Studio/class environment was the most popular place for the projects (46.9%) and followed by the neighboring outdoor spaces (27.2%). Restrooms in the department building and showers in the dormitories were also prevalent spaces of improvement (14.8%). The majority of the students attached an addition to existing furniture or building element (59.3%), rather than proposing a new furniture and/or object (40.6%). Mostly, drawing tables were improved by prosthesis such as extra storage containers for drawing and/or modeling equipment (19.8%) (Figure1).

The most prevailing objects were shelves and hangers (18.5%). These were proposed for common spaces in close proximity, such as the restrooms. Students also noticed the lack of recycling or trash bins in the outdoor and corridor areas. Another significant group of projects created by the students (16%) were informative in nature (Figure 2). These projects were designed either for improving way finding or for accommodating announcements.

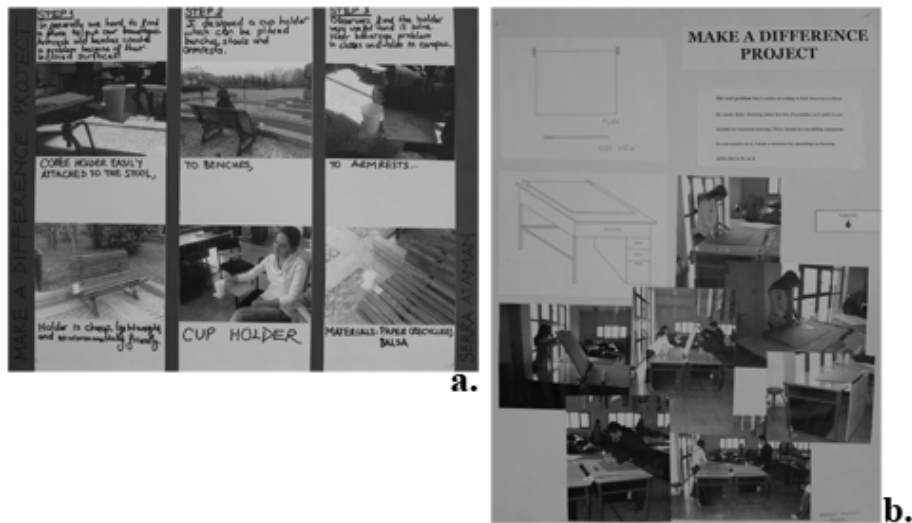


Figure 1. a) Adjustable cup holder proposal (Serra Ataman), b) Adjustable cutting board for drafting tables – Two students can share one board (Handan Kalyon)

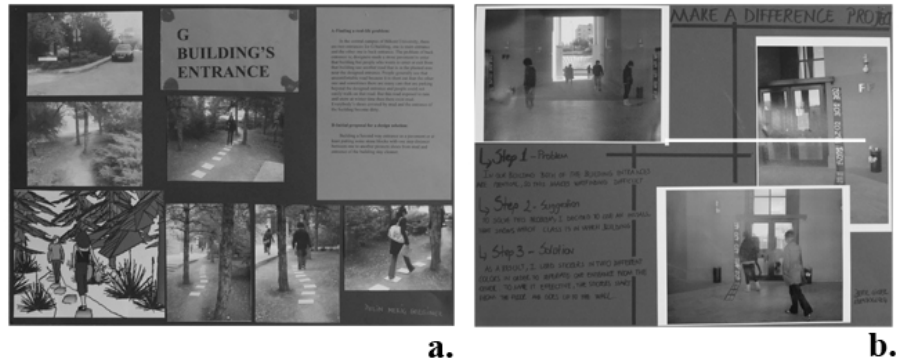


Figure 2. a) Definition of the short cut passage to the building through woods (Pelın Meriç Gezginer); b) Signage for showing the location of studios located at the entrance of IAED building (Beril Çiçek)

For understanding the students' approaches to the project, a group of students were interviewed. The questions sought to find out:

- How students identified a real life problem and for whom they aimed to design this problem;
- How the students developed a solution (design process: improvement/creation/arrangement, installation, construction, materials);

- How they evaluated their proposal (observation/assessment/criticism of the product and process);
- And how they evaluated the project.

Analogical reasoning has a considerable effect on recognition of problems and finding out alternative solutions, and experience has a pronounced factor for analogical recognition (Casakin and Goldschmidt, 1999: 155). Although a fully equipped designer has to consider the needs and requirements of all user groups and design in this sense, it is acceptable for a design student to orient this consideration to his/her own needs and requirements according to the experience level that they have. The interviews showed that, the variety of problems defined by the students were limited in response to their own experiences as expected. Nearly all of the students (77 - 95 %) defined their own problems, rather than that of the other user groups. In this sense, only two of the students proposed information boards for other user groups - one for visual impaired, one for new-comers. Different from the rest of the proposals, two other projects were for cats in the campus. One of them proposed to put meal-dishes near the food court in order not to be disturbed by cats during lunchtime, while the other provided shelters to protect cats from the environment such as cold, rain, and dogs (Figure 3). Besides the experience level, the specified periphery of the given project as the campus environment could be stated as another factor for the narrow variety of proposals. The general user group of this familiar environment is students so analogical recognition could be directly concerned with them. For this reason, in the interview, they were asked what to do if they were not limited within the limits of the campus. Unexpectedly, they again emphasized the proposals that would focus on their own needs and/or requirements.

Although students mostly complained about the time limitation of the project, some of the students mentioned that they considered the time limitation as a criterion for design process as the problem definition, design proposal, application and observation. In this sense, the time limitation was found to be somewhat beneficial; students described the project as "an opportunity for practical thinking" and "a shock design training against lack of decision taking."

Students declared that they preferred to produce/install their projects by themselves. Accordingly, materials chosen were light weight and easily workable. Unfortunately, in some of the projects the selected materials and proposed details were inappropriate for the purpose of the design proposal, e.g., use of corrugated cardboard as an overhead canopy for an outdoor bench.

The students considered observation of what happened when people encountered and used their installations as the most exciting part of the project. They said that this was a very valuable critique on their design. Some of the students mentioned that they worried about the stability of their installation while in use by others. One student mentioned that s/he was anxious about the possibility of the usage of his/her design not being understood by the users.

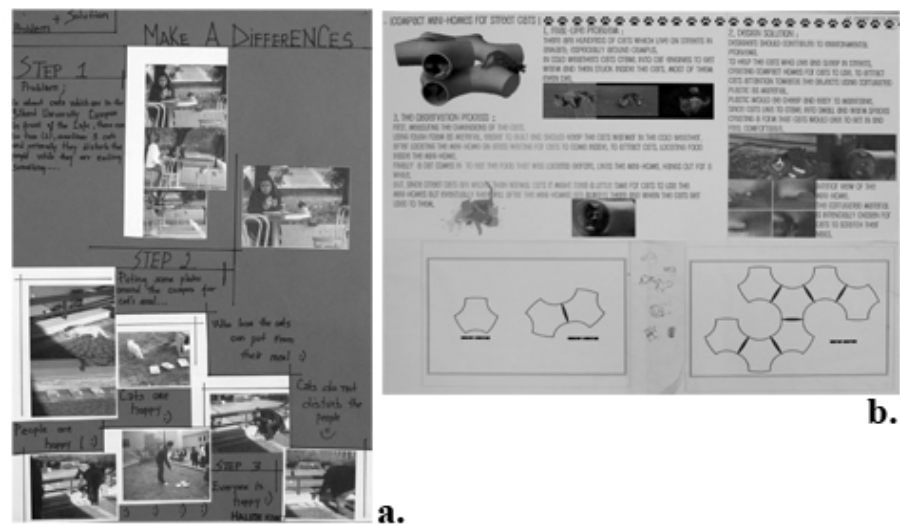


Figure 3. a) Meal dishes for homeless cats located around Food Court (Halime Karci), b) Shelter for homeless cats (Zeynep Derya Arpac)

In general, students enjoyed and appreciated the project. In design education, the design product is generally realized as a scaled model or a graphical presentation of the student's imagination. However, in this project, students experienced the entire process in a real-life situation. They had the chance of improving a real-life problem on site in a full scale. This allowed them to interfere a situation in their environment. As they mentioned, such an approach helped them to be confronted with their design abilities. Also they observed their proposals from apart and evaluate the affirmative and privative aspects of their designs.

CONCLUSION

Students mentioned that identifying and defining the design problem by themselves is a very interesting and beneficial experience. Hence, they requested to be given similar projects in the future. Not only having a limited time, but also the context of the project as a real-life situation forced them to make careful observations in terms of problem definition, instant research and decision making for alternative solutions and techniques of construction, and self-assessment of their own design. For most of the students, the concern of how to effectuate their imagination to a real product was a new experience that is very crucial in design activity. Besides, this project was a good opportunity for encouraging the students to deal and interact with other user groups through an empathy process.

One of the educational constructs of the design studio is to simulate the real-life situations in order to equip the student with necessary knowledge and abilities to act

as a designer. As far as the real artifacts and events are transformed into educational objects, they can become intelligible, knowable, and learnable in the context of design education (Teymur, 1996). In this context, we aimed to transform the campus environment into an educational object and a teaching tool in order to make the students to investigate the real-life problems that they face in everyday life, and to propose logical, practical and applicable solutions. By this way, they had the chance to re-construct their environment through learning by experiencing, reflecting, thinking, and doing as mentioned to be the constructs of design education.

As the design instructors, we are satisfied with the outcome of the project. It is for sure that these kinds of short-term assignments that require instant decision making builds up the abilities of self-assessment, being practical, and being experiential in design process. Also the full-scale end product requirement forces students to consider their design idea from a wider point of view.

REFERENCES

- Attoe, W., Mugerauer, R. 1991 "Excellent Studio Teaching in Architecture" *Studies in Higher Education*, 16-1, 41-51.
- Brusasco P. L., Caneparo, L., Carrara, Fioravanti, A., Nevembri, G., Zoragno, A. M. 2000 "Computer Supported Design Studio" *Automation in Construction*, 9, 393-408.
- Buchanan, R. 2001 "The Problem of Character in Design Education: Liberal Arts and Professional Specialization" *International Journal of Technology and Design Education*, 11, 13-26.
- Buchanan, R. 1995 "Wicked Problems in Design Thinking" in: V. Margolin, R. Buchanan (Eds) *The Idea of Design: A Design Issues Reader*. Cambridge; MA: MIT Press, 3-20.
- Casakin, H., Goldschmidt, G. 1999 "Expertise and the Use of Visual Analogy: Implications for Design Education" *Design Studies*, 20, 153-175.
- Demirbaş, Ö. O. 2001 *The Relation of Learning Styles and Performance Scores of the Students in Interior Architecture Education*, PhD Dissertation, Ankara, Türkiye: Bilkent University.
- Demirbaş, Ö. O., Demirkan, H. 2007 "Learning Styles of Design Students and the Relationship of Academic Performance and Gender in Design Education" *Learning and Instruction*, 17, 345-359.
- Demirbaş, Ö. O., Demirkan, H. 2003 "Focus on Architectural Design Process through Learning Styles" *Design Studies*, 24, 437-456.
- Demirkan, H. 1998 "Integration of Reasoning Systems in Architectural Modeling Activities" *Automation in Construction*, 7, 229-236.
- Franklin, U. 1990 *The Real World of Technology*, Toronto: Anansi Press.
- Hardy, A. 1996 "Architectural History and Ways of Seeing" in: *Architectural History and the Studio*, London: Question Press, 187-208.
- Hill, A. M. 1998 "Problem Solving in Real-Life Contexts: An Alternative for Design in Technology Education" *International Journal of Technology and Design Education*, 8, 203-220.
- Kolb, D. A. 1984, *Experiential Learning: Experience as the Source of Learning and Development*, Englewood Cliffs: NJ. Prentice Hall.
- Koyuncuoglu, 2001 *An Analysis of Preference Formation in Introductory Design Education*. Master Thesis, Ankara, Türkiye: Bilkent University.
- Lawson, B. 1990 *How Designers Think: The Design Process*, Oxford: Reed Educational and Professional Publishing.
- Ledewitz, S. 1985 "Models of Design in Studio Teaching" *Journal of Architectural Education*, 38-2, 2-8.

- Reudi, K. 1996 "Architectural Education and the Culture of Simulation: History Against the Grain" in: A. Hardy, N. Teymur (Eds) *Architectural History and the Studio*, London: Question Press, 109-118.
- Rowe, P. 1987 *Design Thinking*, London: The MIT Press.
- Schön, D. A. 1987 *Educating the Reflective Practitioner: Toward a New Design for Teaching in the Professions*, San Francisco: Jossey-Bass.
- Schön, D. A. 1984 "The Architectural Studio as an Exemplar of Education for Reflection-in-Action" *Journal of Architectural Education*, 38-1, 2-9
- Teymur, N. 1996 "Architectural History as 'Educational Object'" in: A. Hardy, N. Teymur (Eds) *Architectural History and the Studio*, London: Question Press, 26-66.
- Verma, N. 1997 *Design Theory Education: How useful is Previous Design Experience* *Design Studies*, 18, 89-99.
- Waks, L. J. 2001 "Donald Schon's Philosophy of Design and Design Education" *International Journal of Technology and Design Education*, 11, 37-51
- Waerjen, W. B. 1995 "Technology and the Humanities" in: G. E. Martin (Ed) *Foundations of Technology Education*, Glencoe/McGraw/Hill, Peoria: Council of Technology Teacher Education.
- Yıldırım, S., Güvenç, K. 1995 "Mimarlık Eğitiminde Tasarım Atölyeleri" in: M. E. Çakırkaya, A. İneolu, N. Paker (Eds) *Mimarlık ve Eğitimi Forum 1: Nasıl bir Gelecek?*, İstanbul, Türkiye: İstanbul Teknik Üniversitesi, 180-186.

STUDIO 'bdytrcs-plc': BODY-TRACE-SPACE-PLACE

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ABSTRACT

This study aims to express the idea of a second year architectural design studio in Beykent University. The re-construction of the boundary is analyzed through space. The relations between the subjective expression, the scientific expression and the forms have been questioned.

Keywords: Body, Boundary, Movement, Event, Action

INTRODUCTION

This study aims to express the idea of a second year architectural design studio in Beykent University, Department of Architecture. It is a special program which has been applied for the first time in Fall Semester, 2008.

The main goals of the program were to show the students that there might be various ways of thinking, to improve their ability of critical thinking and to provide the students with different points of views that were adopted by different disciplines. To provide them with an original point of view was also aimed at. Besides these, this studio program has concentrated on the apprehension of the computer-aided design. So far it has tried to answer the question of how the computer could transform the architectonic into the images. It has done so by searching for how we can make sense out of some data and express this data as a mathematical rule. The relations between the subjective expression, the scientific expression and the forms have been questioned. In this environment, certain questions have been answered. One of these questions is that whether a handmade model can be constructed by transforming it into certain rules in the computer environment.

'Body', 'action', 'boundary', 'event' and 'space', 'experience', 'meaning', have been the basic concepts that were discussed in the studio. The objective was to have the students gain the ability to discover how bodies in action and as creators of events continually create the space through transforming spatial boundaries as well as the

boundaries of themselves. In this sense, the studio is based on a parametric approach and is structured in four phases. Each concept has been added to the design process in different phases. In this way, it has become possible for the students to work on the concepts separately, as well as to discover and take out different parameters for design in each phase.

1ST PHASE; EXPLORING THE BODY

The first phase is questioning the relationship of the body with its boundary inside an action. The aim is discovering the cosmos of the body by enveloping it in an inert action. At that point the boundary can be defined over the interaction of the surface with the limbs in order to understand the body as a system. Construction of this system and its boundaries are created by transforming the inert action to an extraordinary way. "Formerly, the body was a head, torso, two upper extremities and two lower extremities. Now, it is number of heads, number of torsos, number of extremities (upper and lower) and number of accessories" (Cros, 2003) For this reason in this phase, the students are expected to redefine the body through analyzing the infinite number of relationships inside a inert action which represents a critical situation. The parameters of these relationships are explored from the interaction of the body parts with the limits of the action. "The critical action is precise (intentional) and transgressive (undisciplined); a nasty but salutary shock of and for possible dormant scenarios, aimed at stimulating the present and arousing possible future spaces. It signifies alternative possibilities-anticipatory lines of research or decidedly innovative project-and accepts, at the same time, the risk of all hazardous adventure that ends up involved in-and marked by the action itself" (Cros, 2003). During this process the limits of the body was redefined not just by surrounding the things but also inside the things itself. It is body that has put itself inside objects. Therefore, posture founds this relationship with the objects. "We are occupied with a backbone, which means that we face the world straight ahead. The result is a double and simultaneous reaction: on the one hand, 'what is' appears initially to be on the vertical and horizontal axis; at the same time 'what is' shows itself always in the first place to be straight ahead, over there, over against us. Posture initiates us in to situation as distant" (Grange, 1985).

In order to explore the limits of body, all the chosen actions should be related with an object supporting the action (reading a book, using a notebook, playing a musical instrument, etc.) The actions that were worked on by each student individually and they were not selected from already defined clichés but they turned them in to an absurd way of doing something (using the notebook in a lying position, a pregnant woman's sleeping with pillows, etc). The represent points of junctions of the action have been analyzed. The proportions between these junctions were examined in order to find the parameters which create the surface that will house the action. The smallest unit that creates the surface was searched within these parameters and redefined with a model (Figure 1).

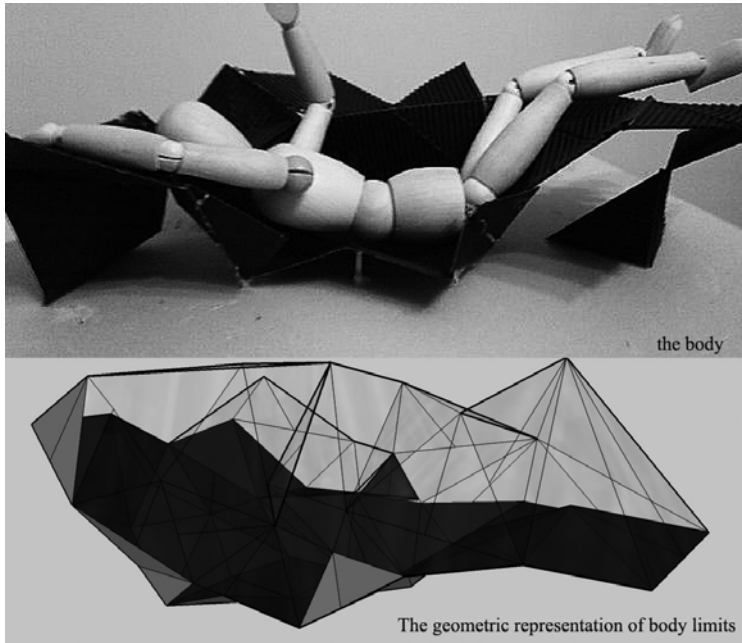


Figure 1. Work of Tutku Kekeç

2ND PHASE; READING TANGO AS A SETTING

The second phase is re-questioning the boundary with the traces of the movement instead of an inert action so that the boundary begins to dissolve. The body is the first environment of the human. A new whole based a dialog of two bodies' reference to the multi layer structure of the environment. Because of this, as a tool the movement is defined as a tango performance. The Tango performance was done by two professional dancers in the studio. The dance performance was occurred in 3 ½ circular tours. Before the performance the reference points were marked in the floor and during the performance each student take a video record of the whole dance. Based on the performance, the parameters of the two interactive bodies begin to create the boundary of the space. These parameters were explored by students individually in order to constitute the system.

Tango dance is chosen for this phase because of its initial potentially of reciprocal relations of the bodies. As Valery (1964) notes; "in the dance, all the sensations of the body, which is both mover and moved, are connected in a certain order- that they call and respond to each other, as though rebounding or being reflected from the invisible wall of a sphere of energy within the living being". All the possibilities inside the movement is a key for reconstructing the space. There isn't a unique form of total action but partial potentials which can create the layers of interactions.

"If movement is to be one of the generating factors of architecture, it will not take a single form or configuration. There is random movement, as experienced on a flat plane, free of any attraction or constriction. But there is also vectorized movement, which interact with static spaces, often activating them through the motion of bodies that populate them" (Tschumi, 2000).

Body becomes itself a construct and is amenable to redefinition based on perceptual and cognitive schemes. Dance (Tango) offers a good way to understand how this may occur precisely because the body is the instrument for the production of form while at the same time the experience and communication of the experience. "Recent theoretical discussions (Johnson, 1987; Lakoff and Johnson, 1999) have brought into focus the importance of embodied experience as a foundation for the development of abstract frames of understanding" (Gavrilou, 2003).

Dance realizes some of the patterns of movement that are potentially implied by empty space, architecture restricts potential movement through the imposition of boundaries and creation of spatial structure. Thus, a heuristic comparison between dance and built space has been used to suggest that our understanding of space involves an exploration of how generative forces interact with constraints, how patterns of movement reveal underlying patterns of order within everyday spatial experience. At the same time, consideration of embodied spatial experience is embedded in commonly used analytic techniques for spatial analysis.

Accordingly, analyze of the dance can be considered in terms of sequence s of transitions, or transmutations, from one pose to the next. In this context, however, the body is used for its ability to realize the spatial forms. Pictorial compositions that bodies fit in are not as important as the direct experience of body and its mechanics. The configurations of body movement define the configuration of the space. The joints and the limbs are the structures that articulate the movement. This entire configurationally context with the partial movements inside, was transformed into diagrams of articulated movements. These diagrams are graphical representations of a dynamic process synthesized through compression, abstraction and simulation. Although diagrams can serve an analytic way of representing the content to the designer in time and space, also diagram's primary utility is an abstract means of producing new models of organization. The variables in these organizational diagrams include formal configurations: Space and event, force and resistance, density, distribution and direction. The configurations are momentary clusters of matter in space, subject to continual modification. A diagram is therefore not a thing in itself, but a description of potential relationships among elements; not only an abstract model of the way things behave in the world, but a map of possible worlds.

On the other hand tango was considered as an event created by two bodies. We often confuse event and occurrence. Occurrence is what occurs, event is what comes about. The event, on the other hand, forms part of a process and, at the same time, appears as something emotive and unforeseen. Singular in its particularness. "Projective". Not so much exceptional -unique- as exciting; excited and causing excitement. Like a wave. Expansive and extensive. A local incident of global repercussion; special (specific) and general (generic) and symptomatic. Case and class at the same time. (Cros, 2003).

From the same tango performance, the students explored individual settings within the concepts of flow of the movement, configurational context, sequences etc. They used different representations and calculations through the formulation of selective figures which permit ordering, transmission and processing of information (Figure 2, 3).

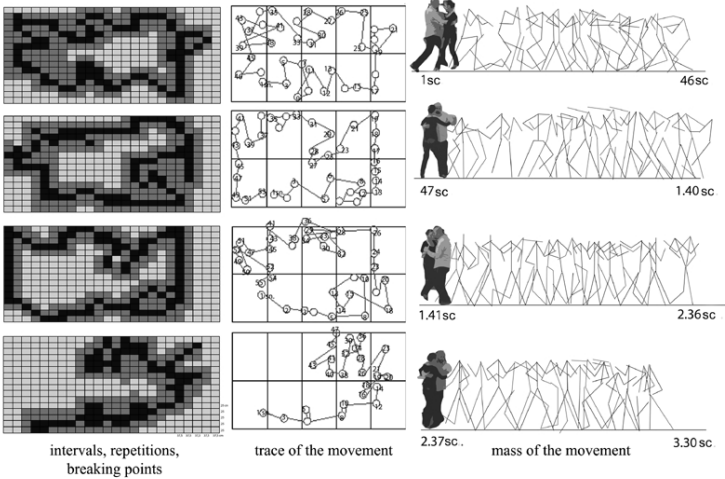


Figure 2. Work of Berke Karadeniz

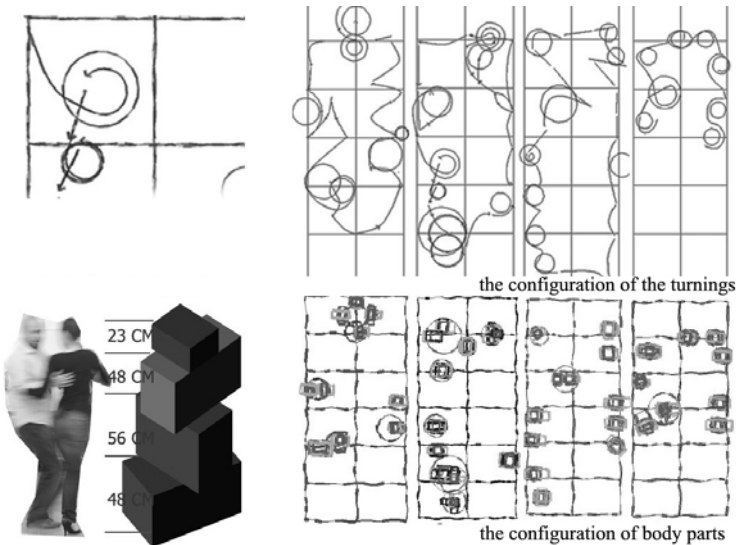


Figure 3. Work of Ilgın Ezgi Tunç

3RD PHASE; TANGO MEETS THE AUDIENCE

As the third phase, the experience of Tango by an audience is added to the studio problem as a new design input. The aim is to explore the problems which come out of the watching situation in order to re-construct the boundaries. As the structure of the 'event' changes the structure of the boundary is destroyed. The students are canalized to criticize the conventional perception of a performance that is based on the existence of a supposed 'unseen wall' between the stage and the audience. In contrast to this two dimensional boundary that is there to create a sterile relationship between the stage and the audience, the students are expected to design a three dimensional boundary – or better to say a threshold – which will be able to create new ways of both perceiving and doing Tango. In order to support the problem with performance arts theory, we discussed Antonin Artaud's 'Theatre of Cruelty' with the students (Artaud, 1958). The discussion is focused on Artaud's critique of conventional stage-audience relationship that takes these two as two disconnected worlds which prevents the occurrence of any communication or a real effect of one to the other. According to Artaud, a performance should be able to make a direct, spontaneous impact on the bodies of the viewers, which can only be reached by creating a multi-sensational perception which is beyond a limited visual perception. Although Artaud has also come up with some concrete suggestions on how a performance space should be designed, which is based on getting rid of the 'unseen wall' and a three dimensional integration of the spaces of stage and the audience; we encouraged students to do their own critique about this 'unseen wall' in the way to deconstruct/reconstruct their own Tango space. In this sense, the boundaries that they have constructed at the second stage have become open to transformation and have been rethought as a space where dancers and audience meet -or crash- in order to create a unique 'event' that happens at a time. In other words, the students are expected to design a Tango 'event' happening between the dancers and the audience, in their way of forming the Tango Box.

While at the second stage, the students have formed the boundaries of the space by taking the trace of the Tango dance as their parameters, the inclusion of the audience to the design problem have had different effects to their projects. While sometimes the boundaries that have been found at the second stage have become more important in the constitution of the form, sometimes the parameters that have been added by the inclusion of the audience have become more important. For example, in one of studies, the Tango Box has taken its form from the three dimensional organic trace of the dancers, which has turned into a spatial skin (Figure 4). Although the student's first suggestion for the integration of the audience to the project was addition of a another skin which tries to wrap and sometimes intersect the first skin, at the end the actual dance has turned into images on the inner side of this first skin by leaving its place to the audience.

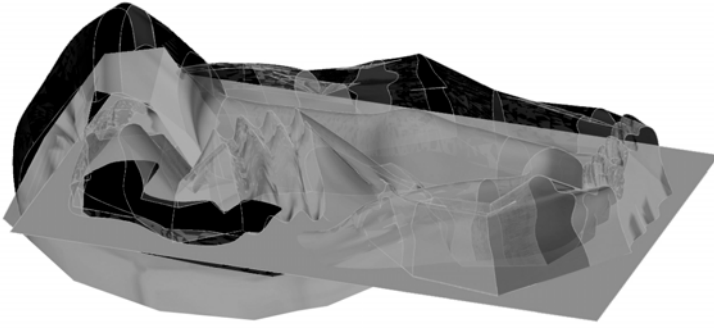


Figure 4. Work of Meryem Filiz; Spatial Skin

Another study tried to create a partial perception of the bodies of the dancers. In this way, it has formed the boundaries of the Tango Box by using many frames that is dividing the space both horizontally and vertically (Figure 5). In this sense, the boundaries of the Tango Box, which try to catch partial moments of the dance, have been the basic constitutive element of the project rather than the trace of the dance.

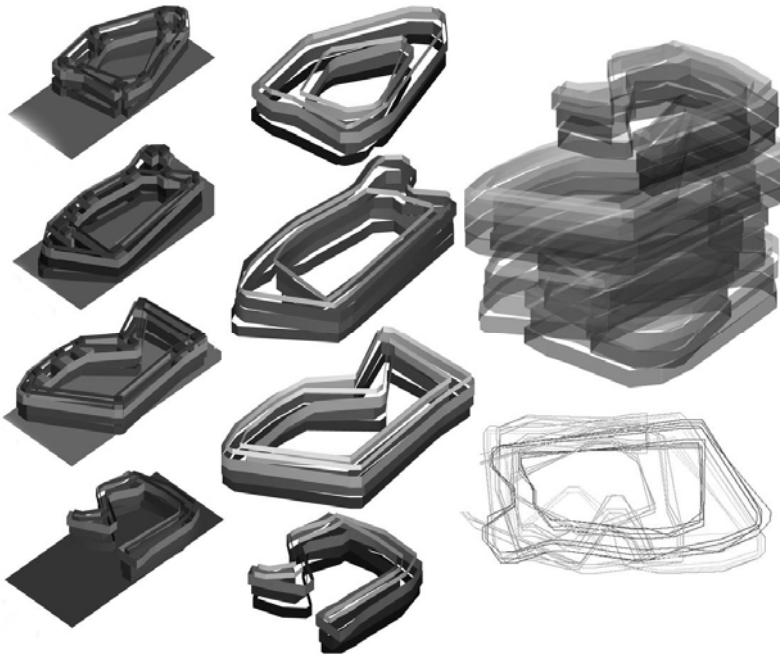


Figure 5. The Work of Ilgın Ezgi Tunç; Frames

One of the projects was mostly affected by Artaud's thought on the crash of the performers and the audience (Figure 6). In his project, the boundaries have basically worked for creating spaces for the possible actual meetings -or crashes- of two sides who are considered as both hunters and the hunted.

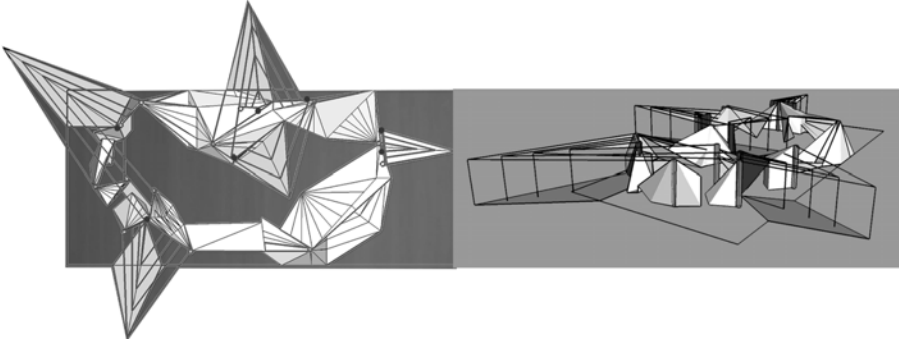


Figure 6. The Work of Berke Karadeniz; Crashes

In another project, both the trace of the dance and the input of the audience were equally constitutive (Figure 7). The potentials of the boundaries that have been reached at the second stage were used in creating a cinematographic perception of the dance by turning these boundaries into a kind of screen.

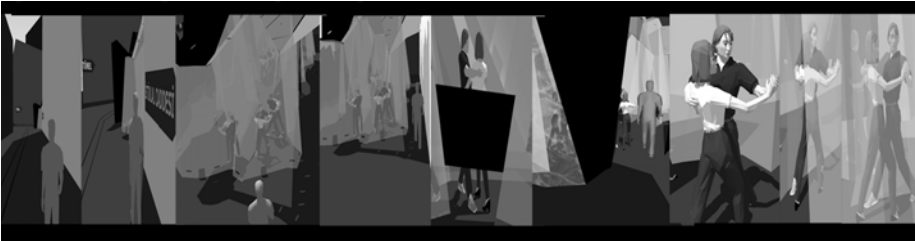


Figure 7. Work of Can Ozan Çakır; Cinematographic Perception

4TH PHASE; TANGO BOX IN THE CITY

Although the previous phases were thought independent of any place, in the fourth phase the Tango Box try to find its place in the city. At first, the Tango Box doesn't let any transformation of itself by the place and try to find the most proper possibility. Afterwards the boundary of the Tango Box was reconstructed by a place around Taksim although at the same time reconstructing the place. After conceptualizing the parameters, students tried to explore the contextual transformation through limits. The important point in this transformation is to look the activity inside like an 'event' in

the city while designing conditions, rather than conditioning design and to explore flows and vectors often intersect unprogrammed spaces: the place of the in between, the space of the potentialities, and the motion of the bodies in it.

The difference between the program and event is the basic problem in this phase. As Tschumi (2000) says; program is to be distinguished from 'event'. A program is determinate set of expected occurrences, a list of required utilities, often based on social behavior, habit, or custom. In contrast, events occur as an indeterminate set of unexpected outcomes. Revealing hidden potentials or contradictions in a program, and relating them to a particularly appropriate spatial configurations, may create conditions for unexpected events to occur (Tschumi,2000).

The relation between the space and time was searched in order to explore the movement of the body in the city. Space is temporal because we move through it; time is spatial but time also exists to activate our spaces, occasionally transforming them by challenging perceptions of their boundaries. An event is any one of all possible occurrences one of which must happen under architectural conditions (Tschumi,2000). The event was defined firstly with dance and than redefined with the watchers situation. The event becomes a structure which get inside what is happening both inside and outside.

The parametric approach in previous phases should be realized in an architectural space. Therefore, students should deal with the context in this phase. There is no architecture without a concept-an overarching idea, diagram, or parti that gives coherence and identity to a building. Concept, not form, is what distinguishes architecture from mere building (Tschumi, 2005). The approach of the studio to the term 'context' was multi-dimensional and based on the experience instead of physical forms. In this sense, the context was considered beyond just referring to a physical fabric of the site, which is pre-existing, steady and superior to architecture. Instead of focusing on the physical environment, students are directed to think on and interpret everyday experience in the city. As Norberg-Schulz (2000: 19) says; 'Our everyday existence unfold in a world full of things and events. We walk along different streets, and during our walk we meet various people, we walk into an out of buildings, and we perform specific tasks in designated places'. So, as a part of the 'context', they have considered not only the collective memory of the public, and also their individual memories formed through their own experience of the city. Rethinking the context with experience has also led to defining it not as a steady entity, but as a constantly changing thing. As Isenstadt (2005: 158) writes, "...context does not stand still: it changes, from day to day or decade to decade, in cycles and cataclysmically. Physical context is as much a question of when as where".

In this phase, concept and context are in separable and conflict. It can negate or ignore the circumstances that surround it, while the context may blur or dampen the precision of an architectural idea.

Students tried to answer although should one of these two terms take precedence over the other; the generic concepts and specific contexts. The answer may lie not in a choice but also in the relation and interaction between these two terms. As Tschumi (2005) says; there is three basic ways in which concept and context may relate:

Indifference, whereby the idea and its setting are super by ignorant of one another-a kind of accidental collage in which both coexist but do not interact. Poetic juxtapositions or irresponsible impositions may result.

Reciprocally, whereby the architectural concept and its context interact closely with one another, in a complementary way, so that they seem to merge seamlessly into a single continuous entity.

Conflict, whereby the architectural concept is strategically made to clash with its context, in a battle of opposites in which both protagonists may need to negotiate their own survival.

At that point, another issue is content. Every architectural space has something happens inside. Also there is relation between the concept and the context, there is another problem settle with the activities. The relation between the concept and content can be in tree ways again, indifference, reciprocal or conflict. Are all these relations facts or interpretation is another question which has to be asked? Does the answer exist there to find out or it is only an interpretation.

Because of this differences the students first study with a minimum touch with the context in a place they chose and than they explore the interaction in Taksim. Selecting the appropriate strategy for a given project is part of the concept (Figure 8, 9).

At the end, through this experimental approach students also try to explore the materialization problem. As Tschumi (2005) says; the place of the concept is the place of the technological innovation. Even the students explore a project aiming at making connections with concept, context and content; they also search for the technological possibilities which will materialize their conceptual ideas.

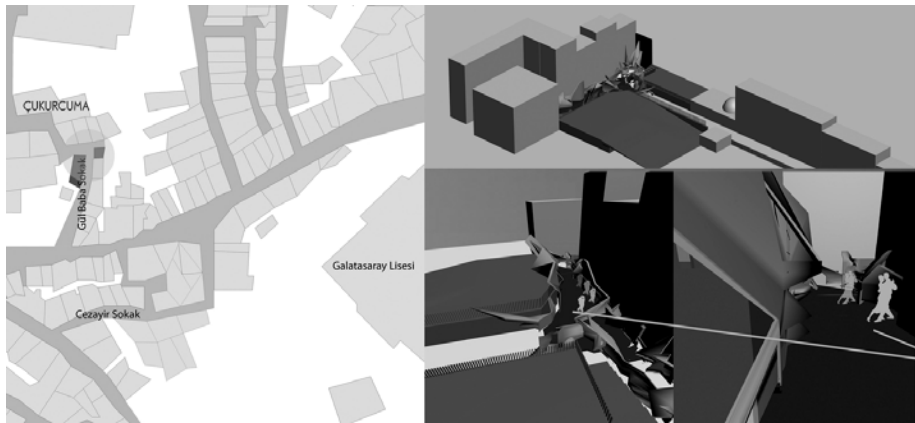


Figure 8. The Work of Berke Karadeniz; The Transformation of the Street by Crashes

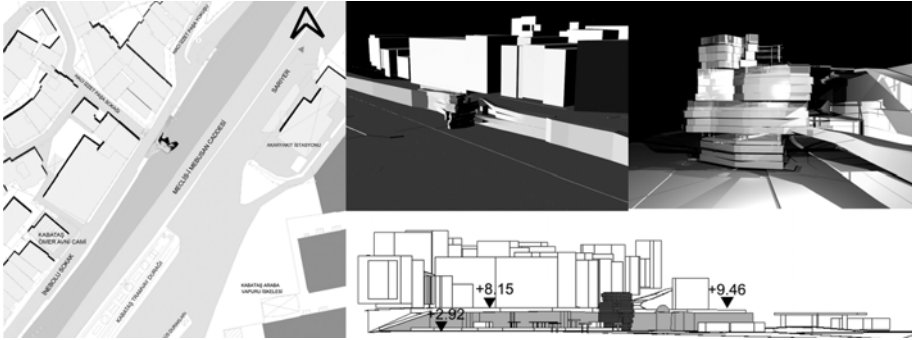


Figure 9. The Work of İlgin Ezgi Tunç; The Transformation of the City Wall by Frames

CONCLUSION AND DISCUSSION

'Space' is thought as a lived and perceived entity, constituted with temporal events. In this sense, architecture is redefined with space-time relations rather than being only a physical environment. This paper has emphasized the potential patterns of provisional interaction between perceiving and thinking human experience. In the studio, the body is considered as the first environment of the human being. Therefore, the relation of the body movement with space as sth. explored and renewed with experience, has been the main discussion of the studio. Each student has individually explored the movements and taken out their own unique parameters. This abstraction has been de/re-constructed in every new phase with the addition of new situations like the existence of an audience, etc. This kind of design process has given way to a spatial configuration which is open to being transformed with many possibilities, rather than a fixed and ideal spatial organization. At the end, the context as a daily experience in the city has been a tool to give meaning to previous abstractions. The students, who have used abstractions for constructing the idea, have reconstructed these abstractions, in order to create a new meaning and subjective experience of the space. In fact, pragma and context can transform into a space only when we give meaning to abstractions. The meaning is constructed in students' minds intuitively through their own experience. This is why this studio program is based on reconstruction.

REFERENCES

- Artaud, A. 1958, *Theatre and Its Double*, New York: Grove Weidenfeld.
- Cros, S. (ed.) 2003, *The Metapolis Dictionary of Advanced Architecture: City, Technology and Society in the Information Age*, Barcelona: Actar Publishing.
- Gavrilov, E. 2003, 'Inscribing Structures of Dance into Architecture', *4th International Space Syntax Symposium*, Available from: <<http://www.spacesyntax.org/symposia/SSS4/fullpapers/32Gavriloupaper.pdf>> [31 May 2009].

- Grange, J. 1985, 'Place, Body and Situation' in *Dwelling, Place and Environment: Towards a Phenomenology of Person and World*, eds. D. Seamnon & R. Mugerauer, Dordrecht: Martinus Nijhoff Publishers, pp. 71-84.
- Isenstadt, S. 2005, 'Contested Context' in *Site Matters*, eds. C. J. Burns & A. Kahn, New York: Routledge: 157-183.
- Johnson, M. 1987, *The Body in the Mind*, Chicago: University of Chicago Press.
- Lakoff, G. & Johnson, M. 1999, *Philosophy in the Flesh*, New York: Basic Books.
- Out There: Architecture Beyond Building*, Vol. 4, 2008, Venice: Fondazione La Biennale di Venezia.
- Schulz, N., C. 2000, *Architecture: Presence, Language Place*, Milan: Skira Editore.
- Tschumi, B. 2005, *Event-Cities 3*, Boston: MIT Press.
- Tschumi, B. 2000, *Event-Cities 2*, Boston: MIT Press.
- Valery, P. 1964, 'The Philosophy of Dance' in *Aesthetics*, trans. R. Manheim, vol. 13 of collected Works, New York: Pantheon Books, pp. 197-211.

CONSTRUCTION OF SOCIAL AND PHYSICAL ENVIRONMENT IN DESIGN STUDIOS

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ABSTRACT

Architectural schools, which grow architects of the future, have great importance on construction of the future environment. The consciousness of various dimensions of architecture is aimed to give to the students in their educational lives. The courses taken in an architectural education can be divided into two main groups as design studios and theoretical courses. Design studios constitute the backbone of the architectural education, supported by the theoretical courses. Design studios should be seen as the integration platforms of much information gathered by different ways and methods as well as in theoretical courses in architectural education. Theoretical courses can be grouped as general education, architectural technology, history and environment and elective courses. Besides these courses, obviously, architectural education should not be limited with the time spent in the courses in the university, but also is a continuous way of learning, in every time of the life.

Integration of theoretical courses within design studios is an important problem in architectural education. The two important problem areas that must be considered in a design studio are; construction of a social environment and the other is the construction of a physical environment. Developing a successful design solution depends on integrating various subjects considering these two scientific dimensions. Developing social construction begins with finding out the social, cultural, economical, political potentials of the area. Developing physical construction is directly related with theoretical courses, especially with architectural technology and physical environmental control courses. Although aim of the design studios may be similar, some different methods may be used in order to increase students' success. The approach implemented in a design studio, from the integration of theoretical courses point of view, in order to create a social and a physical environment, will be explained in this paper as a case study.

Keywords: Architectural education, Design integration, Education quality, Education methods, Architectural technology

INTRODUCTION

Architecture can be explained as a part of science and a part of art. Integration of these two different fields is difficult either in practice, or in education. In fact, scientific part is very complex in itself consisting of both technical and social subjects.

However, the part of art is vital and must be correlated with scientific subjects. Besides this comprehensive environment, basic knowledge areas do not have a static structure. Innovation in building technology, information technology and information systems, material engineering, new social and philosophical researches and approaches, change in client requirements all constitute a dynamic environment that must be tracked by the architects.

Architectural education is as complex as the field itself. Courses that must be taken in an architectural education can be divided into two main groups as design studios and theoretical courses. Design studios constitute the backbone of the architectural education, supported by the theoretical courses. Design studios should be seen as the integration platforms of much information gathered by different ways and methods as well as in theoretical courses in architectural education. In order to establish fundamentals of the discipline by integration of theoretical courses within design studios is an important problem in architectural education.

It is known that besides many outstanding and sometimes spectacular contributions of architectural profession, there is a surprisingly small percentage of the built environment which is actually conceived and realized by architects and planners (UNESCO/UIA, 2005). In spite of this fact, nobody can deny the affects of architects and planners on defining the ways of living and structuring the physical and social environment. Architectural education should be restructured considering the vision of the future world as well as enabling respect to the natural and built environment and to the socio-cultural heritage. The methods to be used in architectural education also should be reorganized in parallel to the new structured architectural program.

BACKGROUND OF THE PROBLEM

Efforts throughout increasing the quality of the architectural education are not new. But the efforts should be well structured and canalized in an effective way in order to meet the requirements. Architectural education should be seen as a tool for creating the future environment. In order to build a livable and a high quality environment, content and the methods applied in architectural education system is needed to be restructured according to the requirements of the era. Students must be conscious about the importance of their professional liability. On the other side of the coin, architects are needed to be educated during their professional lives in order to track the innovations about the profession. For this reason, architects should attend to continuous professional development programs organized by the chamber of architects or they should realize individual attempts. Enabling continuity in architectural education is a must, but this part of the subject is left out of the scope in this study.

The education methods moreover than the content of the courses, will be focused in this study as being considered one of the main problem areas in architectural education. One of the reasons of the need for restructuring the education methods is stemming from the changing characteristics of the students. It is obvious that requirements of the students are also changing by the time. Their perceptions are different from the former generations. Especially innovation in information technology and communication systems is very affective on students' perception. Students'

requirements and their characteristics should also be considered while restructuring the education methods.

Courses that are taken in architectural education may be classified in two dimensions as the one design studios and the other theoretical courses. The two important problem areas that must be considered in a design studio are; construction of a social environment and the other is the construction of a physical environment. Developing a successful solution depends on integration of these two scientific dimensions. Developing construction of a social environment begins with finding out the social, cultural, economical, political potentials of the area. History and theory courses and other courses related with humanities should support design studios by developing a socio-cultural point of view on the students. Developing physical construction is directly related with theoretical courses, especially with architectural technology and physical environmental control courses. Although numbers of the design studios differ according to the schools, students are attending nearly to a new design studio each semester, so content and range of the theoretical courses may differ according to the level and theme of the design studio. A common problem in various levels have been defined in İKÜ, as students not being able to integrate theoretical courses, especially the courses related with architectural technology, within design studios.

Whilst aim of the design studios may be similar, some different methods may be used in order to increase students' success. The approach implemented to a determined group of students in a design studio in parallel to a theoretical architectural technology course, from the integration of design and theory point of view, while making the students create a social and a physical environment, will be explained in this paper as a case study.

AIM OF THE STUDY

Another study had been reported according to restructuring an architectural education program in İKÜ, by participation of the author (Birer, E.D., Alptekin, G.Ö., 2007). A complementary study will be explained here insisting on integration of technology courses in design studios while making the students conscious about constructing a social and a physical environment in design studio, as a part of implementation of the restructured program.

INTEGRATION APPROACH FOR DESIGN STUDIOS AND TECHNOLOGY COURSES IN A RESTRUCTURED EDUCATION PROGRAM

Under the circumstances of globalization and world wide circulation of services, architectural education programs are to be revised and reconstructed in order to make new generation architects ready for the new world. Turkey is in the preparation period for attending to the European Union and universities in Turkey have to consider the rules of conventions of European universities besides other universities in the world as USA. Universities need to accredit their programs by national and international accrediting associations for ensuring their students' equivalency. A field study in order to reconstruct the architectural education program of İstanbul Kültür

University had been done before. Nine well known universities in the world and three well known architectural departments in Turkey had been selected and investigated for this reason. These schools were evaluated within their conditions. Basic approaches, course distributions and course contents of the education programs were analyzed in details and these analyses were adapted to newly developed IKU architectural education program within the realities of Turkey. Mission and the vision of the school were revised considering the requirements of the country and the community. Developed program is being based on the criterions which are introduced by The Union of International Associations (UIA) and The National Council of Architectural Registration Boards (NCARB), which is supervising the validity of architectural diplomas in U.S, relating to architectural education. The program has been inquired in Turkey as well and match-credited according to ECTS. But there is a significant difference between the suggested ratios of technical systems course ratios of NCARB and the developed program. This situation comes from the importance of technical knowledge that the students need because of Turkey's geographical position in the world. As taking place on earthquake zones in the world, students are to be educated more on structural systems. Especially, the fact that students are gaining professional competence with their undergraduate diploma at the end of four years, yet in Turkey, so it is decided that students must be concentrated on technical subjects (Birer, E.D., Alptekin, G.Ö., 2007).

It is obvious that, putting forward an architectural education program is nothing if it is not implemented as if it is planned. Implementing a program properly depends on the instructors' willingness that has take part in the education system. If there is a mutual agreement on the mentality of the system and if everybody is willing to implement the program, it works, otherwise it may not any chance. This is also the first step of total quality management approach. If everybody taking part in the system does not believe in the program, it should not be succeeded. Another important factor about the success in implementation of a new education program is the continuity in the educators. An education program is designed and structured generally by the educators who are participating in that organization. When the educators who take part in the process of structuring a new education program continue their working lives in that organization and implement the new program, success of the program increases. Of course it is inevitable to make the academic staff stable; somebody may join or leave for different reasons in the time. Sometimes newly structured program requires some changes in the academic staff. But if the ratio of changing academic staff is high, mentality of the program may be lost. Because, however educational programs are being formal documents, the mentality and the spirit of an education program depends on the persons and the continuity in application of similar approaches more than the written documents and this is a special thing that creates an important part of the difference between the schools.

Having the education programs dynamic characteristics, every year some corrective attempts are being done in order to increase effectiveness in the scope of the courses by the instructors. Corrective attempts could be consisting content of the course or the methodology used. Coordination between the courses could be enabled by the meetings held during the semester or at the end of the semester. The author has been participated in the development of the new education program. Administering both a design group of in a design studio and a group of students of an architectural technology course by the same person (the author) gave the chance to

widen the corrective attempt into two courses and to make a concurrent action. The author was assigned for giving both of the courses to the same students' level, in order to implement such a pilot study by directive of the head of the department.

CASE STUDY FOR INTEGRATION OF DESIGN AND THEORY IN ORDER TO CONSTRUCT A SOCIAL AND A PHYSICAL ENVIRONMENT IN DESIGN STUDIOS

A case study applied to a group of students attending to second class (semester IV) in IKU (Istanbul Kultur University) will be presented here in order to explain the methods applied for integration of design studio and architectural technology courses. Content of the Architectural Design Studio IV was defined as *'a discussion platform in the guidance of the studio executive member(s), which starts individual learning experiences of the students through images, models, or/and sketches they produce expressing their thoughts of space within a spatial context. By making spatial analysis in the context of place, geography, everyday life, a kind of consciousness on complex building in a definite context is awakened. Making research and synthesis of different kinds of information of an architectural problem in the city, determining a program for that definite context and organizing it spatially, making a construction design and defining materials, making architectural rendering using computer programs, and designing presentation are expected to be learned. Solving a non-complex spatial problem existing in the city is the main work of the semester. Working sometimes as an individual, sometimes as a team member, and sharing information belonging to all of the projects made at the design studio develops students' communication skills both socially and architecturally. Attending to the architectural conferences, reading and writing architectural texts builds a base for design literacy. Being informed about the contemporary world architecture in the context of thought, space and construction is important'* (web site of IKU, Course ID 562, 2009). Design studio was divided into four individual groups and these groups were undertaken by four instructors. Besides content of the course was the same, design subjects of the groups were differentiated from each other. During the semester and at the end of the semester, students were evaluated by making their design presentations in groups of two. A pilot study was applied to the design group which was instructed by the author. The aim of the pilot study was that, besides providing the objectives of the design studio, it is aimed to make students gather and use their architectural technology information. In fact, the pilot study was carried out parallel to the architectural technology course of the same level. Instructor of the design group was also instructing a group in architectural technology course bilaterally, not being in contact totally with the same students. Content of the architectural technology course was defined as *'informing the students about the practice of becoming a united whole of the building system, intending the student to think the building as a whole, which he/she had learned separately all of the sub systems of the building'* (IKU web site, Course ID 563, 2009).

In design studio, students were made to choose a design problem between two alternatives, one of them is an art gallery and the other is a managing office of a design firm having a showroom in it. Students selected their project site between four alternatives. All of the sites were in the urban areas. Objectives of the design studio can be summarized as to make the students conscious of the fact that they are

making designs in order to construct a social environment as well as a physical environment. Site visit was done with all the students' participation for making evaluations as a whole. After that, students selected their site and design problems. But before starting to work on design problem, they prepared a poster according to the site. It is aimed to introduce the students with the site and take out their first impressions. Most of the students were not familiar with the site; some of them went to the place for the first time. After this study, students made a group study according to analysis of the physical environment. A list of questions was given to the students to make analysis for finding out the social, cultural, economical, political potentials of the area as putting forward the information according to the context. The students were not familiar this type of a study, so this part had taken more time than planned. After completing the site analysis, students were made to begin their architectural designs starting with the concept design stage and completed their schematic designs at the end of the semester. Students were made to complete their designs with taking decisions on structural system, building materials, system and the materials of the façade and also the partitions. Energy consumption of the buildings, sustainability and ecologic sensation was some of the titles which were pointed out in the studio. Comments on service systems were done, but because of the students have not completed their theoretical courses according to service systems, this type of information was not required in design documents. Most of the technical information was gathered in Building Science III course, so students could have the chance to adapt their technical drawings to their design problems.

In parallel, Building Science III course was the third and last module of architectural technology courses. Students who are attending to the course were divided into four groups which each group was directing by an instructor with an assistant. All the groups worked in parallel. Coordination was enabled by the instructors. Integration of the technical knowledge given in the former two modules was required in the course, for this reason, four schematic managing office building plans were given to the students and students are required to design the technical subsystems of the building and develop the technical drawings. Students are enquired according to their drawings and find outs in the first part of the course each week. By this way, they could have learned how to make research and how to find out the solutions they need. In literature, it is seen that enquiry teaching approach is considered as more useful than didactic approaches for the development of environmentally responsible behavior (Yeung, S.P., 2002). During the semester, every week a seminar was given to the students in the second part of the course, sometimes by the instructors, but mostly by the well known practitioners from the construction market in order to support the students' work. Aim of the seminars was that, in spite of giving the students the answers which they need, making them to comprehend the logic of the alternative systems and force them to make more research on technical systems.

During this study some points were found important and they are presented below as to be used while structuring a methodology in the future:

- Students achieved the analysis of physical environment in a longer time than planned and with difficulty. An important factor was that they have not been done such a study before. But this period was utilized to explain the importance of exploration of the surrounding city living/vicinity, social, cultural, economical, political potentials of the area, etc. So durational limits

- dismissed in order to achieve this part of the study as it must be. Discussions were done according to the findings and according to students' forecasting for the site to be used within their design solutions for the next stage. This was seen as a message to the students for underlying the importance of this study as they may not begin their design study with an incomplete analysis and this study is inevitable for their design studies as they are creating a social environment for the future.
- Both the design studio and Building Science III courses are student centered courses, but in Building Science III course students reacted when they are required to find out technical details and knowledge themselves, although they get the related theoretical courses in the former semesters. This is why, students accept to be in the center in design studios, but they see theoretical courses (at least architectural technology courses) still as didactic environments. This approach prevents students to be creative for physical problems in school. Most of the students face with problems according to technical subjects after their graduation and they have to compensate this problem in their professional lives.
 - Students generally consider design studios more important than theoretical courses. They see theoretical courses as only a barrier that must be passed and they generally have a tendency to put theoretical courses apart from their designs. Of course this is not valid for all the students. Students which have ability to integrate these subjects are showing high performance anyway. But the problem is valid and unless a solution is put forward it is not possible to increase the average success ratio and design studios do not achieve their function as being an integration environment. Instructors of the design studios' approach have an importance on this problem. Coordination between the instructors in education program should be strengthened. Design instructors should be coordinated with the theoretical course instructors and they should require solutions according to the related subjects which the students get information in theoretical courses. By this way, students should be conscious about the importance of theoretical courses and they may strengthen their knowledge by using it.
 - Methods applied in both of the courses to make the student more efficient in the courses can be summarized as follows:
 - Repeating the same subjects in different times, by different reasons, from different point of views may be useful to strengthen the vital information.
 - Students should be encouraged to work with 2D and 3D at the same time to increase their perceptions in order to comprehend the problems. 4th D should be considered in discussions.
 - Practitioners may sometimes be more affective on students than the instructors. Supporting some of the courses by the professional practitioners should arouse students' curiosity.
 - Students should be encouraged to be active in the courses by making researches, preparing essays, making presentations, making architectural drawings and models, etc. appropriate to the content of the course.
 - Students also encouraged attending to the activities related both with the profession or other socio-cultural subjects. Experiencing

with different subjects should be a positive affect on students' development.

CONCLUSION

Educators of architecture have a heavy duty while achieving their mission. They do not only make education but also create the future of the communal lives and the physical environment as well. By being conscious of the point, great attention must be paid to architectural education. Efforts according to developing architectural education programs should be succeed when it is implemented by the common agreement of participators. But education programs need to be revised during the implementation. Corrective attempts should be beneficial and increase the quality if the instructors work in coordination with each other. As quality in architectural education has a direct impact on quality of the built environment, all of the architecture educators should respond to this responsibility.

REFERENCES

- Birer, E.D., Alptekin, G.Ö., 2007, 'A Field Study on Reconstruction of Architectural Education' in: Ş.Ö.Gür (Eds), Livenarch III Contextualism in Architecture, Trabzon, Turkey, 914-918.
- UNESCO/UIA, 2005, 'Charter for Architectural Education, Revised Version, <http://www.uia-architectes.org/texte/england/Menu-7/3-bibliotheque.html>
- Web site of İKU, Course ID 562, 2009, <http://arc.iku.edu.tr/coursehome.asp?CourseID=562>
- Web site of İKU, Course ID 563, 2009, <http://arc.iku.edu.tr/coursehome.asp?CourseID=563>
- Yeung, S.P., 2002, 'Teaching Approaches and the Development of Responsible Environmental Behaviour: the Case of Hong Hong', *Ethics Place and Environment*, Vol.5, No.3, 239-269.

SENSING SPACES: A BODY-ORIENTED ARCHITECTURAL DESIGN EDUCATION

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ABSTRACT

The contemporary dominance of visibility has turned our understanding of space into a mode of unidirectional experience that externalizes other sensual capacities of the body while perceiving the built environment. This affects not only architectural practice but also architectural education when an introduction to the concept of space is often challenging, especially for the students who have limited spatial and sensual training. Considering that an architectural work is not perceived as a series of retinal pictures but as a repeated multi-sensory experience, the problem definitions in the design studio need to be disengaged from the dominance of a 'focused vision' and be re-constructed in a holistic manner. A method to address this approach is to enable the students to refer to their own sensual experiences of the built environment as a part of their design processes. This paper focuses on a particular approach to the second year architectural design teaching which has been followed in the Department of Architecture at Izmir University of Economics for the last three years. The very first architectural project of the studio and the program, entitled 'Sensing Spaces', is conducted as a multi-staged design process including 'sense games, analyses of organs and their interpretations into space'. The objectives of this four-week project are to explore the sense of space through the design of a three-dimensional assembly, to create an awareness of the significance of the senses in the design process and to experiment with re-interpreted forms of bodily parts. Hence, the students are encouraged to explore architectural space through their 'tactile, olfactory, auditory, gustative and visual stimuli'. In this paper, based on a series of examples, architectural space is examined beyond its boundaries of structure, form and function, and spatial design is considered as an activity of re-constructing the built environment through the awareness of bodily senses.

Keywords: Design education, Architectural space, Visibility, Bodily sense(s), Organs

INTRODUCTION

My perception is not a sum of visual, tactile and audible givens: I perceive in a total way with my whole being: I grasp a unique structure of the thing, a unique way of being which speaks to all my senses at once.

Maurice Merleau-Ponty

The introductory level design education in the Faculty of Fine Arts and Design at Izmir University of Economics (IUE) is a unique case. Students from all five departments of the faculty, namely Architecture, Interior Architecture, Industrial Design, Communication Design and Fashion Design take a two-semester 'Art and Design Studio', where the basic issues of design common to all are introduced and a basic design language is constructed. The act of three-dimensional form generation is undertaken, free from any disciplinary conventions.

In this respect, when students enter the second year architectural design studio, they do not have an architectural or even spatial background. Therefore, the studio focuses on the design of space in relation to our bodies and senses using architectural forms and elements, and by considering 'aesthetic, materialistic, environmental, structural and functional aspects'. It is an analytical studio that consists of a series of experimental and conventional projects, as well as workshops tutored by visiting instructors.

In a post-phenomenological period, to go beyond the factual analysis of a project context and incorporate sensorial instincts, the very first project of the studio 'Sensing Spaces' defines a problem of architectural space in relation to the human body and the bodily senses, which is further developed into problems of personal space, materiality and environment throughout the year. This paper discusses how we try to de-construct the visual preconception of the students of architecture and re-construct a body-oriented understanding of architecture through the awareness of bodily senses.

THE PROJECT EXPERIENCE: SENSING SPACES

With the invention of television, the development of commercial industry, the emergence of video-clips as sight-dominant musical performances as well as the most recent screen-based computer technologies, the individual has started to perceive the world through a unidirectional frame of a visual culture, defined by Anna Barbara and Anthony Perliss as "Western culture" (2006, 13), by Juhanni Palasmaa as "the ocularcentric tradition in Western thinking" (2007, 19), and by David Howes as "scientific visualism and reductionism of perceptual paradigms" (2005, 5).

Sight dominates architecture in various ways. Our understanding of space has turned into a mode of unidirectional experience that externalizes the all-encompassing sensual capacities of the human body while perceiving the built environment. The architect often designs as the external spectator of the design product rather than putting him/herself in the place of the user (the body) for whom he is designing. Moreover, the design tools of the architect have been limited to two- and three-

dimensional visual media, by which a three-dimensional space is represented and read as a graphic design, in a visual state of spatial quality hardly considered in a multi-sensory manner.

Accordingly, Pallasmaa criticizes that “a remarkable factor in the experience of enveloping spatiality, interiority and hapticity is the deliberate suppression of sharp, focused vision” which “has hardly entered the theoretical discourse of architecture as architectural theorizing continues to be interested in ‘focused vision’, conscious intentionality and perspectival representation.” He suggests ‘a peripheral vision’ on which “the quality of an architectural reality integrating us with space seems to depend,” instead of ‘a focused vision’ as “constructed with the centralized images of focused gestalt; which pushes us out of the space and makes us mere spectators” (2007, 13).

In questioning the dominance of the eye as a means for perceiving our environment, one is drawn to the work of Joachim-Ernst Berendt who methodically explains how the ear, as a measuring device, is much more precise than the eye. Berendt concludes that this lack of precision of the eye is due to the fact that the frequency range of visibility is much lower than that of hearing. As a result, the brain does not use vision for measurement but instead assesses at a glance or resorts to scanning repeatedly. In comparison, the ear takes in information as it occurs through time and only has one chance to do so (1988, 13-19).

Focused vision affects not only architectural practice but also architectural education, especially of the students who have limited spatial and sensual training. Having considered that an architectural work is not perceived solely as a series of retinal pictures but as an all-encompassing multi-sensory experience, architectural problem definitions in the design studio need to be disengaged from the dominance of a focused vision and be re-constructed in a holistic manner. In order to de-construct the sight-dominant conventions of design education, to emphasize the importance of the other senses in architecture and to improve the limited sensual and metaphorical thinking capacities of the students of architecture, ‘Sensing Spaces’ is developed by Gül Kaçmaz Erk and Selma Göker in 2006, as the very first architectural design project of IEU. It has been improved by Burak Pasin, Emrah Köşkeröğlu and Buket İler as well as the developers in the following years. It is a four-week project, conducted as a multi-staged design process including ‘sense games, analyses of organs and their interpretations into space’ (Appendix 1). The objectives of the project are:

1. To create an awareness of the significance of the senses in the design process and in the experience of the physical environment,
2. To explore the sense of space through the design and construction of a three dimensional assembly, and
3. To experiment with reinterpreted forms of bodily parts in order to develop an understanding of form, structure and/or function.

In order to fulfill these objectives, various methods are used. Students undertake research to derive information on bodily parts and organs. They are given several readings and lectures on bodily senses, which are interpreted in group discussions. They are also asked to depict a sensual experience of a built environment literally via

adjectives. They represent their design ideas through keywords, sketches, drawings as well as three-dimensional reliefs and models. Model-making using various materials, i.e. card, fabric, clay, metal sheet and mirror, does not only provide the students with a wide range of installation techniques but also enable them to explore the form-giving capacities of the materials by touching. They also keep track of their written and graphic works in their logbooks.

De-construction of Vision through Sense Games

The project starts with playing 'Sense Games', the first of which involves a blindfolded tour. Students are taken to a specified location in the campus near to the studio (starting point of the game) and are arranged in a single line holding each other. Then, they are given a piece of fabric to blindfold themselves. With the guidance of studio instructors, they are asked to walk slowly and quietly along a route predetermined by the instructors (Figure 1).

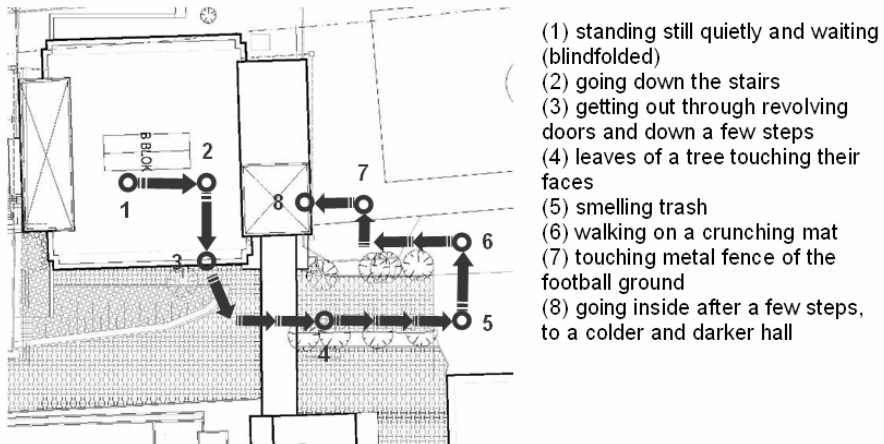


Figure 1. Map showing the route of the first Sense Game

Along the route are specific points, each of which provides a different sensual and bodily experience, such as a trash corner with a rancid smell, overhanging branches of a tree whose leaves touch their faces, a rush mat on the floor, which creates a crunching noise when stepped on, a few steps that make them feel insecure, and a threshold through which physical differences between the inside and the outside can be experienced (Figure 2).



Figure 2. Photos showing the students in different points of the route

In this game, the eye's collaboration with the body and the other senses is deconstructed and "the qualities of space, matter and scale," are not measured "equally by the eye, ear, nose, skin, tongue, skeleton and muscle," as described by Pallasmaa (2007, 41). Rather, one of these sense receptors or body parts is exposed to an uncommon sensory experience sequentially. Hence, this game unfolds the invisible traces of the non-visual senses perceived when we experience a space, as signified by Barbara and Perliss (2006, 10-13).

The route is also selected and constructed in a way that is challenging for the students to guess at which part of the campus they are. This is to question the sensual (mostly visual) presence of the body based on "the details of past experiences" (Feld, 2005, 181). Via this game, we try to deconstruct students' everyday experience of the campus, which they take for granted and explore their perceptual capacity when the sense of sight is masked.

In the second Sense Game, the students are seated in the studio, again blindfolded. They are given various items to taste (a piece of cinnamon stick, pickled ginger or seaweed), to listen to (sound of a kitchen utensil or a wooden toy), to touch (panel of uncooked pasta or piled grapes inside a box), and to smell (acetone or sauce), all of which are thought to be experienced by most students for the first time in their lives (Figure 3).



Figure 3. Photos showing the students' experiences during the second Sense Game

In this game, more emphasis is given to a single sensual experience. When their eyes are unfolded and asked what they have tasted, smelled, touched or listened to, they find it difficult to guess since they have no/little familiarity with the selected item.

So, the aim of this game is to deconstruct sensual monotony created by “the dominance of the eye and the suppression of the other senses” which “tends to push us into detachment, isolation, and exteriority” (Pallasmaa, 2007, 19).

In the third Sense Game, the students are asked to form into groups of three, each blindfolded and having different roles: ‘sculpture’, ‘sculptor’ and ‘clay’. The logic of the game is that the student acting as the ‘sculpture’ assumes a bodily position, which the ‘sculptor’ tries to understand by touching and give the same form to the student acting as ‘clay’. Each student experiences the form-giving activity once and checks whether the form s/he gives is similar to the original sculpture (Figure 4).



Figure 4. Photos showing the stages of the third Sense Game

Our aim in this game is to deconstruct students’ visual preconceptions and activate their non-visual skills of form-giving via touching. We actually tend to understand how realistic the haptic perception of a certain form could be compared to vision to justify what Dalia Judovitz discusses as touch being “more certain and less vulnerable than vision” (Judovitz quoted in Pallasmaa, 19).

Through the Sense Games, students experience physical conditions such as ‘light, temperature, texture, time, sound, balance’ in an unusual context. Therefore, their perception and appreciation is heightened. These experiences also generate associated feelings and appreciations, such as fear, security, tension and comfort, which can also be used as design parameters in the earlier stages of the project.

When all the three Sense Games are finalized, the students are asked to produce displays of the experiences encountered in each game in the form of abstract paintings or quickly produced reliefs and models. Even though the students are familiar with abstract concepts of design, representing their non-visual sensual experiences through two- or three-dimensional visual media is quite a challenging task. Some prefer to represent a single sensual experience, whereas others integrate two or more senses in their displays.

Among the five senses, touching is the most popular one selected by nearly the half of the students. This choice may have been influenced by the way that touch becomes the provider of a sense of security in the absence of sight. A further reason may be that in all the three games, they have at least one touching experience, either by their hands, their feet, or any exposed part of their body. The tactile stimulus is defined by Pallasmaa as “the first sense we experience” (2007, 21). He highlights

that “all the senses, including vision, can be regarded as extensions of the sense of touch – as specializations of the skin” (2007, 42).

What is common in the project's first stage and the second stage, which will be discussed below, is ‘the body’. Pallasmaa states that “sensory experiences become integrated through the body, or rather, in the very constitution of the body and the human mode of being” (2007, 40). Marcos Cruz highlights “the risk that architecture is in the process of losing its crucial and social significance if it continues neglecting its most fundamental agent, the body” (2009, 60). In a similar vein, Frances Bronet and John Schumacher argue, “In space-in-the-making, places are realized only through the movement of the body, not the eye,” by pointing out the potential of a contact between two moving bodies which cannot be grasped by sight at a distance (1999, 98).

Organs Deconstructed through Research

In the second stage of the project, students are asked to select an organ that is a part of any of the bodily systems (Appendix 2). They are expected to research on their selected organ and answer the following questions on an A2 card: ‘Where is your organ? What is its shape/form? How does it relate to other organs/vessels/tissues? What are the senses/stimuli feeding/regulating it? What are its unique qualities? How do these qualities contribute to the function? How does it function?’ The research is always seen as a significant part of the design process and is asked to be presented as a collage of material including sketches, diagrams and images with little emphasis on text (Figure 5).

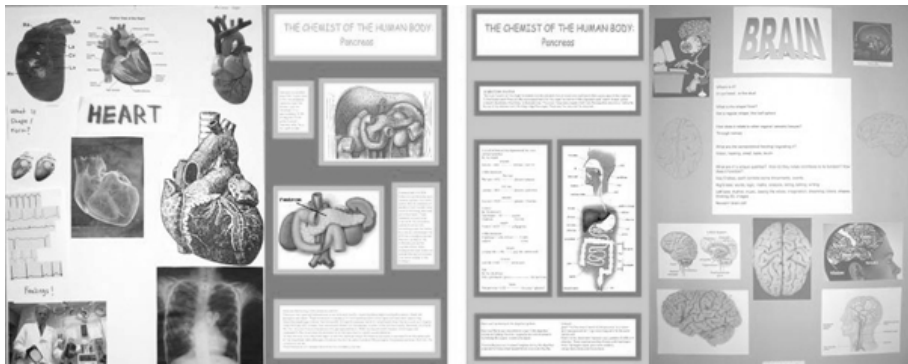


Figure 5. Examples of Organ Researches

The reason why we focus on the bodily organ is two-fold. As being independent from (or indirectly related to) any cultural and social context, it is an unusual, absolute and abstract medium, which increases the potential for interpretation and imagination. On the other hand, it is an appropriate tool to understand how various parts are structured to function within a complex system.

Students tend to select organs which they are familiar with and perhaps find easier to visualize mentally such as eye (%17), heart (%17), liver (%9) and brain (%8). In order to prevent over-emphasizing the formal qualities of the organ, we encourage students to consider all the above-mentioned questions equally in their collage work, with reference to the particular system that the organ belongs to.

It is worth mentioning that coincidentally a specific bodily part or two is used as a receptor for each of the five senses. However, in this project, we discourage the students from selecting such organ-sense pairings of 'eye-sight, nose-smell, ear-sound, tongue-taste and skin-touch', so that they follow a design process that is not straightforward. In fact, students make such unexpected pairings of 'eye-touch, heart-smell, ear-sight, liver-taste' which are likely to mediate for more creative design approaches potentially as design tools.

After the research, students are asked to develop a drawing to visualize a relationship between their selected bodily sense and organ (Figure 6). These sense-organ drawings highlight key concepts that become the design basis for students' final projects. The concepts inevitably reflect both a particular characteristic of their selected senses discovered in the sense games and their selected organs in terms of their location, form, function or relation to other organs in the system. Hence, concept development via organ-sense drawings helps us to define basic architectural aspects of structure, form and function at the beginning of the design studio.

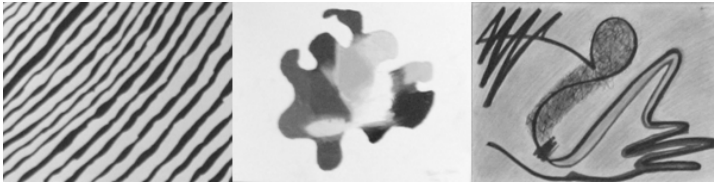


Figure 6. Examples of Organ-Sense Drawings

Organs Reinterpreted into Space

The third stage of the project involves reinterpreting the selected organ into a space through which the senses feeding it can be better appreciated. For this purpose, the students are asked to design a space and build a model that should fulfill the following requirements:

1. emphasize a quality(formal, structural, functional or metaphorical) of the chosen organ
2. convey to the user (the body) a link between the chosen organ and sense
3. increase the users' awareness of that chosen sense

So, here the bodily sense is not a tool but the aim of space making, instead the tool is unexpectedly an organ or a bodily part. By reinterpreting an organ into a space which is to be experienced by a user using a particular sense, students, through practice, are able to learn some basic aspects of architecture, such as 'user, scale, circulation, spatial organization, light/darkness and spatio-temporal experience'.

Touch Projects

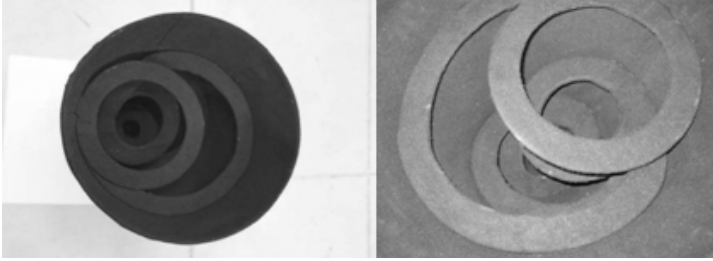


Figure 7. Touch/Uterus Project

Among the projects using the sense of touch, an outstanding example is the project which interprets the uterus as a space that is in the form of an upside down cone, enclosed on all sides and covered internally with a dark coloured soft fabric. The user is expected to enter the space from the narrow bottom of the reversed cone, walk inside following a continuously expanding and spiraling ramp having no balustrade and reach the large space at the top. Since there is no light source orienting the user, s/he has to follow the path by touching the wall to the left or right hand side of the ramp and after a while understands that the space is expanding as s/he walks up. The objectives of this project are to emphasize the significance of the sense of touch in a dark and insecure environment, to allude to the memory of a soft and smooth surface, to reflect the expansion capacity of the uterus in both functional and structural aspects, and to address 'spatio-temporal experience' while circulating in a space (Figure 7).

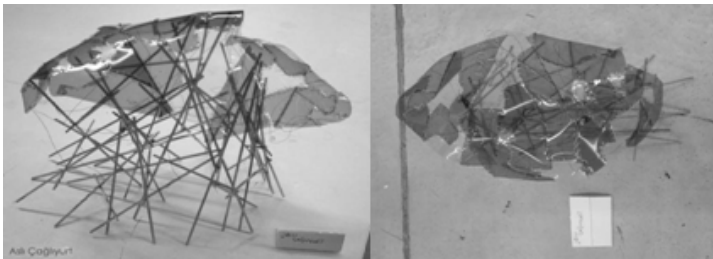


Figure 8. Touch/Liver Project

Another project using the sense of touch is the interpretation of a liver into a semi-open space covered with a transparent and coloured roof membrane that is carried by a disorderly structure. Sunrays are filtered through the membrane and touch the body of the user as s/he stands underneath. The principal aim of this project is to question the concept of tactility as experienced not only by the user's attempt to touch a surface at a distance but also as an encompassing physical affect to which the body is likely to be exposed to in any open and semi-open environment, such as

being touched by the sunlight. The secondary aim is to reflect the filtering function of the liver and to deconstruct its three-dimensional formal quality into a shelter (Figure 8).

Hearing Projects

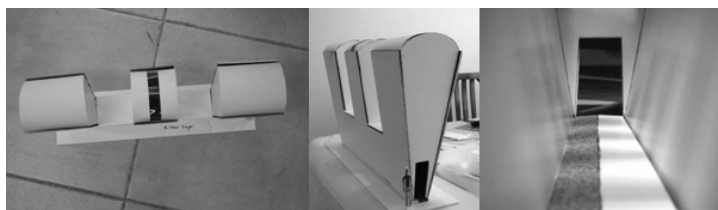


Figure 9. Hearing/Heart Project

The project which interprets the heart as a linear space consisting of chambers with different volumes is notable for the way in which it investigates the acoustic possibilities of a space. The narrow floor which runs continuously through is divided into two lengthways with a hard and a soft finish, increasing the awareness of hearing through the contrasting tone but regular rhythm of the user's footsteps. The chambers are composed in classical music's A-B-A format along the path. As the user enters a larger chamber, s/he also perceives the change in the acoustic quality of the space namely its increased reverberation time. In this project, the function of the heart as a rhythm-creating organ is utilised (Figure 9). The concept of scale is questioned as not only a visual- but also an aural- aspect of architecture much in line with the writings of Steen Eiler Rasmussen in *Hearing Architecture*.



Figure 10. Hearing/Eye Project

Another project utilizing the sense of hearing is again a linear space divided into chambers, but here the user is expected to reach the single light source at the other end by following the reflection of light through the chambers and touch the various vibrating instruments with different parts of his/her body. In contrast to the Hearing/Heart project, this project follows a unidirectional approach in which the sense of hearing is not the aim but a result of the spatio-temporal experience. Since the functional quality of the eye as an organ for seeing light is utilised, the straightforward relation of eye-sight is more dominant in this project (Figure 10).

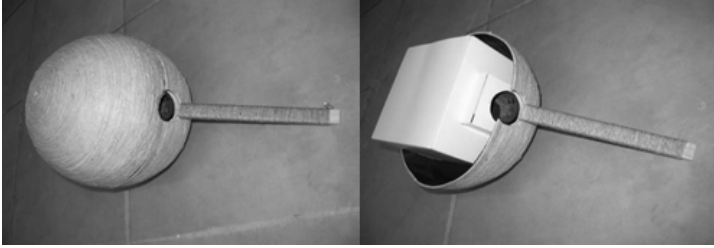
Sight Projects

Figure 11. Sight-Touch/Eye Project

In one of the many eye projects, the eye becomes a space to be experienced by seeing and touching. When the user is outside and exposed to full daylight, s/he perceives the space as a sphere and assumes that the interior space has a similar form. The user enters into a dim space through a circular threshold that acts as an interface between the outside and the inside. S/he enters the main space that is dark and then discerns through touching that surprisingly, its form is prismatic. In this project, the perception capacity of the eye is challenged and the senses of seeing and touching are collaboratively utilised to emphasize the power of light/darkness as well as the temporal experience in a space. In addition, not only the spherical form of an eye but also its pupil, like a pinhole to get light into a space, is interpreted (Figure 11).

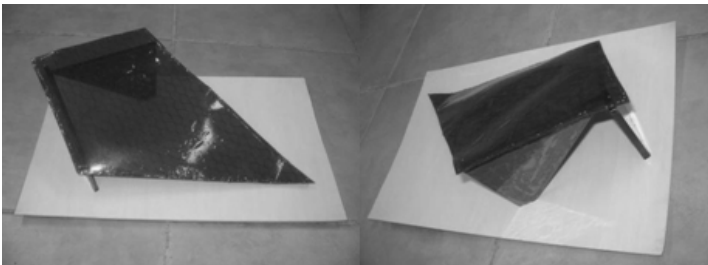


Figure 12. Sight/Pancreas Project

In another project which utilises the sense of sight, a pancreas is interpreted as an outdoor space semi enclosed by planes. The planes consist of concrete walls painted in green or blue, and fully clad with glass. Although the user sees the texture of the walls as rough, they are experienced as smooth when touched. The steeply inclined roof causes the user to feel uncomfortable and insecure underneath simulating the function of the pancreas as the regulator of hormones in face of such emotions. Designed as an alcove, the space addresses not only the idea of peripheral vision, but also the feeling of fear caused by it. In terms of formal interpretation, the kite-shaped red glass roof recalls the leaf shape of the pancreas. The way the user perceives the space visually changes with respect to the secondary colours created

as the primary colours falls onto each other in sunlight thus simulating the overlapping influence of the various hormones (Figure 12).

Smell Project

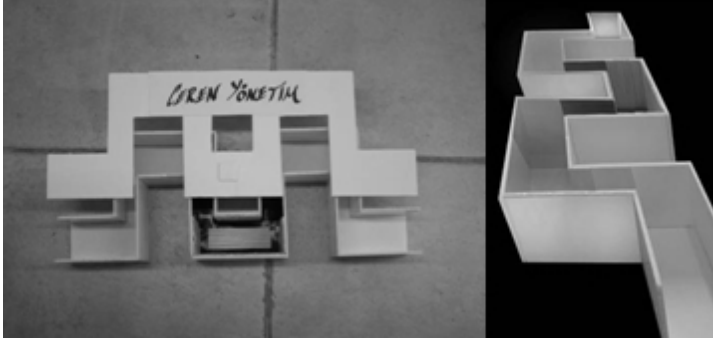


Figure 13. Eye/Smell Project

In a project using the sense of smell, the eye is interpreted as a pleated tunnel open at both ends. All the surfaces of the tunnel are painted in white except for its middle part, which is covered with a specific type of timber. Reflection of light is allowed until the middle of the tunnel where light is absorbed. Exemplifying how “Odor is a powerful vehicle for memory” (Barbara and Perliss, 2006, 140-41), the heavy smell of the timber is marked in the memory of the user causing him/her to perceive this middle part as if s/he sees the space even though s/he may be elsewhere. The aim is to create an awareness of the relation between the sense of sight and smell through the user’s mental imagery (Figure 13).

Taste Project



Figure 14. Taste/Liver Project

In a project using the sense of taste, a liver is turned into a spatial organization composed of several chambers. Each chamber is provided with spiral routes through which the user is indirectly oriented towards the inside. In each chamber, the material

and colour variations create taste and olfactory associations. So, the sense of taste is addressed not directly but via seeing and smelling. The route through the chambers, interprets the filtration function of the liver, in the way that different chemicals are secreted by the user as they encounter the taste/smell experiences. The awareness of architectural aspects such as circulation and spatio-temporal experience is a resulting benefit of the project.

DISCUSSION

In order to construct a body-oriented architectural design education, we benefit from the project 'Sensing Spaces' in various aspects. In the Sense Games, the students' sight-dominant preconceptions are deconstructed and a multi-sensual awareness is reconstructed by exploring architectural space through 'tactile, olfactory, auditory, gustative and visual stimuli', all of which provide a potentially richer spatial experience to the user they design for. Studio tasks such as making abstract paintings, reliefs and models, organ researches and logbook entries have a cumulative effect on their design process.

The bodily organ as an unusual conceptual tool increases the students' potential for interpretation and imagination. As often tends to happen, the thoroughness of the researches submitted correlate with the depth of interpretation. As seen in the project examples, the functional, structural and formal qualities of a bodily organ enable the students to create various scenarios for the users' experience of the space. The metaphorical qualities, however, are not referred as much as functional, structural and formal ones. In the third stage, while re-interpreting an organ into a space the students learn some basic aspects of architecture, such as 'user, scale, circulation, spatial organization, light/darkness and spatio-temporal experience', through practice.

The project examples treated above show that although the students are asked to select and focus on a single sense, some also construct unique relations between two or more senses they experience during the Sense Games. One weakness of the project is its incorporation of the sense of taste, which is more challenging to reflect architecturally compared to the other senses. Considering that tasting a space is physically problematic, and is a literal and non-creative interpretation, the students who select this sense tend to reflect it in an indirect manner and in collaboration with the senses of sight or smell.

All the beneficial aspects of the project, in turn, enable both the students and studio instructors to examine architectural space beyond its boundaries of structure, form and function, and to consider spatial design as an activity of re-constructing the built environment by means of the bodily senses and organs. Having incorporated sensorial instincts along with normative concerns, the Sensing Spaces project carried out over the last three years seems to possess many other aspects to be explored and reconstructed in the following years.

APPENDICES

Appendix 1. Project Brief of Sensing Spaces

IZMIR UNIVERSITY OF ECONOMICS
FACULTY OF FINE ARTS & DESIGN

ARCHITECTURAL DESIGN I

PROJECT 1 . SENSING SPACES

Gül Kaçmaz Erk, Selma Göker, Emrah Köşkeroğlu, Burak Pasin, Fall 2007

Our own body is in the world as the heart is in the organism.

Maurice Merleau-Ponty

INTRODUCTION

The first space we ever experience is the womb – dark and wet. As a fetus, the first organ we develop is the heart, first sense that of touch. The last organ we perfect the use of is the brain, the last sense that of seeing. The human body is made up of various "objects" and "spaces." The heart, consisting of muscles surrounding ideal sized chambers, sits comfortably within the rib cage protected against impact by the sternum, strategically positioned for efficient blood distribution. Our senses are the only contact of our bodies with the outside world. How do we use our senses and how do they affect our sense of reality? Merleau-Ponty says, "My perception is not a sum of visual, tactile and audible givens: I perceive in a total way with my whole being: I grasp a unique structure of the thing, a unique way of being, which speaks to all my senses at once" (quoted in Pallasma, 2007, 21).



Organ

Etymology: Middle English, partly from Old English *organa*, from Latin *organum*, from Greek *organon*, literally, tool, instrument; partly from Anglo-French *organe*, from Latin *organum*; akin to Greek *ergon* work

- 1 differentiated structure (as a heart, kidney, leaf, or stem) consisting of cells and tissues and performing some specific function in an organism
- 2 bodily parts performing a function or cooperating in an activity <the eyes and related structures that make up the visual organs>



Body

Etymology: Middle English, from Old English *bodig*; akin to Old High German *boteh* corpse

- 1 the organized physical substance of an animal/plant either living or dead
- 2 the material part or nature of a human being
- 3 a sensible object in physical space

Sense

Etymology: Middle English, from Anglo-French or Latin; Anglo-French *sen*, *sens* sensation, feeling, mechanism of perception, meaning, from Latin *sensus*, from *sentire* to perceive, feel; perhaps akin to Old High German *sinnan* to go, strive, Old English *sith* journey

- 1 a specialized function or mechanism (as sight, hearing, smell, taste, or touch) by which animals receive and respond to external or internal stimuli
- 2 the sensory mechanisms constituting a unit distinct from other functions (as movement or thought)



Space

Etymology: Middle English, from Anglo-French *espace*, *space*, from Latin *spatium* area, room, interval of space or time

- 1 a limited extent in one, two, or three dimensions
- 2 a boundless three-dimensional extent in which objects and events occur and have relative position and direction <infinite space and time>

source: Merriam-Webster OnLine (www.m-w.com)

OBJECTIVES

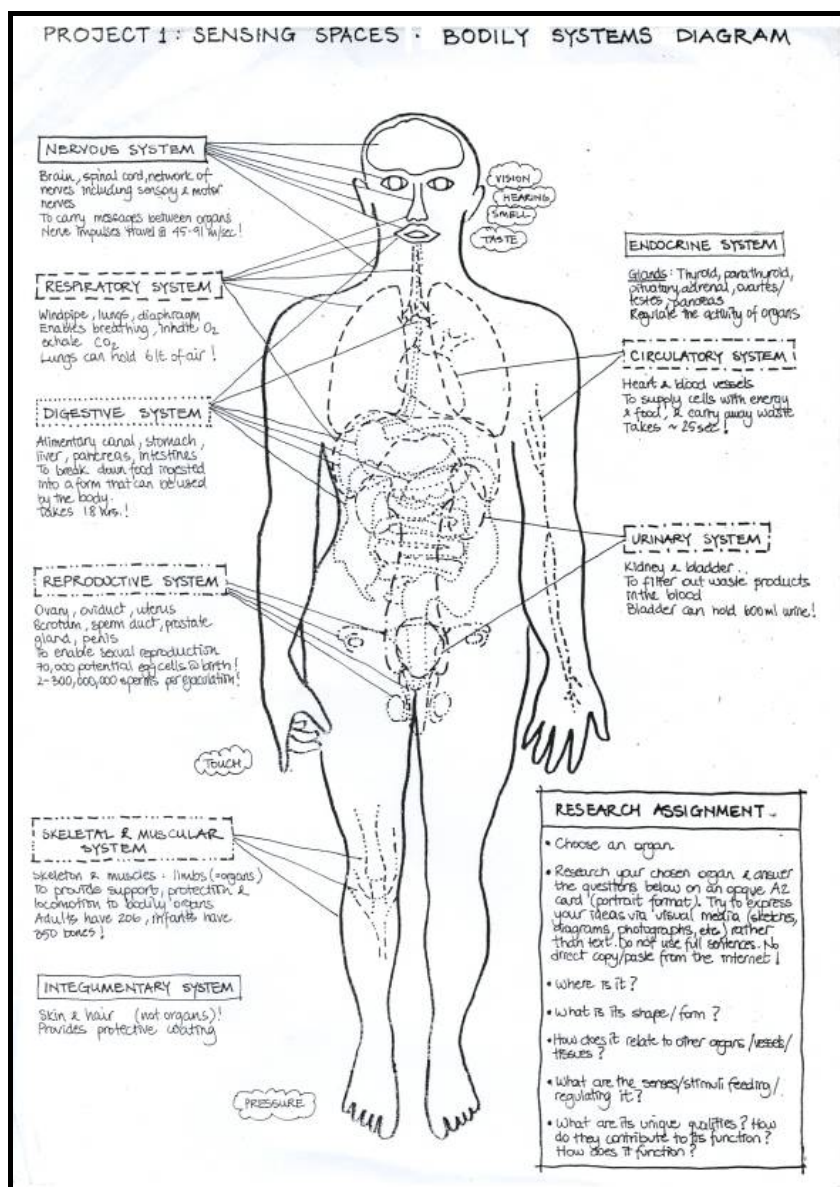
The objectives of this project are:

- . to explore the sense of space through the design and construction of a 3-D assembly
- . to create an awareness of the significance of the senses in the design process and in the experience of physical environment
- . to experiment with reinterpreted forms of bodily parts in order to develop an understanding of form, structure and/or function

Appendix 1. *continued*

PROCESS	<p>We started the project by playing SENSE GAMES. The first part of this project involved producing displays of the experiences encountered in each game. You were then asked to choose an organ to research and later to develop a drawing visualizing an organ-sense relationship. The second part of this project will involve reinterpreting an organ as a space through which the senses feeding it can be better appreciated. For that purpose, you will design a space and build a model that should do three things:</p> <ul style="list-style-type: none"> . emphasize a (formal, structural, functional or metaphorical) quality of your chosen organ . convey to the user a link between a chosen organ and sense . increase the users' awareness of that chosen sense 																				
RESEARCH	<p>Research your chosen organ and answer the questions below on an opaque A2 card (portrait). Try to express your ideas via visual media (sketches, diagrams, photographs, etc.) rather than text. Do not use full sentences. No direct copy/paste from the Internet!</p> <ul style="list-style-type: none"> . Where is it? . What is its shape/form? . How does it relate to other organs/vessels/tissues? . What are the senses/stimuli feeding/regulating it? . What are its unique qualities? How do they contribute to its function? How does it function? 																				
READINGS	<ul style="list-style-type: none"> . Suskind, Patrick, <u>Perfume: The Story of a Murderer</u>, Penguin, London, 1986, p.11-13. . Pallasma, Juhani, <u>The Eyes of the Skin: Architecture and the Senses</u>, John Wiley and Sons, West Sussex, 2007, p. 39-49, 54-64, 70-71, 77-80. . Berendt, Joachim-Ernst, <u>The Third Ear: On Listening to the World</u>, Element Books, Longmead, Shaftesbury, Dorset, 1988, p. 13-19. . Rasmussen, Steen Eiler, <u>Experiencing Architecture</u>, Chapman & Hall, London, 1959, p. 232-245. 																				
REQUIREMENTS	<p>Due October 16, you are expected to submit:</p> <ul style="list-style-type: none"> . your sense game displays as drawing (A3), relief or model (no dimension to exceed 30 cm.) . organ research sheet (A2) . organ-sense study drawing (A3) . a final model (no dimension to exceed 50 cm.) . a sectional perspective (A3) 																				
SCHEDULE	<table border="0"> <tr> <td>24 September</td><td>welcome & intro + questionnaire + architectural image analysis</td></tr> <tr> <td>26 September</td><td>sense games + display + research & logbook assignment 1</td></tr> <tr> <td>1 October</td><td>Research discussion + organ-sense drawing + checking logbooks + project I + presentation by Burkay Pasin + logbook assignment 2</td></tr> <tr> <td>3 October</td><td>critique of study model + model making</td></tr> <tr> <td>1-7 October</td><td>architecture week</td></tr> <tr> <td>8 October</td><td>pin-up critique + quiz</td></tr> <tr> <td>10 October</td><td>model making + critique</td></tr> <tr> <td>15 October</td><td>project due</td></tr> <tr> <td>17 October</td><td>jury + logbook due</td></tr> <tr> <td>19-21 October</td><td>Çanakkale field trip</td></tr> </table>	24 September	welcome & intro + questionnaire + architectural image analysis	26 September	sense games + display + research & logbook assignment 1	1 October	Research discussion + organ-sense drawing + checking logbooks + project I + presentation by Burkay Pasin + logbook assignment 2	3 October	critique of study model + model making	1-7 October	architecture week	8 October	pin-up critique + quiz	10 October	model making + critique	15 October	project due	17 October	jury + logbook due	19-21 October	Çanakkale field trip
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10 October	model making + critique																				
15 October	project due																				
17 October	jury + logbook due																				
19-21 October	Çanakkale field trip																				

Appendix 2. Bodily Systems Diagram



REFERENCES

- Barbara, A. & A. Perliss (2006) *Invisible Architecture: Experiencing Places through the Sense of Smell*. Milano: Skira Editore S.p.A.
- Berendt, J. (1988) *The Third Ear: On Listening to the World*, Element Books, Longmead, Shaftesbury, Dorset.
- Bronet, F. & J. Schumacher (1999) Design in Movement: The Prospects of Interdisciplinary Design, in *the Journal of Architectural Education*, November 1999, 53/2, ACSA, New York.
- Cruz, M. (2009) The Inhabitable Flesh of Architecture in *the RIBA Journal*, January 2009, Issue 01.
- Feld, S. (2005) Places Sensed, Senses Placed in *Empire of the Senses. The Sensual Culture Reader*. Oxford, New York: Berg.
- Howes, D. (2005) Introduction. *Empire of the Senses. The Sensual Culture Reader*. Oxford, New York: Berg.
- Pallasmaa, J. (2007) *The Eyes of the Skin: Architecture and the Senses*. West Sussex: John Wiley and Sons.
- Rasmussen, S. E. (1959) *Experiencing Architecture*. London: Chapman & Hall.

“(DE/RE)CONSTRUCTION” OF AN UPPER GRADE DESIGN STUDIO VIA FUNDAMENTAL PRINCIPLES OF DESIGN

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ABSTRACT

Design education begins with introducing a series of concepts and principles, which aim to develop the mental structure capable of solving problems at any stage of design education. The ‘fundamentals of design’ when conceived as *constructing the network of relations*, may function perfectly well in any design methodology. This paper/presentation aims to highlight the everlasting potential in ‘basic design’ to achieve *unity* and *universality* by means of demonstrating the full process of a collaborative design studio supervised by a group of architects from two different countries: Turkey and Italy.

Attaining a dialogue between the parties is a process of construction and implies the processes of deconstruction and reconstruction. This studio owes its significance to number of components with multi-dimensional characteristics to be orchestrated. The effort to balance certain extremities brings fore a series of constructive challenges. First of all, understanding cultural values, customs and traditions of a different culture, learning the historical facts and the development of archetypes, in short analyzing the east with a western perspective and vice versa can be considered as a challenge between different modes of thinking, which have immediate reflections on the system of education.

Secondly, reading the planned city of Western Europe in other geographies as the graduation project for Italian students comes out to be another challenge multiplied after selecting Urfa (Ancient Edessa) as the project site. The design approach that puts the emphasis on orthogonal geometry has to be reviewed on the occasion of encountering the organic layout of Urfa, highly configured in accordance with the climatic conditions and strong concern for the social constructs.

During the analysis of the urban texture and social structure the students have to be anticipated to develop the sense of making project and/or building in a specific environment paying due respect to the present conditions. With the recent developments in building technology it is almost possible to create the “impossible”, however it is also substantial to learn from the past experiences and update them. In this respect, the unity of the present and the past in terms of building technology together with the social requirements becomes another challenge.

Finally, a graduation studio project with several variables, each of which retaining a challenge within a larger network of relations, when approached as if it is a beginning design studio project the major challenge comes into the scene. Than (de/re)construction of the whole course becomes inevitable.

Keywords: Unity, Universality, Basic design concepts, Social and physical constructs



Image 01. Panoramic view of Urfa

CONSTRUCTING A CROSS-CULTURAL COLLABORATION: “DESIGN STUDIO AS AN *ORGANISM*”

The proposal by Politecnico di Bari - Department of Architecture for studying at Urfa to figure out the validity of the method for reading the planned city of Western Europe in other geographies as the graduation project of their students provided a unique opportunity to experiment and discuss the different dimensions of a cross-cultural collaboration on the occasion of the positive respond by METU Department of Architecture.

As the subject of this collaborative study, the fifth grade design studio of the Italian university that targets solving design problems at urban scale acted as a fertile ground to argue the power of ‘fundamental principles of design’. The basic design education, which is usually associated only with the beginners, will be referred as a tool to structure the course of education at any grade.

One of the key words frequently referred by the Italian School of Typology is ‘*organism*’. As one of the followers of this school, Strappa defines the term as: “An organism can be defined as a group of elements linked together by necessity and jointly contributing towards the same purpose” (Strappa, 1998:92). This definition may also operate as an inspiring agent while drawing the outlines of a collaborative study. On the one hand it brings about an effort for the establishment of coherence between different phases of the whole process and on the other triggers to discuss the significance of ‘basic design’ in structuring any mental activity.

“The idea of formulating theories concerning vision and human behavior toward visual phenomena in conjunction with a desire to relate materials, patterns and industrialized technologies to answer for tomorrow’s needs in design induced the creation of *basic design* as a «course»” (Denel, 1979:9). The preliminary course, introduced by the Bauhaus masters however also gave way to a never-ending controversy in the schools of architecture. It was -and still is- somewhat difficult for some architects to appraise the course due to its supremacy in abstraction as in the case of mathematics, and admit it as a language capable of being translated in every creative act.

It is possible start with dwelling on the misconception of ‘Basic Design’, which may even reduce the course to a study within the borders of a picture frame, with reference to the above quoted definition by Strappa. His definition for ‘organism’

coincides with my approach conceiving the abstract language of Basic Design as the core of 'constructing a network of relations'. Identifying the 'groups of elements' in an architectural design project and searching for achieving *the unity* among them constitutes the very basic issue to be elaborated.

This is valid for the construction of an education project: any course can be organized with a similar approach. While the links in between the various subject matters of a course are ensured employing the ordering principles design, the unity of the course itself as a "multi-dimensional composition" can be accomplished.

"Part of the pleasures and difficulties we experience with the built environment can be explained by our ease or difficulty in mentally grouping different elements from the visual field into synoptic units. When one studies integration in an existing grouping, these phenomena require the closest attention. Architecture is an art which acts on the dependence between elements to establish coherence" (Meiss, 1990:32).

What we would like to highlight in the words by Meiss is the necessity to comprehend the act of grouping as a mental effort and to understand 'elements' as abstract synoptic units. What is true for architectural design in the case of experiencing the built environment is also valid for any kind of organization including the design of a course or vice versa. As a matter of fact the study presented here is also an outcome of an organization with utmost concern for establishing coherence between 'the synoptic units', each of which belonging to a sub-group representing one main aspect of the whole process.

CONCERN FOR UNITY: A PROCESS OF "INTERPRETATION AND INTEGRATION"

The study started as a search for the *invisible lines* of a city. Urfa [Image 01] was the subject of the study and it was a city, which is totally foreign to the life styles, habits and cultures of the Italian students at the southeast part of Anatolia. At the same time they were being supervised by a group of instructors from Italy and Turkey [1], whose major interests differ within a wide range. The attempt to discover the potential in collaboration across the borders could easily transform into a great confusion. However it came out to be a positive challenge and the diversity in the specific considerations of the instructors resulted with a constructive teamwork. So the initial stage can be stated as finding the *balance* between different modes of education and spending time and energy to interpret the social and environmental constructs of the arena.

The selection of Urfa should not be considered as a coincidence, as well. Ancient Edessa, is situated at the intersection point of the important roads [2] that date back to ancient times hence provides the footprints of different civilizations. In addition, the existing multi-cultural structure of Urfa is a fertile ground for analyzing the social structure that has close impact on the environmental values. The multiplicity of the variables in the city and their integration during the design process brings fore the need for an embracing state of mind. As in the case of a composition the basic principles of design may help to overcome the problems of orchestration.

During the analysis of the urban texture, as an objective of design education, the students are anticipated to develop the sense of making project and/or building in a specific environment paying due respect to the present conditions. This attempt should surpass mere imitation thus re-interpretation of existing properties comes out to have utmost importance. With the recent developments in building technology it is almost possible to create the "impossible", however it is also substantial to learn from the past experiences and update them. In this respect, the *unity* of the present and the past becomes a major concern.

Re-interpretation is a fastidious process especially when someone is asked to work in a totally foreign environment. Understanding cultural values, customs and traditions of the 'orient' with 'occidental eyes' or vice versa, learning the historical facts and the development of archetypes, require an additional effort to accomplish the task. Thus analyzing the east with a western perspective and unifying the two different modes of thinking during the realization of a project also becomes a significant issue.

Finally, it is important to note the method of study, which also coincides with our main concern. The research on the history of Urfa started with a thorough survey during which the students studied particular periods and issues [3], in groups of two, in order to illuminate the important developments in the built environment. The main objective of the literature survey before the visit to Urfa was to explore the architecture and planning of the city from a specific point of view: to verify the method of planning, as defended by the Italian School of Typology, in other zones that display different properties. But above all it is worth mentioning that each chapter of the entire work was designed with the consideration for the *part-whole* relationship, both in terms of orchestrating the individual efforts and comprising the partial studies within a single product.

The preliminary stage was enhanced by series of observations and number of analyses at different scales in situ. During the field trip to Urfa the students concentrated on the measured drawings of the houses in the ancient center of the city [4] for 15 days. At the same time they tried to understand the existing dynamics and the needs of the city. The field survey was organized similar to the literature survey; this time, groups of three/four students examined the major problems commonly noticed and tried to develop their project themes to respond one of these as an independent group. However they never failed to agree on a unifying theme, which will provide the possibility of making variations, as the whole group. In this respect each theme and project site was determined in close contact with the others and this attitude had been carried on until each student focused on a specific building. There were 11 students expected to design three building complexes, each of which is assumed to function as the component of a larger complex at the city scale. Each member made the detailed project of a single building under his/her own responsibility within the building complex with respect to the initial group decisions. So the link between the students for achieving the *organic unity* had never been abolished; and the *hierarchy* in the division of labor inevitably had its reflections during the execution of the projects.

UPDATING AN EXISTING BUILDING TYPE: A PROCESS OF "STORY WRITING"

Although it is very well known that the buildings can be utilized for different purposes in the course of time, it is also an important fact that designing 'buildings without stories' may easily turn out to be a nightmare for the students. This should not recall an obsession in 'function' but should rather be understood as a driving force for 'spatial organization'. No matter how successful the students are in creating convincing volumetric organizations they may still lack the ability of visualizing the real life as long as you introduce the human being into the 'volume' and transform it into a 'space'. Furthermore, on the occasion of going abroad it is not enough to discern only the formal attributes of the environment; one should also be familiar with the social conditions in order not to produce spaces totally alien to that culture.

On the other hand, a *unifying theme* contributes to organize an architectural design studio. As a matter of fact, at the beginning of our study, we decided to refer to a significant building type of the already examined Ottoman Architecture as a generating agent. Among the number of building types we preferred to focus on Külliye [5], a complex of buildings, which were used to serve mostly for educational purposes; consequently accepted 'education' as a keyword for all the projects. While determining the outlines of the building programs we utilized it as a means for achieving *variations on a theme*, thus integrating the individual projects of all the students.

In these respects, the idea of Külliye could have been utilized efficiently to produce number of *stories* also in relation with the existing needs of the city. At the first glance it is possible to notice the poverty and the presence of numerous unemployed from all ages on the streets. Some are in need of having a job, some in need of home and some food. It had been the Külliye to accommodate all these people many years ago and this could have been possible by a self-sufficient economy. The money necessary for the inhabitants of the guesthouse, the visitors of the refractory and all sorts of expenses for the built environment were provided by the income of the shops. In short, in addition to its specific contribution to education it was also a place for public services. In some of the examples there could be a bathhouse and/or a hospital within its confines, and it was always the mosque to act as the most important building.

The social and formal attributes of Külliye, which will be uncovered with concrete examples as referred to the projects, initiated the process of 'story writing'. However, as the prologue of the 'entire story' it will be convenient to describe the setting in general and the particular scenes. In this respect two interrelated issues can be mentioned: the criteria for site selection and the scale for each project area.

According to the method preferred by Politecnico di Bari, the principal axes, nodal and polar spaces constitute the core of reading the urban texture hence it is always the orthogonal geometry, as in the case of imperial Roman architecture, that dominates the approach. "Both the English word 'corso' and the Italian 'percorso' derive from the participle of the Latin verb *curre* (to run, to pass), and indicate the action performed to cross the entire extent of a place, implying a point of departure and one of arrival (two poles with different values). Therefore, the term is inseparably

linked to motion, an ever-changing relationship between time and space” (Strappa, 1998:94). *Continuity* on the other hand, since can be explained as one of the basic attributes that facilitates perception thus acts as one of the key concepts of the ‘Basic Design’ discourse, fosters the idea of finding out the main axis of the city. Consequently the existing urban layout was analyzed paying due attention to the underlying grid.

On the principal axis of Urfa that runs from north to south along the city the crucial points, which provide the potential as nodes, were determined. “The notion of nodality, expresses the connection between the components of a building or of an urban organism which is not necessarily identified by a point, but by axes and their intersections (axial nodality). Nodes originate from the everyday use of an enclosed space, thus usually from those routes that had been individuated by the formation processes of building types and fabrics, and geometrized to structure the whole architectural space” (Strappa, 1998:94). Parallel to this description, another concept of utmost importance for perceiving the connection between the components of composition, *proximity* determined the location of the nodes to be selected as project areas.

Since the beginning of the research studies at different scales had been realized. Eventually each project is materialized as a response to this effort. In terms of their functioning each building complex was designed to comprise the survey at territorial, urban and neighborhood scales [Image 02].



Image 02. Plan showing the distribution of the projects on the partial city plan.

The north most project area, as shown in Image 02, was programmed to study the 'rehabilitation of an urban environment' and represents the concern for the requirements of Urfa, at 'urban scale'. During our stay in Urfa we had the chance to visit the Harran University and had contact with the professors. They claimed that despite the potential for archeological studies, both the city and the University was in need of a specific faculty, which may house the activities as such. Consequently, the existing caravansary and its surrounding was organized as a Faculty of Archeology with its service spaces including an archeological museum [Image 03] [6].

The area in the middle, in Image 02, constituted the ground to search for creating an environment at the 'neighborhood scale'. The group focused on the 'transformation of the traditional housing for public use' and tried to propose a sample environment for future applications. It was observed that there were number of children, some of which may even be called 'lost', on the streets and many women staying at home unemployed. An environment to accommodate the kids together with their mothers seemed to provide an opportunity of extra income for the women as well as a creative play ground for the children. In this respect, the two parking lots on both sides of the Ulu Cami [7] were connected to each other through the court of the mosque and designed as a gathering place. Including a health center, a guesthouse, a refractory and a bathhouse was believed to contribute in terms of giving public service [Image 04] [8].

Finally on the empty lot in close vicinity of the market place another center representing the concern for regional needs was projected and is indicated as the south most project area in Image 02. The Southeast Anatolian Project, known as GAP in Turkey, aims to accelerate the development of the region hence covers the promotion of the existing values, one of which being the handicrafts [9]. In addition to this, as in the case of women there were number of unemployed young people whose chance for a getting proper education is highly limited not only in Urfa but throughout the whole region. An institute that will function like a Polytechnic School and educate these youngsters on the production techniques in line with traditional methods was thought to satisfy both of the requirements. Consequently a building complex, enriched with an ethnographical museum and a broadcasting station, serving as such was proposed. By means of this project 'infill of the demolished spaces in traditional urban fabric' was studied and the analyses at the 'territorial scale' were put into practice [Image 05] [10].

The idea of attaining the relation between these three groups of buildings unless furnished by the actual needs of the city could have only been a functioning together or just focusing on the social aspects of the problem with no consideration for formal qualities would easily turn out to be a 'management story'. Nevertheless, 'an architectural design story' can be inspired by these all as long as the design constraints and process of abstraction enhance it. The main theme, which is determined as 'education' may initiate the search for the unity of 'the architectural design story' and this story, can be elaborated into an 'architectural scenario' finalized with number of buildings sharing *similar* properties all around the city.

It is important to note that the very basic conditions –*continuity, proximity, similarity*, that facilitate human perception do always have the potential to perform as main tools

during the organization of any sort of constituents. This is to underline *the power of fundamental principles of design* during any kind of design act.

RECONSTRUCTING THE DESIGN CONSTRAINTS: A PROCESS OF “CONCURRENCE”

As mentioned at the beginning of the article two different modes of education constituted one of the major debates of the study. The predetermined design methodology that puts the emphasis on the orthogonal geometry, on the occasion of encountering the specific situation of Urfa, needed to be reconsidered. With its peculiar courtyard houses the city demonstrates an organic layout highly configured in accordance with the climatic conditions and strong concern for privacy hence stipulates an emphasis on the social and environmental factors. As a matter of fact conciliation becomes inevitable.

In order to realize an orderly arrangement departing from two different systems one can benefit from the concept of *contrast* as one of the basic principles of design. “Contrast serves to give an immediate and unambiguous identity to two formal systems. It leads to mutual reinforcement without necessarily resorting to explicit hierarchy. The independence of the elements is achieved by tension resulting from their opposing characteristics” (Meiss, 1990:44).

If one is after using *contrast* as an ordering principle it is important to discern the common properties together with the differences. A method based on the very clear definitions of specific concepts may seem to limit the process of creation at the first glance; on the contrary it provides an endless ground to propose number of alternatives. In the case of Urfa, these well-defined concepts operate as tools to determine the common properties of all the project areas and they are enhanced in accordance with the local characteristics of the urban layout.

One of the very basic characteristics of Urfa is that, climatically it is situated within the boundaries of ‘hot-arid’ region, so protection against heat and radiation are of utmost importance. Orientation of the buildings, both for the sake of good ventilation by means of the prevailing west wind and reducing the harsh effect of the sun, should be well thought. Providing evaporation by way of greenery and proper use of water, hence creating a microclimate is essential.

The need for creating a microclimate within the boundaries of a specified area when conceived in relation to the key concepts on which the design method is constructed, both the local conditions and the requirements of the reference system are satisfied. So the *concept of pole* can be elaborated. “The pole indicates a sublimation of the term node, in general determined by the presence of various continua, not so much intersecting but rather terminating or starting from one point” (Strappa, 1998:95). In this respect all the three project areas are tackled as specific poles for the city. Their predetermined themes also contributed the apprehension of polarization as the act of attracting or orienting towards a direction.

Each and every pole is in need of an enclosure; and *enclosure* together with similarity, continuity and proximity constitutes the fourth condition that facilitates

organization thus becomes significant twice within the context of our “basic” argument. “The law of closure deals with our perceptual tendency to group certain visual elements and, by “filling in” the gaps between them, to establish one simple larger form. This completion of latent connections produce new virtual forms takes place in two, three, or four dimensions”(Thiell, 1983:159). In the built environment a piece of land can be enclosed with, on one extreme, a substantial continuous element or number of point elements indicating the corners may define the boundaries, on the other extreme.

The significance of enclosure for the case of Urfa is that *margin* appears as another key concept for the favored design method. It is highlighted stating, “(m)argin indicates the ultimate component defining the enclosure” (Strappa, 1998:95). On the other hand in addition to the climatic requirements, the strong demand for privacy in the region calls forth the preference of a high wall surrounding the buildings and/or building complexes. Consequently, designing the margins of the project areas comes out to be an important design constraint, which at the same time provides the ground to discuss the issue at different scales. As a matter of fact, the boundaries of each complex were so projected that it became possible to assess various degrees of ‘strong definition’ at the neighborhood scale; and each complex was planned to perform as a point element indicating one corner of the larger environment thus various degrees of ‘weak definition’ at the city scale could have been studied.

The search for unity when based on the intention of concurrence of variables at the city scale calls for its reflections at the neighborhood scale. Therefore it is essential to zoom into each project area as the components of whole organization to devise other interfaces, which are supposed to play significant roles in determining the design constraints.

As mentioned also within the context of reading urban texture, *axis* is one of the key concepts while drawing the outlines of a project area. “The axis is formed through the progressive ‘geometrization’ of the routes within the elementary architectural organism, and is often generated by the consolidation of ritual actions” (Strappa, 1998:95). The term “geometrization” immediately implies the orthogonal geometry and suggests a perpendicular grid. However, the organic layout of Urfa displays the spontaneous growth of the physical environment without much concern for the right angle. Creating a compact layout with narrow streets on which the buildings cast shadow on each other is much more essential due to the climatic conditions. The employment of ‘axis’ if conceived in an abstract sense does not necessarily dictate a 90° set up; and/or a compact layout can easily be created in an orthogonal setting. So when one focus on the essence of both and utilize them profoundly it becomes possible to juxtapose the indispensable characteristics.

In this sense the project areas were delineated with due respect for axial organization in which the conditions to create shaded spaces are provided. The building complexes, which grow on orthogonal grid, were designed taking the traditional/local applications into consideration. By means of buildings with projections, recessed openings and eaves running alongside the narrow axes the requirements for both cases are fulfilled.

Axes has another advantage due to their centering and unifying effect on the built environment; and as long as we benefit from these effects it is possible to integrate the new set of buildings without failing to offer connections with the existing environment. So the position of the main axes running through the project areas were required to be determined in accordance with the prominent axes in the urban texture. As the proposed axes acted as extensions of the existing ones the orthogonal layout of the new complexes fitted well into the urban fabric.

Contrast is valuable as long as it contributes to unification, therefore one should always pay due respect to *balance*; otherwise it may easily turn out to be an opposition. In our case the balance between the newly projected areas and the rest of the city was obtained by employing a common architectural language in between the three new complexes. Since they are associated with each other none of them remained isolated and failed to compete with the homogeneous urban fabric.

In order to achieve the common architectural language between the building complexes, which are situated far from each other, the designers should search for common attributes. The system based on the axes, first of all, contributed to draw the organizing lines followed by an overall structural system, which should also be conceived as a source of regulation in abstract terms. Although stone was selected to be the building material on the way to attain *harmony* with the environment, use of new materials and contemporary technology for construction was highly encouraged. By way of doing this, balance growing out of the contrast between stone and steel was explored.

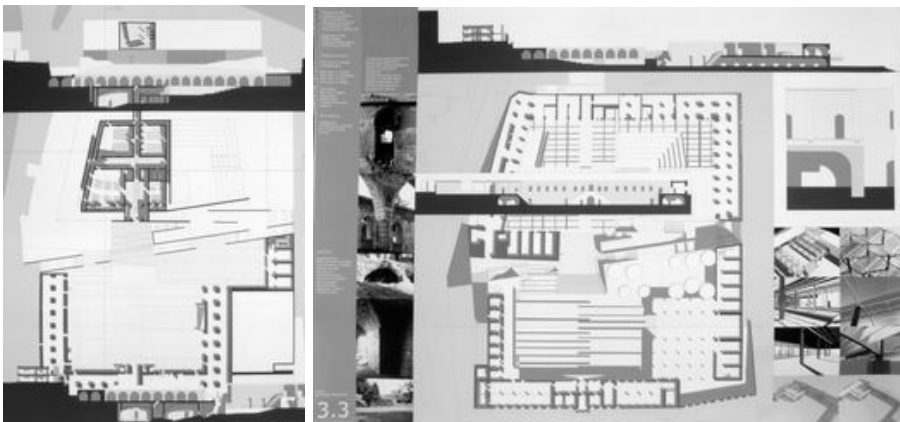


Image 03. The project that focused on the rehabilitation of an urban environment, representing the concern for the requirements of Urfa, at 'urban scale'. By Maria Francesca Cantatore, Rosa Cardascia, Annamaria Limongelli and Rosanna Saullo

For the spatial organization of all three building complexes the basic criterion should continue to be the cooperation between the two systems. The students had to follow the methodology in which the spaces are designed with utmost concern for the distinguished utilization of 'serial spaces' and 'organic spaces'. Strappa clarifies the difference between the two as: "Serial structure is an ensemble in which one element can be replaced without causing substantial changes to it; in an organic structure, on the contrary, the arrangement and the distributive, static and expressive role of each element is such that it cannot be replaced without altering the structure itself" (Strappa 1998:93). On the other hand extensive use of open spaces in Urfa was an important observation and the *hierarchy* between the open interior spaces, as in the case of streets, should come out to be one of the significant constraints for the design decisions. Together with the court life 'eyvan' [11] as a space of ultimate dominance for the architecture in Urfa, had to be integrated with the definition of serial and organic spaces.

'Eyvan' is the main space for most of the buildings in Ottoman Architecture. It is the main classroom of 'külliye', facing the main court together with series of smaller rooms. It can be interpreted as a space for polarization when accorded with the accepted design methodology. In this sense it also has the potential to be defined as "the organic space"; and it may perform as the most *dominant* element of any organization based on the hierarchy of spaces. Consecutively the smaller rooms surrounding the main court may be the source of inspiration for working on the serial spaces. As can be noticed in the projects, spaces in which a certain continua terminates were designed after the idea of creating an 'eyvan'.

To sum up, juxtaposing the two different systems was the most important phase of our study while determining the design constraints. However as in the case of any architectural design process there had been other inputs to be taken into account. Traffic, relation with the neighboring spaces, concern for the existing buildings and possibilities for their transformation were also defined as the main problems. It was of crucial importance to treat the existing values as untouchables; therefore each project group was assigned to integrate at least one building into their complex. It was the caravanserai itself to be utilized in drawing the outlines of the whole project [Image 03] in the north most area, the remains of the wall served as the backdrop for the stage of the theatre space [Image 04b] and the refractory was redesigned within an existing building [Image 04c] when projecting the area near Ulucami. In the project near the Market Place [Image 05] it was the mosque at the center of the building lot to be utilized as a point of reference and the axes of the project terminated with two existing buildings.

In addition to these, providing the connection between the project areas was reviewed. Finally the student groups were required to execute their projects on each area in such a way that the integration can be accomplished when they act as the components of a huge Külliye at the city (or even territorial) scale. And all that we discussed so far were subject to a process of abstraction.

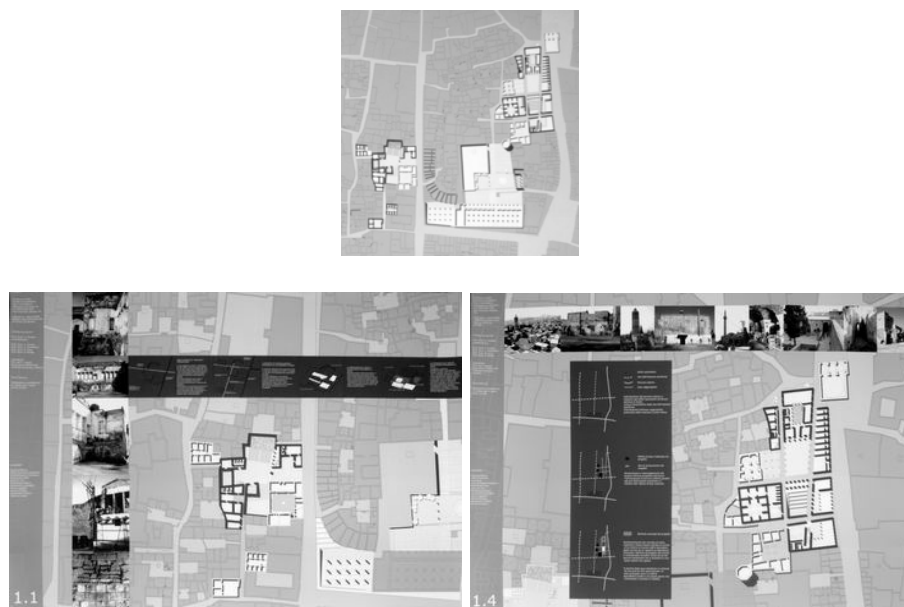


Image 04. The project that focused on the transformation of the traditional housing for public use, representing the concern for the requirements of Urfa at 'neighborhood scale'. By Eugenia Bianco, Daniela De Rosa and Irene Lopopolo

RE-INTERPRETATION OF FORMAL AND SOCIAL CHARACTERISTICS: A PROCESS OF "ABSTRACTION"

Re-interpreting and/or updating an existing building type is believed to be a process of 'abstraction' rather than 'imitation', thus it is very important to conceive the essentials of the topic under investigation both in terms of formal values and social considerations. At the final part of this article the *Basic Design* discourse, which offers a universal system free from the boundaries of time and space, comes into the scene once more to reveal the act of abstraction by means of zooming into the projects. Instead of explaining each project on its own we will concentrate on the process of abstraction when updating the essential features Külliye, some of which have already been mentioned.

One of the initial motives for the selection of *Külliye* was due to its unified organization. The organic relation between the different buildings within its own boundaries and the way it relates itself to the rest of the city were great advantages when a process of abstraction is concerned. 'Külliye' had the great potential to derive number of the formal properties to be discussed on a conceptual basis; and this property might serve to create a common language for all the projects.

Kulliye is an introvert structure, whose boundaries are defined by the surrounding buildings. Whole system is based on the hierarchy of courts surrounded with closed, semi-closed and open spaces, each of which displays a different degree of importance; *eyvan* among these manifests its dominance when acting as the main social space. When the projects are examined it is possible to see the similar arrangement with the idea of an 'urban *eyvan*' interpreted as a contemporary space accommodating a unifying activity within the boundaries of the whole complex. It comes out to be an archeological museum situated at the south-east corner of the first project [Image02], an open-air cinema situated at the central space [Image 04c] and a theatre for the kids leaning on the north wall [Image 04b] of the second project and an ethnographical museum situated within the east wing [Image 05] of the third project. In all of the projects the essential property of *eyvan* in relation to the main court in terms of its social purpose was utilized rather than copying the visual properties of the old *Kulliye* form. Its position, with respect to the other spaces was preferred to act as the point of departure.

The hierarchy created in the spatial organization of *Kulliye* was also translated into the new proposals. The type of relation between the main *eyvan* and its immediate environment at the complex scale was repeated at the building scale with *eyvans* dominating the arrangement of the rest. No need to say it once more but this was also the interpretation of the relation between the 'pole and axis' hence a respond to one of the main questions of this experimental ground for figuring out the validity of the method developed by the Italian School of Typology for reading the planned city of Western Europe in other geographies. The so described 'organic space/structure' had also found room with the utilization of *eyvan* as such.

The call for an introvert structure, which grows out of the concern for privacy in *Urfa* found its reflection with the introvert schemes of all the complexes. However it is worth highlighting this issue also with reference to the projects in terms of abstraction. It can clearly be observed that all the projects followed this scheme; the high wall around *Kulliye* was abstracted as comparatively high buildings turning their backs to the city. It can best be exemplified with the project illustrated in Image 03a; the students' apartment block situated at the north of the complex provides an apparent boundary with the unpleasant part of the city. The building itself serves as an "updated" high wall underlining the concept of 'enclosure and/or margin' as well.

Despite the isolated life style inside the way *Kulliye* gives service to the nearby environment resulted with the need for providing access for the inhabitants of the city. Apart from the buildings previously mentioned as 'urban *eyvan*', reinterpretation of mosque was studied in relation to its significance within the borders of *Kulliye* both in terms of formal properties and social function. When approached conceptually the *dominant* size, position and social status of mosque could have been the attributes to be utilized during the process of abstraction. An administration building was introduced within the boundaries of the complex near the market area assuming that it will be the core of all the activities at the city scale. The building at the southwest corner of the related project [Image 05] was designed to share one of the main plazas of the urban fabric with one of the major buildings at the city center. As can be noticed in the west elevation [Image 05b] it appears as the only high-rise building of the complex, which at the same time acts as a 'nodal point'.

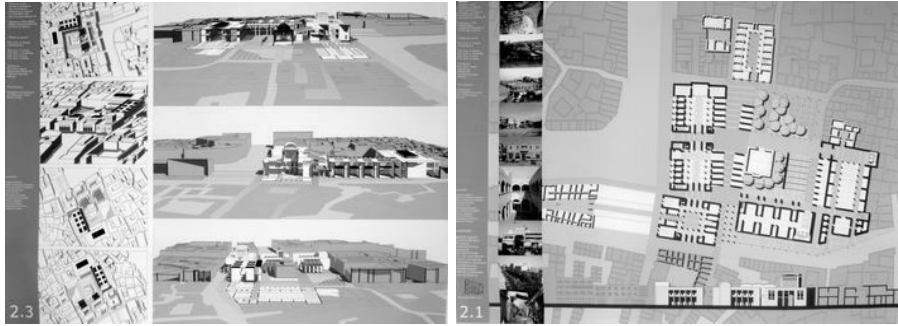


Image 05. The project that focused on the infill of the demolished spaces in traditional urban fabric', representing the study and analyses at 'territorial scale'. By Anna Di Turi, Mariagrazia Grieco, Arianna Palano and Alessandro Procacci

The public service provided by Külliye in the old times, as said before, was through a hospital, a refractory or a bathhouse. The complex located near Ulucami [Image 04] was designed to accommodate all these functions; the existing building facing west was converted into a refractory serving food for the poor people and a bathhouse attached to another existing building, which was planned to be renovated as a health center, was proposed adjacent to it. Although this effort may seem to be a direct translation at the first glance the way they were projected reflected the concern for referring only to essential characteristics. The spaces of a classical bathhouse following a sequential order on a straight line were arranged within a rectangular block in which the invisible straight line turns to be a curved one.

The self-sufficient economy of Külliye was another source of inspiration to outline the spatial organization. It had been the shops to financially support all these social facilities and architecturally they could be considered as 'serial spaces/structures' causing no change in the case of reducing the number, as opposed to the organic ones. The coincidence of these two gave way to the introduction of series of spaces, which at the same time fits into the story. 'Arasta', as another significant building type of Ottoman Architecture, composed of series of shops was there to be updated. The series of shops running along the main street on the east of the complex near Ulucami [Image 04c] and the ones running on both sides of the north-south axis of the complex near the Market Place [Image 05] well represent the situation.

This study that lasted for one semester, above all should be mentioned as a very good example in terms of searching for ways of cooperation across the borders. The "organic relation", as defined at the beginning, between two universities did not remain to be a mechanical process of working side by side; it came out to be a well-organized collaboration during which all the participants got to know each other's culture in details. The coherence that we aimed to attain on 'paper' by means of architectural drawings had its immediate reflections on our approach to education. All the actors/actresses that took part in this endeavor proved to be indispensable elements of the whole setup and with the proper orchestration of these elements a powerful "composition" was achieved.

Unity, the most significant property of a good composition had always been of utmost importance throughout the semester and this study owes its success to our steady concern for that. As it can also be noticed in the presentation of the projects all the students acted as active members of a big team and whole group utilized same standards and presentation technique. Consequently the drawings appeared on the board as if they were all drawn by the same person.

The point is that we should provide more ground for such multicultural studies and try to include equal number of students from both parties. It was only the Italian students in our case and students from Turkey would certainly introduce different dimensions.

ENDNOTES

- [1] This was an attempt realized as a part of the exchange program between the Faculties of Architecture of Politecnico Di Bari and Middle East Technical University; project supervisors were Giuseppe Strappa, Matteo Ieva, Paolo Perfido (Italy) and Tuğyan Aytaç-Dural (Turkey)
- [2] The north-south route coming from Armenia is directed to Diyarbakir, goes down the plains and arrives at Urfa, consequently Harran. It flanks along the Belih River, pass over Euphrates and reaches the grand cities of Syria. The east-west route coming from Gaziantep, after passing over Euphrates, which springs from Aleppo, crosses through Urfa and turns towards Nisibis before reaching Iran.
- [3] The researches for the preliminary stage of the study can be summarized as: 'The Territorial Analysis' that covers the whole land in the hinterland of Urfa at 1/25000 scale; 'The Urban Layout in the Eastern Roman Cities' that aims to make a comparative analysis between the cities built on Hippodamian ground plan; 'The Urban Transformation in the Middle Ages' which focuses on the changing characteristics of the city due to Islamic influence; 'The Courtyard Houses at the Ancient Center' which tries to understand the organic layout and its relation to the orthogonal setting; 'The Special Building Types' which tries to clarify the significance of the civil and official buildings in the configuration of the urban tissue; and finally 'The Contemporary Turkish Architecture' which aims to illustrate the present situation of the country with reference to its historical roots.
- [4] The ancient city center of Urfa was very important to carry out our research since it is possible to find the traces of the grid layout that can be identified as the remains of the Roman period. On the other hand, it is also possible to examine the peculiar organic layout representing the Islamic aspects.
- [5] Külliye is defined as "*Educational and charitable dependencies of a mosque*" in Goodwin Godfrey, A history of Ottoman architecture (London: Thames and Hudson Ltd., 1971), p.459
- [6] Projected by Maria Francesca Cantatore, Rosa Cardascia, Annamaria Limongelli and Rosanna Saullo
- [7] Ulu Cami (The Great Mosque) is one of the oldest mosques of Urfa. It was constructed around 1170-75 within the confines of the antique agora in place of the Red Church that had been built in 457 A.D. Its significance is due to the lack of an axis of symmetry, which can be explained as a consequence of the ancient substratum. The octagonal bell tower of the church is recently being used as the minaret of the mosque.
- [8] Projected by Eugenia Bianco, Daniela De Rosa and Irene Lopopolo
- [9] The handicrafts still produced by using traditional techniques and planned to be promoted are sheepskin production, felt making, copperware, jewelry, weaving and stoneware.
- [10] Projected by Anna Di Turi, Mariagrazia Grieco, Arianna Palano and Alessandro Procacci
- [11] Eyvan is defined as "*A vaulted or domed recess open on one side*" in Goodwin Godfrey, A history of Ottoman architecture (London: Thames and Hudson Ltd., 1971), p.458

REFERENCES

- Strappa Giuseppe, 1998 "The notion of enclosure in the formation of Special Building Type", in Petruccioli Attilio, (Ed.), *Typological Process and Design History*, Cambridge: MIT Press, 91-113
- Denel, Bilgi, 1979, *A Method for Basic Design*, Ankara: METU Publication
- Meiss, Pierre von, 1990, *Elements of architecture: from form to place*, New York: Van Nostrand Reinhold
- Thiell Philip, 1983, *Visual Awareness and Design*, Seattle and London: University of Washington Press

RE-CONSTRUCTION OF THE DESIGN STUDIO IN THE DIGITAL AGE

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ABSTRACT

Design studio is the core of the architectural curriculum. Through the studio process, the learner moves from knowledge-in-action to reflection-in-action in which the design tutor and student have a continuous communication and interaction side by side. Development of information and communication technologies (ICT) provides new opportunities for the re-construction of this communication through synchronous or asynchronous virtual studios (VDS). This paper examines the promising opportunities and limitations of VDS in the scope of the related literature and the results of the survey that aims to understand the attitudes of design instructors having different experience levels in the use of digital technologies in design teaching. Although digital technologies and media are seen as a promising input for the design studio, the general opinion is that the design studio cannot be replaced by a full digital VDS.

Keywords: Design education, Re-construction, Social constructs, Information and Communication Technologies (ICT), Virtual Design Studio (VDS)

INTRODUCTION

Starting from the master-apprentice relationship education in private studios to theoretical institutions without practice, the development of architectural education has continued and by the addition of practice into the educational setting the concept of design studio has occurred (Demirbaş, 2001: 8). Design studio is the core of the architectural curriculum and all the other courses taught in design education are related to the design studio. In a way, design studios are the simulation of real life situations in design education. Donald Schön (1984) named this as the “practicum” that is an off-line situation of simulating and approximating the world of practice. Through this process the learner moves from knowledge-in-action to reflection-in-action in which the design tutor and student have continuous communication and working interaction side by side. Besides this mutual interaction between the two parties, the potential of the design studio is further more with the multiple interaction

levels between more participants as peer-to-peer interaction, group interaction, jury sessions etc.

Basic communication methods in the design studio involve using verbal and graphical presentations of creative ideas. Development of information and communication technologies (ICT) provides new opportunities for this communication as the means of using digital media and enables distant learning facilities either through synchronous or asynchronous ways. For the last two decades the disposition of the social constructs of the design studio from real to virtual has been attracting the attention of many researchers. The general interest of the researchers with the digital design issue and virtual design studio (VDS) has been through technological aspects in the first sense, but recently, for the last decade the theory and the social, pedagogical and epistemological aspects of VDS settings has become the subject of interest (Radclyffe-Thomas, 2008: 159; Oxman, 2008: 99, 2006: 230; Reffat, 2007: 39; Kvan, 2001: 347; Dave and Danahy, 2000: 57).

In the scope of the existing studies in the literature, this paper examines the promising opportunities and limitations of VDS and aims to figure out the attitudes of the design instructors from different age groups and different experience levels in the use of digital technologies in design teaching. It is concluded that the inclusion of the new technologies as the new constructs of the design studio setting will be inevitable and necessary. However, this does not mean that there is the need of a totally new construction of the design studio but rather the consideration of a re-construction by the inclusion of new technologies to enhance the effectiveness of the design studio.

DESIGN STUDIO

Design education has started as a mastery-apprenticeship in the private studios of grant masters who were artists, architects, designers, engineers, philosophers and scientists all at the same time. Through time, as the world developed, the demand for design education increased, the definition of the disciplines became more defined and there was a need for some institutions to give the professional education of the discipline. This shift changed the position of design education from private studios to professional institutions that gave theoretical knowledge without any practice. The necessary experience of practice was acquired on the site. Finally, the educator leaders realized the lack of experience related to the practice of the discipline and the practice was also included in the program of the education, and the concept of design studio appeared (Demirbaş, 2001: 8).

Design studio has a very unique identity as being a learning environment and a complex social organization at the same time (Demirbaş, 2001: 17). It is the first place for the student to gain and develop some professional skills and experience. Design studio is the synthesis of all other courses with different technical or theoretical content in the curriculum and within the studio process, there is the reflection of all courses taught in design education (Demirbaş and Demirkan, 2003: 439).

Design studio is the simulation of real life situations in which students are faced with the demonstrations of real life problems and are prepared for the world of design. In

the studio process some theoretical and practical knowledge are acquired through a series of consecutive experiential activities, and the acquired knowledge is transferred to a creative design idea blended with the imagination of the design student (Attoe and Mugerauer, 1991; Brusasco et al., 2000; Demirbaş and Demirkan, 2003; Yıldırım and Güvenç, 1995). The process in the design studio primarily relies on the development of thinking and reasoning abilities that are formalized under the activity of problem-based learning (Demirbaş and Demirkan, 2003: 439; Kvan, 2001: 346; Brusasco et al, 2000; Verma, 1997: 90), in order to find out alternative solutions for wicked problems in which the ends and the means of solutions are unknown (Rowe, 1987: 40). The design student learns how to function in this sense through the design studio process. The learning activity is formed by the communication between the design instructor and student, which is an important aspect of knowledge exploration and collaboration. This interaction is the main social construct of the design studio and it is named as critique (Demirbaş, 2001: 23).

Schön proposed (1987) two common types of interaction during the critique process as telling-listening and demonstrating-imitating. Telling-listening is a continuous and reciprocal action between the design instructor and student. As the telling action of one party is going on the other party is on listening action, and then they shift their roles. On the other hand, there is demonstrating-imitating in which design instructor demonstrates the parts of design in pieces and lets the student imitate. After each imitation the variations of the actions come out, and there is a shift from imitating to creating. Imitative reconstruction of any observed action is a kind of problem solving in design education. Generally telling and demonstrating actions and listening and imitating actions of the two parties are interwoven with each other and structure the social construct of the design studio. According to Schön's theory these means of communication is reflection-in-action. (Demirbaş, 2001: 24). The student reflects to the action of the instructor, and the instructor reflects to the action of the student, this mutual interaction structures the critique process (Demirbaş and Demirkan, 2003: 440).

This mutual interaction in the studio setting does not need to be one to one (table critique) but there are other forms of interaction and communication as group discussions (board critique), or group evaluations (jury). Each of these formulates the interaction of action and thought (Figure 1). Critique process supports the integration of defining and solving problems by providing a linkage between the theory and practice. In the design studio process, there is the chance of accessing infinite information through table-critiques, peer to peer interaction, group interaction, and board discussions in an environment of free exchange of ideas. In other words, in the concept of social construct of the design studio, every participant has the potential of being the source of information (Fischer et al., 1993; Schön, 1984).

The mutual relationship of the habitants of the design studio is one of the common characteristics of design education. The interaction is not only by the common nature of communication through words and graphical presentations but also there are other means of communication by expressions through facial gestures, body gestures, and tone of voice. This is a very unique characteristic of the design studio interaction, which is hard to understand for someone out of this process (Brusasco et al., 2000; Schön, 1987).



Figure 1. Design instructor and student interaction during a jury session.

DISTANT LEARNING: INFORMATION AND COMMUNICATION TECHNOLOGIES (ICT) IN DESIGN EDUCATION

Unlike the traditional face-to-face interaction in education where related learning material and processes physically exist in an educational setting such as a regular classroom, students generally work alone and separate with printed and/or electronic learning material through the means of some other information transfer channels (Geros et al., 2006: 2456). Teaching and learning in distant learning is generally carried out through the educational resources and the possibilities of distant communication tools.

By the development of information and communication technology (ICT), the opportunities of distant communication have developed, and increased computer ownership and Internet access have led to a situation of flourishing informal learning (Radclyffe-Thomas, 2008: 159). This technological development and new opportunities of ICT also provides a new medium for educators in order to use it as a tool for formal education. By 1980s and 1990s some revolution in education was predicted through global and student-centered educational environments in which there was the prevalence of computers (Wang, 2002: 155; Sefton-Green and Reiss, 1999:1). Despite a considerable number of studies on ICT in education, Radclyffe-Thomas (2008: 159) states that the creative possibilities of ICT have not been sufficiently recognized and developed. The biggest question is if ICT is a new tool for educational improvement or if it will necessitate a total change in the structure of educational settings. According to the studies in the literature it is for sure that ICT offers a good opportunity to reconstruct education by exploiting the potential of technology through new models of organizations and cooperation between educators (Radclyffe-Thomas, 2008: 165; Wood, 2004: 180).

By the late 1980's design educators witnessed the transformation of the design profession and education with the introduction of computers and ICT. In a very short

period of time these became pervasive in both the practice and education of the discipline (Reffat, 2007: 39). This situation directly manifests the situation of revision in the curriculum contents of the design schools as well as the intrusion and development of information technology (IT) related courses. Within 20 years of time a great shift from hand drafting to computer oriented drafting has occurred as, Computer Aided Design (CAD) has become the major working environment especially in practice (Reffat 2007: 39). The development in ICT and its applications in design field have exposed new opportunities to design studio teaching.

Kvan's (2001: 345) discussion arises the question of how much effective and necessary the ICT use in design teaching is. Although the existing situation of the traditional design studio setting is still a subject of interest between education leaders, adding up the technological means that are expensive to acquire and need extra spatial and technical requirements could bring new problems, especially in the pedagogical structure of the studio. According to his proposal, the justification of ICT use in design education lies in the developing characteristic of design discipline as increasingly becoming a global and knowledge base profession (Kvan, 2001: 346). Today, the designer's knowledge and the delivery of his expertise worldwide are of higher value than the presence or special skills that the designer has. In the case of education, digital technology and ICT provides a wider and infinite information-sharing arena for the design student who will have the chance of acquiring and experiencing more knowledge in a multi cultural and limitless environment without the need for traveling around and spending too much money.

VIRTUAL DESIGN STUDIO (VDS)

Virtual Design Studios (VDS) can occur in a number of different formats. The only common nature of the VDS is the remote location of some of its participants. While the participants are also the habitants of the physical design studio, there is no need to be the habitant of a VDS. In a VDS setting either the students or the instructor or both can be remote, or there could be the possibility of linking up the students of different institutions that are remote from each other but share the same design process through the VDS environment. Whatever the setting of VDS is, the basic communications are still required. In this sense, a program has been issued and the design problem is stated by the studio instructor. Then, students are responsible of exploring and evolving ideas, defining the problem and proposing solution alternatives. Critiques and reviews are needed with the instructor (Kvan, 2001: 348).

There are several problems that should be addressed while establishing the new virtual setting of the design studio. These are matters of place, time, communication channels and equipments that are going to be used for interaction between the parties. With the limitations of the technology and facilities, the communication channels vary as being synchronous or asynchronous. The relationship between the design instructors and students can be limited to one-to-one or one-to-multiple, or the system can allow multiple-to-multiple communication.

Schön (1987) describes the studio process as sitting adjacent to the instructor, listening his/her comments and watching his/her actions while telling-demonstrating, student observe the acts of knowing-in-action and reflection-in-action. The main

question arisen is how a VDS setting will provide this specific process of design studio especially when the bandwidth is substantially less than that available when the participants are co-located (Kvan, 2001: 348). All these problems seem to be resolved by the development of technology and a shift from asynchronous to synchronous communication.

One of the most important benefits of a VDS setting is being open in the Internet. In the process of defining design problems and exploring the solutions, it is very important for the design student to reach knowledge resources and to examine other design solutions by making use of the experience of other designers. Not only to reach these resources but also to know how to reach them is also a part of the education of the design student. In this sense, although it could be an information junk in an uncontrolled use, Internet could be a tremendous source of information for the student. This may not be considered as unique for VDS since it can be also used in a traditional design studio setting, but the difference of internet usage in a VDS setting is that the student's work is accessible on the network that means it is also accessible for remote advisors. This means that students have the chance of getting advice from a remotely located expert. Some schools of design that are already using VDS, are taking the advantage of inviting guest experts to provide desk critiques and even for panel reviews and juries remotely (Sagun et al., 2001: 341; Dave and Danahy, 2000: 58).

VDS provides a level of flexibility in time, location, content and form of the interaction between the participants of the studio (Figure 2). This flexibility brings the advantage of learning in a more limitless environment and provides more control to the student to prefer or select when, where and what to learn.



Figure 2. The students who prefer studying in the university cafeteria instead of an educational setting.

SURVEY

A survey was handled by the authors in order to figure out the attitudes of the design instructors from different age groups with different experience level of ICT use in design teaching. The survey was done in the Interior Architecture Departments of Bilkent University and Çankaya University in Ankara. The participant instructors were asked to complete the questionnaire in the scope of the survey. The questionnaire was formed of two parts; the first part gathered demographic data and in the second part the general attitudes of the participating instructors towards digital media use in design teaching were assessed through a 5-scale questionnaire.

RESULTS

The survey was handled with 34 design instructors. 76.5% of the participants were female while 23.5% were male. Most of the participating instructors' ages were between 35-44 (12, 35.3%) while there were 8 instructors (23.5%) from both 25-34 and 45-54 age groups. Only 6 of the participating instructors were 55 or bigger (17.6%). Almost 60% of the participants were younger than 45. All of the participants had their own computers (desktop in office, laptop etc.). 50% of the participants stated that they had more than 15 years of experience in computer usage, where 41.2 % stated 11-15 years of experience. In other words, more than 91% had at least 10 years of experience and the participating group was considered as quite an experienced group in computer usage. According to the responses, most of the participating instructors stated that they were using computers 4-6 hours a day (52.9%).

When they were asked in what scale that they were utilizing the computers as a teaching tool, the most popular answer was keeping and preparing the course material through the use of computers (79.4%). A considerable percentage of the instructors stated that they were using computers during their course meetings such as presenting the course material through PowerPoint (67.6%) While 47.1% were making use of the electronic communication with students especially through email, only 11,8 % of the instructors were utilizing the merits of a web page for their courses.

They were also asked if they have had any distant learning experience in any of the courses that they were teaching and if they have experienced a web-based VDS. Only 14.7% of the participants stated that they had such an experience in both cases.

The second part of the questionnaire concentrated on the issue of understanding the general attitudes of the participating design instructors to the use of digital media and distant learning opportunities in the case of design teaching. Overall, the general attitude was not negative but could be defined as cautious. Almost all of the participants stated that ICT and distant learning tools through digital media should be utilized in design education in order to enhance the effectiveness of the process (M: 4.03, SD: 0.90).

T-test results showed that there was no significant difference between the attitudes of male and female instructors. However, the ANOVA tests showed that according to the age groups some statistically significant differences occurred among the attitudes towards ICT technologies. A statistically significant difference was found between the age groups in the conception of "the most important aspect of the design studio is the mutual relationship and communication in the studio setting" ($F = 3.075$, $df = 3, 33$, $p < 0.05$). According to the results, instructors between ages 35-44 had some doubts about this statement. In relation to this factor, the same age group also stated that the time spent in the traditional studio was not that much useful anymore. This factor also brought a statistically significant difference between the age groups ($F = 4.335$, $df = 3, 33$, $p < 0.05$). As an outstanding output, there was again a statistically significant difference between the age groups in the assessment of the statement of "computer usage and ICT technologies enhance the designing skills of students" ($F = 3.095$, $df = 3, 33$, $p < 0.05$). For this statement, the youngest group between the ages 25-34 supported this idea ($M: 3.63$, $SD: 0.92$).

No statistically significant difference was found between the instructors' computer usage experiences and attitudes towards the integration and use of digital media and ICT in design education.

DISCUSSION AND CONCLUSIONS

In the light of the existing studies, it is possible to conclude that distant learning or VDS has promising opportunities for design education especially for sociological, ideological and epistemological aspects of design education (Sagun et al., 2001: 338). On a sociological level, it will provide the opportunity of experiencing the design studio communication for geographically distant students and even for physically disabled ones. In addition, there is the opportunity of a multi-cultural exchanging of ideas, experience and knowledge. From an ideological point of view, VDS provides time saving since all the process is handled through the web-based environment. Besides, it provides the opportunity of meeting the student with more experts to get feedback. VDS allows interaction all around the world through the web-based structure of it and provides the reach of a wide variety of knowledge in the epistemological point of view. However, on a pedagogical level, although it is claimed that distant design education through a web-based setting (VDS) makes students aware of their own control in education by giving them responsibility and active role in the process (Sagun et al., 2001: 340), this opportunity decreases the control of the design instructor on the process. In a traditional setting, design instructor has more control over the process and over the students. There is no consensus between the researchers about the beneficial and destructive characteristic of this aspect.

In the traditional design studio, the design process is carried out through the use of graphical presentations (sketches and orthographic drawings) and 3D modeling which are the unique characteristics of the design studio in reflection-in-action learning process. In a way, all these items are the recording of the creative ideas (Reffat, 2007: 47). In a later stage, there is always the chance of turning back and getting feedback from an initial idea that creates a richness of ideas through the process. This and more can be offered through the use of any digital media and working in a VDS setting (Norman, 2001: 88).

The results of the survey highlighted that the general attitudes of the design instructors were not negative towards the utilization of new technologies and ICT. Besides, there was a general consensus that new technologies should be integrated to the existing system in some how. Nevertheless, the levels of integrating these systems seemed to be important for the design instructors. No difference was found among the attitudes of instructors who had different experience levels in computer and ICT use in their design teaching; however there was some statistically significant difference between the attitudes of younger instructors and others. This result could be interpreted in two ways: First, the experience level of young instructors were not enough to understand the concrete and magical structure of the design education, and that is why they may have proposed some changes through technological developments. Second, it could be difficult to learn and utilize the new technologies for the more experienced and older instructors so that they preferred to stay remote from these technologies.

Nevertheless, it is for sure that some revisions should be made in the structure of design studio in order to enhance the efficiency of education. Still one of the most important characteristics of the studio is seen as the mutual relationship between the participants. Through utilization of ICT technologies, especially in synchronous systems, the interaction level could be increased. It is concluded that digital technologies and media are seen as a promising input for the development of design studio process. By the utilization of ICT, the consideration of a re-construction of the design studio instead of a completely new construction of it will enhance the efficacy in design education.

REFERENCES

- Attoe, W., Mugerauer, R. 1991 "Excellent Studio Teaching in Architecture" *Sudies in Higher Education*, 16-1, 41-51.
- Brusasco P. L., Caneparo, L., Carrara, Fioravanti, A., Nevembri, G., Zorgno, A. M. 2000 "Computer Supported Design Studio" *Automation in Construction*, 9, 393-408.
- Dave, B., Danahy, J. 2000 "Virtual study abroad and exchange studio" *Automation in Construction*, 9, 57-71.
- Demirbaş, Ö. O. 2001 *The Relation of Learning Styles and Performance Scores of the Students in Interior Architecture Education*, PhD Dissertation, Ankara, Türkiye: Bilkent University.
- Demirbaş, Ö. O., Demirkan, H. 2003 "Focus on architectural design process through learning styles" *Design Studies*, 24, 437-456.
- Fisher, G., Nakakoji, K., Ostwald, J., Stahl, G., Sumner, T. 1993 "Embedding Critics in Design Environments" *The Knowledge Engineering Review*, 4.8, 285-307
- Geros, V., Santamouris, M., Amourgis, S., Medved, S., Milford, E., Robinson, G., Steemers, K., Karatasou, S. 2006 "A distant-learning training module on the environmental design of urban building" *Renewable Energy*, 31, 2447-2459.
- Kwan, T. 2001 "The pedagogy of virtual design studios" *Automation in Construction*, 10, 345-353.
- Norman, F. 2001 "Towards a paperless studio" *Proceedings of The ARCC Spring Research Meeting Architectural Research Centers Consortium, Virginia: The College of Architecture and Urban Studies at Virginia Tech., Blacksburg*, 85-91.
- Oxman, R. 2008 "Digital architecture as a challenge for design pedagogy: theory, knowledge, models and medium" *Design Studies*, 29.2, 99-120.
- Oxman, R. 2006 "Theory and design in the first digital age" *Design Studies*, 27.3, 229-265.

- Radclyffe-Thomas, N. 2006 "White Heat or Blue Screen? Digital Technology in Art and Design Education" *Journal of Art and Design Education*, 27.2, 158-167.
- Reffat, R. 2007 "Revitalizing architectural design studio teaching using ICT: Reflections on practical implementations" *International Journal of Education and Development using ICT*, 3.1, 39-53.
- Rowe, P. 1987 *Design Thinking*, London: The MIT Press.
- Sagun, A., Demirkan, H., Göktepe, M. 2001 "A Framework for the Design Studio in Web-Based Education" *Journal of Art and Design Education*, 20.3, 332-342.
- Schön, D. A. 1987 *Educating the Reflective Practitioner: Toward a New Design for Teaching in the Professions*, San Francisco: Jossey-Bass.
- Schön, D. A. 1984 "The architectural studio as an exemplar of education for reflection-in-action" *Journal of Architectural Education*, 38.1, 2-9
- Sefton-Green, J., Reiss, V. 1999 "Multimedia Literacies: Developing the Creative Uses of New Technology with Young People" in: J. Sefton-Green (Ed) *Young People, Creativity and New Technologies: The Challenge of Digital Arts*, London: Routledge, 1-11.
- Verma, N. 1997 *Design Theory Education: How useful is Previous Design Experience* *Design Studies*, 18, 89-99.
- Wang, L. Y. 2002 "How teachers use computers in instructional practice-four examples in american schools" *International Journal of Art and Design Education*, 21-2, 154-163.
- Woods, J. 2004 "Open minds and a sense of adventure: how teachers of art and design approach technology" *International Journal of Art and Design Education*, 23.2, 179-191.
- Yıldırım, S., Güvenç, K. 1995 "Mimarlık Eğitiminde Tasarım Atölyeleri" in: M. E. Çakırkaya, A. İneöğlu, N. Paker (Eds) *Mimarlık ve Eğitimi Forum 1: Nasıl bir Gelecek?*, İstanbul, Türkiye: İstanbul Teknik Üniversitesi, 180-186.

A NEW APPROACH ON USAGE OF COMMUNAL GARDENS AND SPACES IN CITIES: A DESIGN STUDIO EXPERIENCES

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ABSTRACT

Our cities are experienced a rapid and uncontrolled growth according to socio-economical factors such as need of job, education, health conditions etc. Because of that reasons people, who live in crowded cities have to live in residential areas with narrow roads, closed and unhealthy conditioned environment and also lack of social facilities and activities.

In a built environment/settlement, it is hard to find a place or space to construct a multi programmed building complex in which social activities, daily life are taken place such as production/ manufacturing- consumption-exhibition- education- relaxation/ entertainment.

Demolishing and reconstructing the settlements will be the frequented way of solution for these cases. In the world, numerous examples of projects and programs that are concerning urban regeneration, housing renovations, and revitalization of old neighborhoods, ignore the local population. The important point for the urban regeneration is to predict a design process without a gentrification.

This study proposes an alternative solution against to aforementioned problem. The main idea for proposal is to use of communal gardens and spaces for supplying the city needs. With the scope of this proposal, finding the answers of questions below;

- Can we use the communal gardens and spaces (which are mostly disused, void, disordered or inactive) inside the building sites for multi-purposes?
- How can we predict a design process of revitalization without a gentrification?
- What kind of inputs and outputs will affect the urban regeneration process?

With the aimed of proposal, as outputs, architecture students design studio studies are selected. Main subject of the design studio is Urban Implant in Istanbul. The design studio for urban regeneration is studied in Kadıkoy-Yeldegermeni which is one of the old historical residential area, was settled initially by the staff of Haydarpasa train station and was grown as a minority settlement up to 5-6th September events.

But today Yeldegermeni becomes a slummed area and it is restricted by the city's dynamics (transportation junction; Haydarpasa train station, rail way, road and sea transportation-commercial and business activities). With the help of design studio experience and results, this study examines the new alternative solutions for city's needs which are grown day by day.

Keywords: Residential areas, Communal gardens and spaces, Revitalization, Gentrification, Urban regeneration.

INTRODUCTION: NEED OF URBAN REGENERATION IN BUILT AND OLD HISTORICAL SETTLEMENTS AND REVITALIZATION WITHOUT A GENTRIFICATION

Old settled cities such as Istanbul have not enough empty spaces for new residential areas, mostly are located in remote regions. Therefore, needs are met on behalf of the old settled and unplanned residential areas that are located in urban centers or peripheries, have come to be considered as a solution again.

In this context, we should find the answers of the question about the issues mentioned in the settlement areas such as; what are the socio-cultural and physical needs? What kind of interventions should be done without damaging the built environment and residents?

In the old settled and unplanned residential areas, residents need spaces for socio-cultural, physical and public activities (gathering-production-exhibition). However, it may be difficult to find space for aforementioned activities. To obtain urban spaces, purchase has been seen as a solution but also it is a process which is expensive and requires long procedures .

But, there are many inhibitive factors in re-integration of old settled residential areas to contemporary urban life. It may be very difficult to get public support for ensuring awareness of neighborhoods in regeneration.

The main reason is the circulation of owners. According to economic situations, houses are assigned to lower income groups. Because of that residents consider their houses and the settlements as temporarily residing, which are also causes corruptions and corrosions more quickly in old settlements. As a result of these, most of the buildings become unavailable or abandoned; deteriorations may be seen in socio-cultural structure and settlement become insecure. Beside of these, to obtain urban space applications for contemporary urban life activities, generally, cause structural damages to old settlements.

Requirements, revitalization and regeneration of unplanned and/or old settlements can be solved by direct financial investments. But it causes increase in cost values and life standards. As a result of these applications; owner of the houses are changed to upper income groups.

Therefore, related to aforementioned problem, this paper, trying to find the answers of questions below;

- What kind of spaces can be used for communal activities in built settlements?
- How can we predict a design process of revitalization without a gentrification?
- What kind of inputs and outputs will affect the urban regeneration process?

USAGE OF BACKYARDS AND SPACES AS COMMUNAL PLACES OR GARDENS IN ISTANBUL SETTLEMENTS

This paper proposes an alternative solution for the above-mentioned problems. Backyards in each parcel of the building land, which are envisaged in the formats of zoning legislation, and also which are mostly disused, void, disordered or inactive, can be combine together with unused spaces for public benefits.

When we look at the settlements in Istanbul; Spaces which are in different sizes and rounded by structures in all sides, are left for the usage of residential requirements. However in practically, these spaces in each parcel have become place of woodshed, stored or disposed materials. Present usage of Parcels doesn't allow relations with each other and using with together. Therefore, backyards can be considered as required spaces for urban and social activities and also public areas instead of unskilled usages. In the same land of parcels, backyard can be combined together and can also be converted to an urban space for multi-purpose activities.

An also this re-arranged space can be related to surrounding streets and other spaces. Thus, within the framework of a major decision, associated urban spaces, which have different programs or activities, can provide public areas. In these urban spaces, actions such as gathering together, producing and exhibiting can be performed. So that, the residents who do not already know each other, can meet and come together for different purposes. This approach can be a solution for the problems of neighborhood, identification and the state of belonging to settlement. However, the most important point that should be considered in this proposal is to find out the scales and quality of the structures in rearranging the urban spaces. Undoubtedly, filling existing spaces with high dense structures would be contrary to the purpose of the proposal.

Therefore, when the selected actions (gathering together, producing and exhibiting etc) are programmed in open or semi-open spaces, indoor activities can be solved underground levels. The relation between ground floor and the indoor spaces must be structuralized in low density and low –storeyed buildings. Thus, unskilled spaces can be rearranged for public benefits. And also if the settlements provide the requirements of new urban life, job opportunities and the economical sources from these mentioned urban spaces, revitalizations can be easily made without external financial and social interventions, which cause gentrification.

Within the context of the proposal; the idea of being part of the new urban dynamics, regeneration, and the using of existing unskilled spaces as public spaces has been processed in architectural studio of Istanbul Kultur University, Department of Architecture, in 2008-2009, fall semester. According to the results, proposal was aimed to evaluate.

A DESIGN STUDIO EXPERIENCE

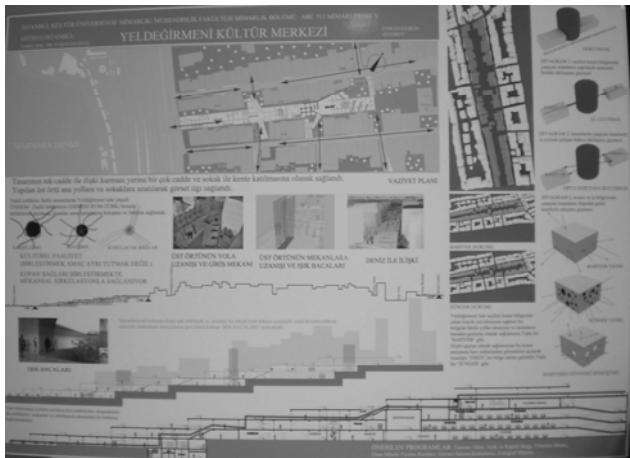
The case of urban regeneration, revitalization and determination of urban spaces were discussed by a work group, under the head topic of "Urban Implant" in

architectural design studio, Istanbul Kultur University, Department of Architecture, 2008-2009 Fall semester.

The design studio group for urban regeneration and urban spaces is studied in Kadıkoy-Yeldegermeni which is one of the old historical residential area, was settled initially by the staff of Haydarpasa train station and was grown as a minority settlement up to 5-6th September events. Which becomes a slummed area at the present time and is also restricted by the city's dynamics and transportation junctions; Haydarpasa train station, rail way, road and sea transportation- commercial and business activities.



Yeldegermeni Visual Communication Project



Yeldegermeni Culture Center Project



Yeldegirmeni Youth Center Project

Scopes of the project, Kadikoy-Yeldegirmeni residential area, usage of the buildings, user's profiles were searched. The following data were obtained during analysis;

Because the old planning strategy, the settlement was built in narrow streets, with attached buildings in close-range building lands

In old settled residential areas, due to economic reasons buildings can not provide the requirements of present life because of that, applications of rearrangement for new functioning (such as office, commercial or small industrial places) cause damages, destructions and additions on houses. And also buildings were used for multi-purposes; Sub-floor commercial, upper floors for housing. Different users in day and night cause the residents not to socialize with each other, which also cause the settlement insecure.

In old settled residential areas; suitable spaces for public activities and urban spaces, are not available.

However, the size of spaces in the backyards and the distance between the buildings are enough for them. With the help of empty parcels and destructed buildings in the building lands, backyards can be related to streets and also other building lands. These backyards are also used as a shortcut to pass from one street to other.

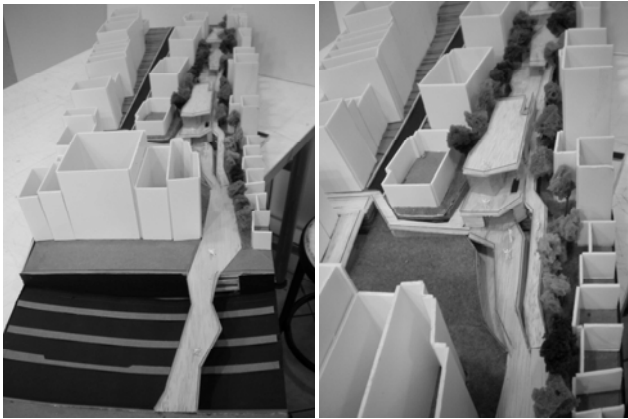
Houses are seen as a temporary shelter for residents.

There aren't any enough places for cultural and social activities to spend time after school.

Various religious and sectarian groups have been isolated from each other. There are no cultural interactions between each other

Residents, who work in other parts of the city, don't have any existent place to gain the daily stress, to meet and discuss the problems of their settlement.

Because of that, it is difficult to create the senses of neighborhood and being part of the district. Therefore, residents don't feel themselves as a member of society



A

Yeldeğirmeni Culture and Communication Center Project (model A)



B

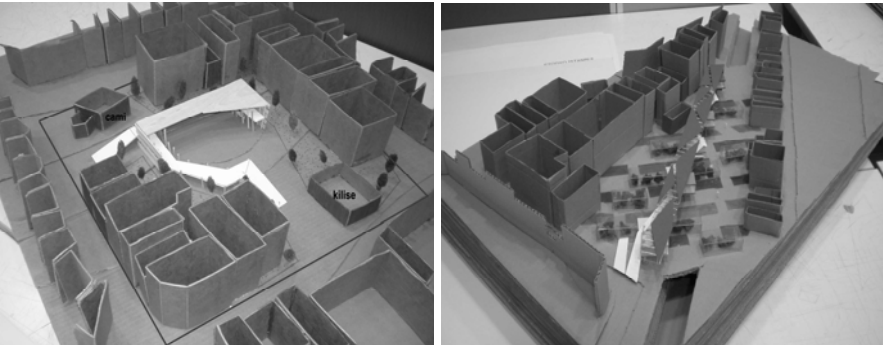
Yeldeğirmeni Visual Communication Project (model B)

According to data, we asked from students to design urban programs including public spaces without gentrification and affecting the socio-cultural structure. With the aimed of these; merging the backyards for multi-purposes and rearranging them as urban spaces were expected from students. Therefore, within the major urban decisions, students were tried to design spaces for public activities which host different programs and activities such as gathering together, producing and exhibiting etc.



C

Yeldeğirmeni Culture Center Project (Model C)



D

E

Yeldeğirmeni Religion and Culture Center Project (Model D)
Yeldeğirmeni Urban Park Project (Model E)

RESULTS OF DESIGN STUDIO STUDIES

Data of users and the location, requirements for socio-cultural activities and daily actions, financial resources and the placements that can be provided from the selected place must be identified correctly in design process. However, we may have an opportunity to make urban regeneration and revitalization without a gentrification.

Kinds of inputs and outputs will affect the urban regeneration process. These are;

To obtain the requirements of contemporary urban life in old settled residential areas, the urban spaces can be provided from backyards and unskilled gardens.

If public activities and the actions are realized in aforementioned urban spaces, different age, gender, religion and sect groups can feel the sense of sharing, owning, belonging, and neighborhood. This would force to regenerate.

Rentable places, which serve to users of socio-cultural programs, can be designed in urban spaces. Income, derived from these places, can reduce operating and repairing costs without need of external financial and social interventions. Therefore, during the urban regeneration and conversion, the circulation of the residents and gentrification can be minimized.

With the help of public activities, educating and training courses and production; job opportunities may be offered for the residents. Thus, the crime rates may be reduced.

By using the existing backyards and unskilled empty parcels as urban spaces, texture of the old settled residential areas can not be destructed or damaged.

CONCLUSION

The results, which are obtained from architectural studio studies, show that by using the existing backyards and unskilled empty parcels as urban spaces, we can provide the requirements of the old settled residential areas and also by designing rentable service places, we can reduce operating and repairing costs without need of external financial and social interventions. So that we may have an opportunity to make an urban regeneration and revitalization without gentrification.

However, the most important point that we have to consider; is to find out the scales and quality of the structures in rearranging the urban spaces. Undoubtedly, filling existing spaces with high dense structures would be contrary to the purpose of the proposal.

This paper, was discussed an alternative design approach to ensure the contemporary urban requirements. Definitely, such different approaches can provide new openings for solving the problems of our cities.

COMPUTER SIMULATIONS TO IMPROVE PERCEPTION OF STRUCTURAL CONCEPTS IN ARCHITECTURAL EDUCATION

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ABSTRACT

Specification of the structural system of a building is one of the most important stages of the architectural design process. Unlike the situation in engineering schools, the classes related to design and analysis of structural system should be integrated with architectural design studios in the schools of architecture. Design of structural system by considering the behavior of the structural system is of utmost importance in the integrity of overall design process. Thus, the students of architecture need to learn the analysis methods that basically focus on the behavior of structural systems.

It is a well-known fact that the students of architecture are apt to learn by means of visual materials instead of theorems, equations and formulas. Utilizing computer graphics could be an effective alternative approach to teach classes related to structural design and analysis in architecture schools. These graphical outputs would help the students understand structural behavior and visualize the design of structural systems more easily.

This study gives the results of applications by using computer models in structure classes and architectural design studios in the Department of Architecture of the Middle East Technical University. Structure classes and architectural design studios were integrated with the demonstrations of computerized models. These applications were beneficial for the students to obtain accurate knowledge on structural behavior during structural design.

Keywords: Architectural education, Computer simulation, Structural design

INTRODUCTION

In architectural education, the classes related to structural analysis and design have hardly ever been accepted by the students and always been assumed as 'the other'. Today, in the world of building design and construction, architecture collaborates with several disciplines to take advantage of modern technology. Among these disciplines, 'Structures' has always been critically important. When the programs in the schools of architecture in various universities around the world are explored,

'Structure' classes stand out by far. When compared to those of the other disciplines, classes that are related to structural design and analysis are different in many aspects. At the first place, structure classes occupy more hours and credits. Another difference is seen at the variety of classes. When the classes of other disciplines are taught only at the basic level, the structure classes start from the basics and might last up to the advanced level. The reason for the variety and emphasis on structure classes in architectural education might be the desire to bridge the very well-known gap between architects and civil engineers.

However, the disagreements between the professions of architecture and engineering could be traced back on the schools of these two disciplines as well. When the design of structural system in buildings is in question, architectural educations all around the world are somehow similar to each other. The architectural design studios, which always occupy more hours and credits than any other class, are reinforced by the technical and theoretical classes that take place in the syllabus. In other words, they could be assumed as the moments of realization of all theoretical and practical knowledge taught that far. Students are expected to create their designs by gathering all information they have had in classes.

Information about the structural system of buildings is transferred to the students in mostly four semesters via theoretical classes such as statics and strength of materials, structural mechanics, reinforced concrete, design of wood and steel structures, and etc. Classes related to behavior and analysis of structures generally start in the second year of architectural education and last at the end of the third year. These classes may either remain in the theoretical level or may be reinforced by laboratory experiments related to the topics. In many architecture schools, besides the compulsory classes, elective classes related to structural behavior and analysis of various structural systems and structural materials are proposed (Unay & Ozmen, 2005).

The curriculums of the classes related to structural design and analysis in the schools of architecture of various universities in Turkey display a similar approach. The subjects covering the behavior, analysis and design of structural systems are generally taught in four different compulsory classes. The series of classes start with 'Statics and Strength of Materials' followed by 'Behavior and Analysis of Structures'. Due to the fact that reinforced concrete is the most common structural material in Turkey and European countries, subjects as reinforced concrete and earthquake behavior are covered under 'Structural Design' heading as compulsory classes in the majority of architecture schools in Turkey.

The basic principles of structural mechanics are given in the 'Statics and Strength of Materials' class while the 'Behavior and Analysis of Structures' covers the numerical analysis of structural systems with approximate methods and behavior of basic structural forms. The 'Structural Design' classes generally include material characteristics of reinforced concrete, dimensioning of reinforced concrete structural members and approximate design of reinforced concrete systems.

Earthquakes and other natural hazards are determinant on structural design in Turkey than the majority of the other countries. Western Europe, Northern Europe, Canada and the United States of America –except for its western coast- do not have

earthquake resistant building design considerations. Influenced by the works of architecture in these countries, where the buildings have limited concerns about earthquake resistance, the students in architecture schools in Turkey may not understand the significance of resistance against lateral loads. In countries with high seismicity such as Turkey, the principles of earthquake resistant building design in architecture should be taught well. The students should always be reminded that earthquake resistance is the primary criteria in building design (Ozmen & Unay, 2004).

ALTERNATIVE TEACHING APPROACH FOR STRUCTURAL DESIGN CLASSES IN ARCHITECTURE

The basic principle of structural mechanics is that the equilibrium of forces in vertical and horizontal directions is zero in plane structural systems. The problems based on the equilibrium of forces could easily be solved with the basics of previous physics classes. The students in architecture schools could use the equilibrium equations and easily draw the axial force (N), shear force (V) and bending moment (M) diagrams of the structural members. However, perception of how to use these diagrams is the real problem. Not only the students of architecture schools, but also students of engineering schools have difficulties in understanding the meaning of these diagrams and relating them with the behavior of real structures (Unay & Atimtay, 1999).

The shear force (V) and bending moment (M) diagrams are taught on simply supported beams that could be analyzed by means of equilibrium equations. However, in real life, there are almost no structures with simply supported beams. The structural systems of buildings are generally composed of multi-story and multi-span frames or continuous beams. The shear forces and bending moments on frames and continuous beams is only possible by matrix analyses of equations with multiple unknowns. Design of structural system by considering the behavior of structural system is of utmost importance in architectural design. Thus, the students in architecture schools should better be taught structural analysis methods that focus on behavior of structural systems. There are approximate methods developed to understand the displacements of structural systems under various loads. To foresee the displacements of a structural system requires experience. Models of the structure could be effective means to display the probable behavior. Also, it is possible to accurately define the structural behavior by using advanced graphics of computer programs (Salvadori, 1971).

Advanced computer technologies have contributed to innovative teaching methods in the recent decades. However, it is not possible to claim that this technology is widely used in structure classes in architecture schools in Turkey. The majority of classes are performed with the classical lecturing approach. The oral explanations of the instructor and the writings on the board are copied by the students. Waste of time is one big disadvantage of this method. Other than waste of time, however, the greater problem seems to be that the students miss some important points emphasized by the instructor. Also, the necessity to draw precisely the sophisticated figures and graphs in a limited time stands yet as another issue.

It is well known that visual material is indispensable in architectural education. This may seem to rationalize drawing the figures and graphs on the board. However, besides the classical teaching approach in structure classes, one could effectively utilize computer-based lecturing techniques to save time and improve the level of understanding. These techniques also cover structural analysis and design software, which is primarily developed for professional use and considerably facilitates the analysis of even the most complex structural systems. Along with their analytical advantages, they enable modeling the structures in virtual environment. Such models are critical for observing and predicting the structural behavior in complex loading combinations and in cases where various structural systems and materials are used together (Unay & Ozmen, 2005).

This type of software could easily be adapted in education. Most software brands develop simplified educational versions of their products to encourage their use by future engineers and architects. Between the years 2004-2007 the software in question were successfully used in Structural Design classes in the Department of Architecture of the Middle East Technical University (METU). The content of the ARCH 332 Structural Design course, which is the final structure class of the undergraduate program, was reinforced by the extensive use of analytical computer models and simulations. Besides, having utilized computer software, students were also encouraged to learn how to operate and use the software in their design projects through elective classes such as ARCH 435 Computer Analysis of Building Structures course. An example of such a study is demonstrated in Figure 1 where a well-known building is observed in terms of its architectural qualities and structural behavior.

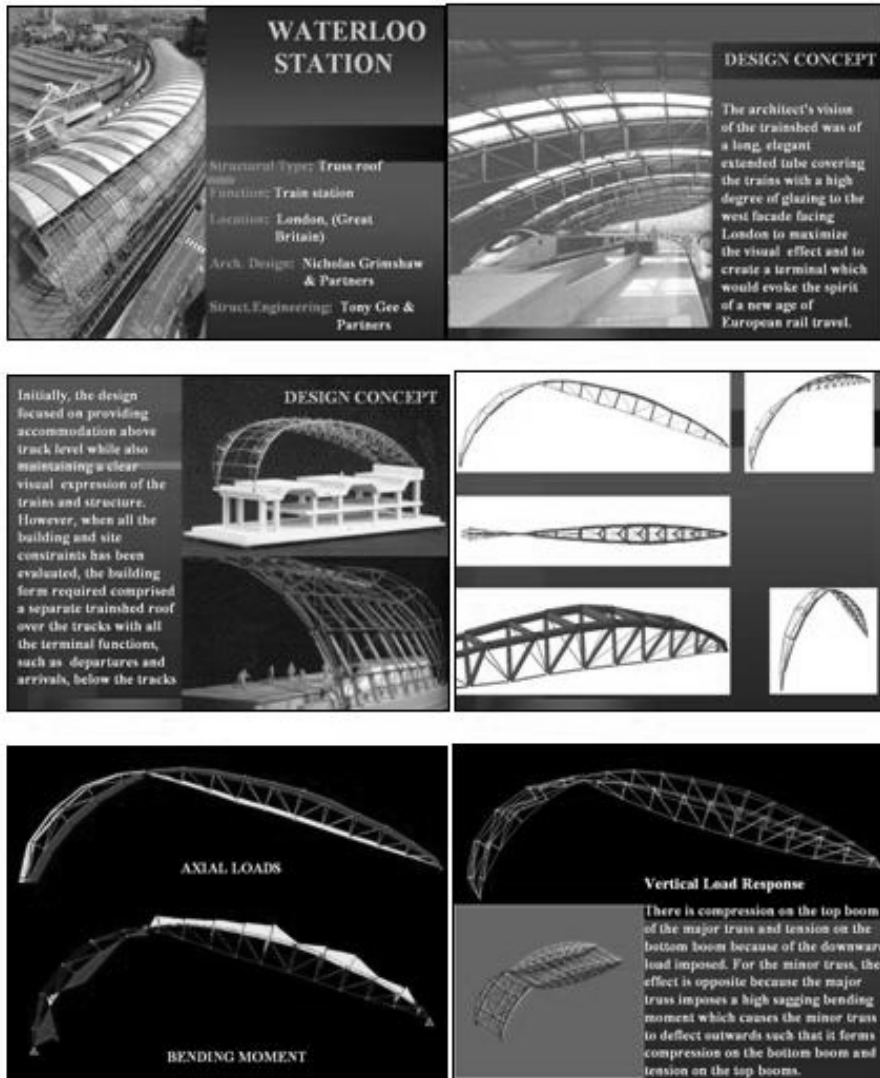


Figure 1. Selected slides from a computer-based lecture

INTEGRATING COMPUTER MODELS WITH ARCHITECTURAL DESIGN STUDIOS

Advanced computer technology has become indispensable in teaching as it has been in the other fields. Apt to use graphic data, the students of architecture would benefit effectively the computer programs in design process. The elective class, 'Analytical

Modeling and Computer Analysis of Structural Systems' offered in the undergraduate program of the Department of Architecture in METU covers teaching analytical modeling techniques to the students who would like to analyze structural systems by computer.

The students of architecture are generally distant to this kind of software, which is more commonly used in engineering departments. However, a sudden increase in interest to the structural analysis programs was observed in the Department of Architecture in METU after the animated graphs were used. As it is seen in the Figure 2, the structural behavior that is taught by classical methods in the classes is verified by the analytical model. In other words, the computer programs that are thought to be used only in engineering calculations could also be utilized in architectural design. This, thankfully, would help to possess a general idea about interpreting engineering calculations.

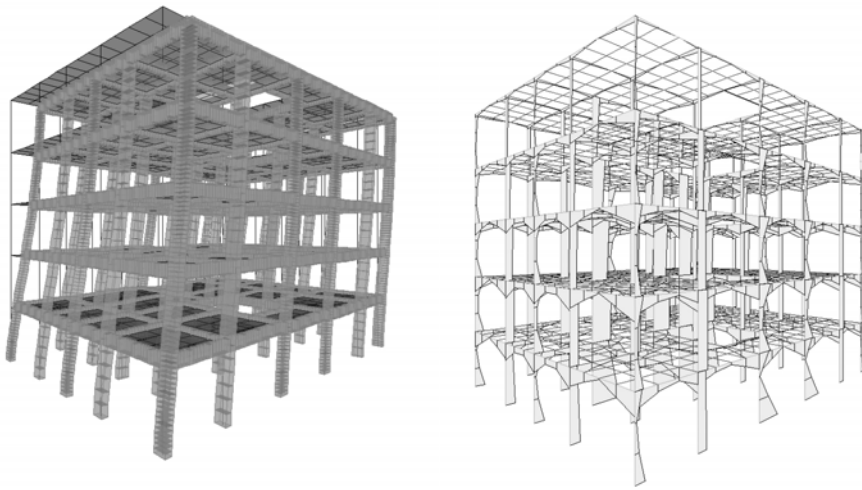


Figure 2. Computer analysis of a multi-story frame with multiple spans

In the Department of Architecture in METU, the first project in the third year architectural design studios predominantly is the design of a structural system in both the fall and the spring semesters. As a pilot study, the student designs of the third year projects between the years 2005-2007 were analyzed by computer software, and the graphic outputs were used in the presentations. By means of the computerized models, the students, especially those who designed sophisticated structural systems, were able to observe the structural behavior of their designs under various loads. Observing the behavior of the structural system was not the only income of the computerized models. As it is seen in the Figure 3, some students used the structural analysis program as a means to embody their designs by parametrical analyses in accordance with structural behavior (Erkilic, G. 2007).

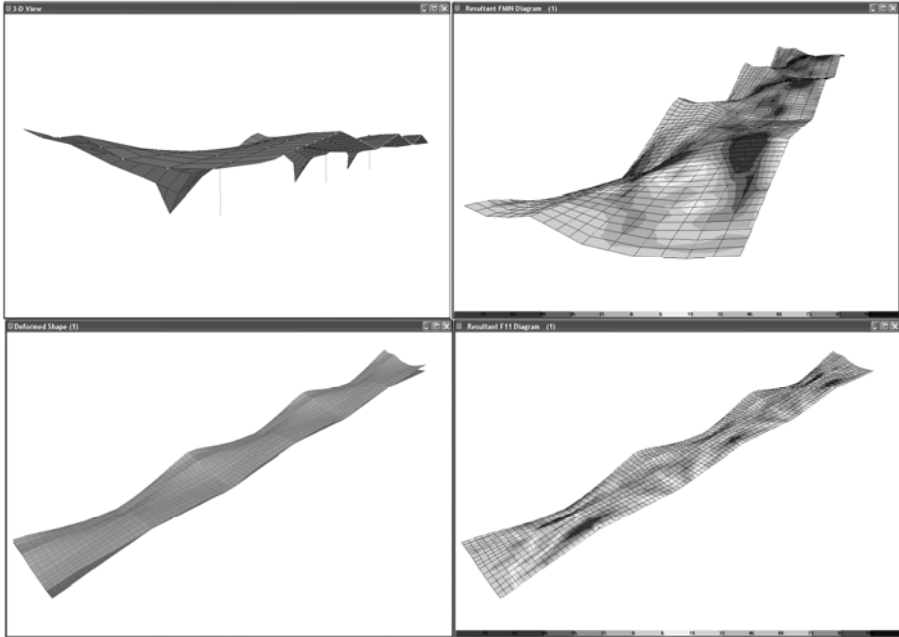


Figure 3. Design by structural analysis program (by Gokcen Erkilic, Department of Architecture-METU, 3rd year student)

A further step in the demonstration of examples can be the selection of the case studies from existing buildings or components similar to actual architectural conditions. This way, the students can relate the abstract and idealized conditions they encounter in the exercises to the real life environment and begin to use them in their design work. The pilot study of this approach was performed in ARCH 332 Structural Design course. The sample computer based lecture demonstrated in Figure 4 explains the load transfer mechanisms, general structural behavior and constructional characteristics of a well-known factory building.

Establishing an interactive format for the theoretical part of the structure lectures is somewhat of a more difficult challenge due to restrictions of time, program and technological substructure. Application of methods like assigning the students with research based homework and small-scale structural design projects are rather ineffective because of extreme pressure of the total workload on the students of architecture. Nevertheless, with the use of time saving computer-based teaching technologies and increasing the amount of visual materials in classes, attention and participation level of the students can be increased and an environment of mutual interaction can be created. A certain amount of class time can be assigned to discussion sessions where teachers and students can talk about the physical meanings and the practical use of the theoretical concepts covered in lectures.

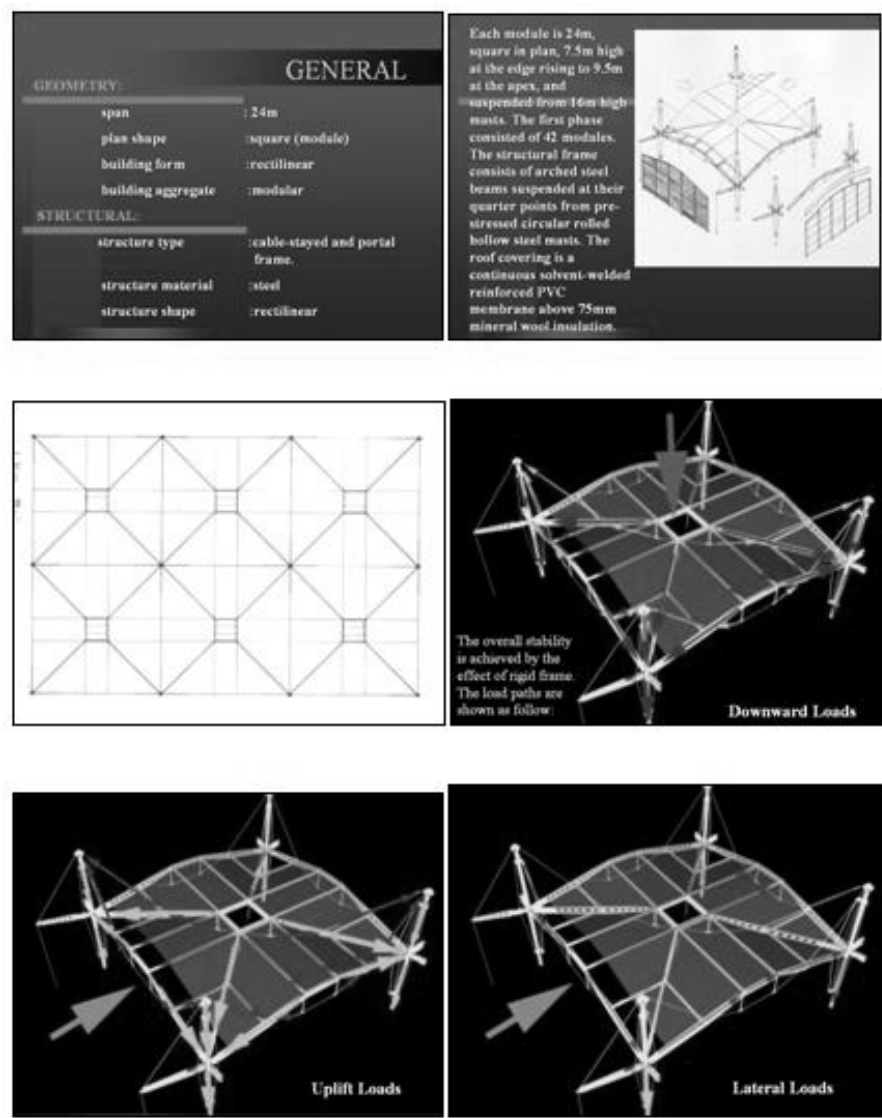


Figure 4. Pilot lecture for ARCH 332 Structural Design I class

CONCLUSIONS

Specifying the structural system of the buildings is a critical phase of the architectural design. In other words, it is a very important task of architects. In architectural education, the classes related to the design of structural systems should be taught in

accordance with the architectural design studios unlike the education in engineering departments.

The students of architecture should understand that the structural system is a very important part of the design. They should well perceive that as the design process is a whole with all of its constituents. The best way to achieve this perception would be utilization of computerized analytical models that have more efficient visual explanation than sophisticated equations and calculations during their education. It should also be considered that the analytical models alone would not be sufficient. The scaled model, produced by the student as the representations of the project is still an indispensable part of architectural education. While supervising the students, it should be explained that their models should be composed of materials that would accurately represent the structural behavior. These models would not only enable to visualize the project, they would also help reinforce the knowledge of structural behavior developed from the analytical analysis.

It is the task of the schools of architecture to increase the feeling of responsibility and professional skills of the young architects for a safe built environment against environmental effects and natural hazards. It should be kept in mind that an appropriate structural system that is specified during the very early stages of architectural design process would contribute not only to strength but also functional and aesthetic quality of the building.

Parallel to the fact that the built environment would be more vulnerable to natural hazards and climatic changes in the future, technical and technological components of architectural design would become more important than ever. Thus, the classes related to technological aspect of design should be well-integrated to architectural design studios.

REFERENCES

- Erkilic, G. (2007), Project for ARCH 301 Architectural Design Studio.
- Ozmen, C., Unay A. I. (2004). A Cost-Based Analysis of Typical Architectural and Structural Design Faults in Reinforced Concrete Buildings in Turkey. In A. Zingoni (Ed.), *Proceedings of the Second International Conference on Structural Engineering and Computation; Progress in Structural Engineering, Mechanics and Computation*, (pp. 573-576). A. A. Balkema Publications, The Netherlands.
- Salvadori, M. (1971), *Statics and Strength of Structures*, Prentice-Hall, Inc., New Jersey.
- SAP2000 NONLINEAR Version 7.1 Three Dimensional Static and Dynamic Finite Element Analysis and Design of Structures, Integrated Finite Element Analysis and Design of Structures, Integrated Structural Analysis and Design Software, Product of Computers and Structures, Inc
- Unay, A. I., Atimtay, E. (1999). Developing Earthquake Consciousness in the Architect. In M. Voyatzaki (Ed.), *Architecture and Engineering The Teaching of Architecture for Multidisciplinary Practice*, (pp. 267-270). Art of text S. A., Thessaloniki, Greece.
- Unay, A. I., Ozmen, C. (2005). Building Structure Design as an Integral part of Architecture: A teaching Model for Students of Architecture. *International Journal of Technology and Design Education* , 16, 253-271.

A CASE OF LEARNING FROM PAST

A Guideline for Architects: Architect Sinan's Selimiye Mosque in Edirne

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Mutlu Seçer, Özgür Bozdağ, İlker Kahraman, Yeşim Kamile Aktuğlu*

Examination of Şehzade Mehmet Mosque

*Mine Tanaç Zeren, Özgül Yılmaz Karaman, Mutlu Seçer,
Özgür Bozdağ, İlker Kahraman, Yeşim Kamile Aktuğlu, Müjde Altın*

Learning from Past: Edirnekapi Mihrimah Sultan Mosque

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İlker Kahraman, Yeşim K. Aktuğlu, Müjde Altın, Mine Tanaç*

Discussing Livable Environment Perspective by Examining five Different Restored Structures in Turkey

*Gökçe Bilişik, Gözde Akman, Güngör Engür,
Gökhan Taşpınar, Hilal Altıngargı*

A GUIDELINE FOR ARCHITECTS: ARCHITECT SINAN'S SELIMIYE MOSQUE IN EDİRNE

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Özgür BOZDAĞ*, İlker KAHRAMAN, Yeşim Kamile AKTUĞLU

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ABSTRACT

One of the best guidelines for the architects is the masterpieces of great architects. Therefore Sinan and his masterpiece Selimiye Mosque in Edirne is one of the best guidelines for architects due to the fact that this building is standing in Edirne and also it is still being used today for more than 400 years after its construction in 16th century.

This mosque is the masterpiece of the Architect and was commissioned by Sultan Selim II between the dates 1568-1574. This grand mosque stands at the center of a kulliyya, (which comprises a medrese, a dar-ul hadis, a timekeeper's room and an arasta). In this mosque, Sinan employed an octagonal supporting system that is created through eight pillars. By means of this structural system using only one main dome supported by eight pillars he encompassed the largest spans during this period with masonry materials supported by iron bars. But he didn't create this solution at that time, he came to this solution after constructing many buildings and also constructions, and after trying different solutions in these constructions. Therefore it gives us many clues about a good, functional, aesthetic and sustainable construction.

Therefore, the aim of this study is to examine Selimiye Mosque in the context of history, the space organization, the structure, acoustical and daylight performances in order to prove that every detail of the building teaches many things to the ones who examine it.

Keywords: Sustainability, Architect Sinan, Selimiye Mosque, Guideline

INTRODUCTION

It is necessary to re-construct a building sometimes. But it is more sustainable to construct a building that does not need to be deconstructed and reconstructed. That kind of buildings are designed by skillful architects generally. But young architects can also design sustainable buildings by looking at the skillful architects before them. Therefore, the work of skillful and talented architects are a kind of guidelines for young architects to follow. Because construction is such a difficult work that you cannot try and change easily after you try. Therefore an architect should be very careful in order not to make mistakes.



Figure 1. Selimiye Mosque

Due to the fact that Architect Sinan's Selimiye Mosque is one of the best examples to describe sustainability since it stands still for more than 400 years, this building and how it could have provided its sustainability until today is examined in this study from different viewpoints, its history, the mosque's description, its structural system and structural properties, daylighting, acoustical performance and the LCA methodology, in order to show that it is a guideline for architects today.

THE HISTORY AND DESCRIPTION OF SELIMIYE MOSQUE

Selimiye Mosque is one of the masterpieces of world architecture history. It is situated in Edirne one of the capitals of Ottoman Empire before Istanbul was raised as the capital city of the big Empire. It is also the masterpiece of great architect Sinan. The mosque was commissioned by Sultan Selim II and built between 1568 and 1575.

Sinan in his greatest mosque managed to compass a huge span with an octagonal, central dome supported by eight huge pillars. There are also four semi-domes at the corners of the square behind the arches. The mosque was surrounded by four tallest minarets among the Muslim World. A rectangular courtyard with an equal size of the interior was placed in front of the mosque.

The mosque is situated in the center of a Külliye (complex of a hospital, school, baths, marketplace around mosque), surrounded by a medrese (academy of Islamic religion), a dar-ül hadis, a timekeeper's room and an arasta (a marketplace) [Kuban 1997].

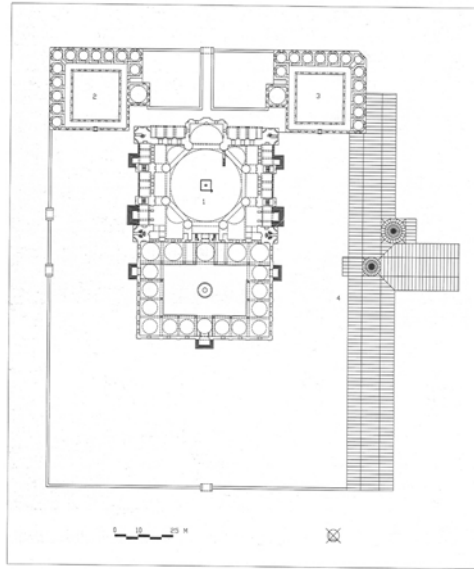


Figure 2. Selimiye Mosque and its Külliye (Kuban, 2004, s:130)

ITS STRUCTURAL SYSTEM

Selimiye Mosque is one of the masterpieces of world architecture history. The Mosque belongs to the Sultan Selim Foundation and placed in Edirne-Central New district. The Mosque which is one of the symbols of the Ottoman Empire and Edirne city. Sultan Selim ordered Mimar Sinan to build a mosque in 1569 and Sinan achieved to complete the construction in 1575.

Interior of the Mosque was 1602 m² and built by cut stone. Selimiye Mosque is settled on 2475 m² area and described as the mosque constructed on the largest area. The main dome diameter is 31.30 m. and the height is 43.28 m from the base and its weight is approximately 2000 tons. Diameter of the main dome is slightly greater than Hagia Sofia and supported by 8 huge columns which are connected with 6 m. wide arches. Main dome is supported by five semi-domes, four of them are at the corners and the last one is placed at the Mihrap. The four semi domes at the corners of the square behind the arches that spring from the pillars, are intermediary sections between the huge encompassing dome and the walls.

The plan of the mosque is rectangular and surrounded by four minarets at the corners. This Mosque plan is one of the most successful examples for 8-support-

mosque plan. There are four elegant minarets with three Serefes. The diameter of each minaret is 3.80 m. and the height is 70.89 m. All Serefes have different stairways going up and these stairways do not intersect with each other.

The Mosque has the second highest minarets after the Kutb-Minar in Delhi, India. Indeed the minaret of Kutb-Minar is thicker than Selimiye's minarets. Hence the weight of the enclosed dome is balanced with the vertical extension of these slender towers. At the Bulgarian siege of Edirne in 1915, the dome of the mosque was hit by Bulgarian artillery. The mosque survived the assault with only minor damage on the dome. It has not been restored since then, to serve as a warning for future generations.



Figure 3. Selimiye Mosque Interior: Main Dome, Semi-dome, Pillars and Mihrap Wall

Architecture technique of Selimiye is different from the previous Byzantium and antique age architecture. In general, main dome is usually built on semi-domes but in Selimiye Mosque main dome is directly supported by eight pillars which are connected by arches. This architecture style makes people feel the width and feel themselves comfortable. The structure can be understood easily. Dome also defines the outer shape of the mosque. The interior of the Selimiye contains a more illuminated and ample space. The mosque is located in an outer courtyard which rings the complex. The area designated for late arriving worshippers is encircled by 18 columns and 22 domes.

STRUCTURAL PROPERTIES: IRON BARS

Selimiye mosque, having a dome with a diameter of 31.22m and having a height of 42.25m, is still welcoming you, on the hill across the highway entering Edirne, since 1575, when his construction is completed after 7 years(1568-75) [Günay 2007].

With its four minarets, all having the same height as 71m. and with its central dome, creating a total space for prayers above the 8 jumbo columns, Selimiye Mosque is having a double iron bar system between the columns, which compose the corners of the plan, to put the dome in a more stabilized position.

Also there are iron bars between the spans of four semi-domes around the central dome to share the loads coming from the surface of the central dome. Because of the loads in the meaning of pressure, the iron bars are carrying the tension loads to prevent the deformation of the dome structure while completing the circle at the bottom of the dome. The other iron bars are between the arches at the lower level.

In the courtyard, and at both sides of the mosque in the garden at the entrance places, there are again iron bars to complete the masonry arch structure with iron bars as a complete structural form.

At the upper level, the iron bars are double because of the jumbo columns while they are completing the square corners to triangle forms.

The ironbars at the both sides are connecting the supporting walls of the main outer surrounding walls of the mosque.

As a conclusion, iron bars structural system of Selimiye Mosque, are very important feature of the main structural system, making the construction of the mosque easily in a more durable situation from the point of sustainability of its construction.

DAYLIGHTING

There are 32 windows situated at the bottom of the dome. These windows with the ones below the dome that are situated in 6 lines illuminate the interior of the mosque. These windows helped Sinan produce a cage-like building which is full of light [Kuban, 1998]. According to Kuban [1998], the main criterion of Sinan's design was not the dome but the pergola (summerhouse) with the dome. Therefore daylighting has great importance in Selimiye Mosque. Sinan also added many candles to the interior to sustain the effect of light during night. This also shows the importance Sinan gave to his design.

The window lines which are located from the bottom of the dome until the floor all have different functions. The ones at the bottom of the dome illuminate and state the dome. The ones at the rear walls and under the big arches illuminate the interior of the mosque. The ones that are in the same level with the praying people connect the interior with the exterior. The ones in the southern wall are constructed from coloured stained glass. This is for preventing the praying people's eyes from the direct illumination due to the fact that in mosques people are standing against the Kible that

is towards south in Edirne. It is said that some of these glasses are from Murano glass [Kuban, 1998].

Another function of the windows is to provide the unity with the outer environment. The windows in Selimiye Mosque that go down until almost reaching the floor provide the visual unity with the environment. This does not prevent people do their prayers due to the fact that the prayer in Islam is up to people and their will, and it shouldn't be effected with the outer environment. The result should take people towards lightness, not darkness.

ACUSTICAL PERFORMANCE

Material selection is one of the most important factors that effect the acoustical properties of an enclosed space. And according to the needs of the use (house, office, theatre,...etc.) that is taking place in the space, it is possible to make many combinations with different materials to obtain most appropriate results. But to be able to make right decisions about the reflective or absorbtive surfaces, also materials' behaviour to the sound wave should be considered first. Besides making the choice for good acoustics, a designer also should consider about the other features of the materials which are applied on surface of the walls, floor and ceiling, such as resistance to the public use, fire safety, adaptability, cost-performance relationship...etc.

In Mosques, music practice is usually not used while praying. It is more important to be concentrated as much as possible during the pray. But, on religious days, a special session named as 'mevlid' is held and in this session musical function is more emphasized. Another activity is speech, which is made by muezzin (religious officer) in the mosque. With this idea, it can be said that long reverberation times should be avoided, since it interrupts the speech intelligibility. On the other hand, interior noise level is very important especially while people are trying to concantrate on pray.

In Selimiye, Sinan selected a local stone as basic structural element. From the point of view sound insulation, thick stone walls of the construction can achieve good insulation performance against unwanted noise.

If the interior is considered, it is not easy to design such a big volume without dealing with the acoustical problems. But Sinan's unique work shows that he thought about the acoustics of the mosque from the beginning of the design. The materials that are used in the interior, such as plasters and magnificiant examples of "çini" has the reflective character and this probably causes long reverberation time in the mosque. But on the other hand, the carpet that is covering the entire floor could help to absorbe some sound energy. And he installed cavity resonators around the dome to prevent echoes that dome can cause [Kayılı 2005]. But these resonators are unfortunately can not be seen today, because, the mosque has had some restorations and it is thought that during the restoration processes openings of resonators had been filled.

IS IT POSSIBLE TO USE LCA METHODOLOGY FOR SELIMIYE MOSQUE?

A product's life cycle starts when raw materials are extracted from the earth, followed by manufacturing, transport and use, and ends with waste management including recycling and final disposal afterwards. At every stage of the life cycle there are emissions and consumption of resources. The environmental impacts from the entire life cycle of products and services need to be addressed. To do this, life cycle thinking is required. [www.sustainableabc.com]

Life Cycle Assessment (LCA) is a tool for the systematic evaluation of the environmental aspects of a product or service system through all stages of its life cycle. LCA provides an adequate instrument for environmental decision support. Life cycle assessment has proven to be a valuable tool to document the environmental considerations that need to be part of decision-making towards sustainability.

The concept of life cycle assessment (LCA) originated in the late 1960's when it became clear that the only sensible way to examine industrial systems was to examine their performance, starting with the extraction of raw materials from the earth and tracing all operations until the final disposal of these materials as wastes back into the earth (cradle to grave).

LCA originated in the late 1960's and stil developing but Selimiye Mosque which we are investigating with this paper was built in 1574. Nearly 400 years before LCA methodology. Because of this time period we can not take into consideration the CO₂ emissions caused by the fossils fuel during the transportation of the materials of the mosque...

The emergence of Life Cycle Assessment started with the undertaking of studies that aimed to optimise energy consumption in a context where strong energy consumption represented a restraint for the industrials (costs, possible boycott ...) But during 16th century there was no need to optimise energy consumption.

Construction needs to be viewed against developments in other areas of technology. The 20th century has seen remarkable developments in material technology, and the two dozen materials available at Victorian forebears has been replaced by anything between 40 000 and 80 000 different materials. Whereas the two dozen materials of the 19th century would be used to meet all known applications (during 16th century materials were less than one dozen), builders and engineers now have a bewildering array to choose from.

During the first half of the 20th century, up to around 1960, most of technology apart from construction was based on metals. Since 1960, other materials such as polymers, ceramics and glasses, composites, etc., have seen significant development, and such materials find wider and wider applications, supplanting metals in many situations [Coney 1999]. Because of this variety we need to compare materials in order to use the most proper one. But again in 16th century Architect Sinan used stone for his buildings. To build a huge building at those years stone was the only material for him. We can not compare any other material with stone for 16th century.

We are using LCA methodology in order to choose the right material for our structures. For example concrete is one of the most widely used construction materials in the world. However, the production of portland cement, an essential constituent of concrete, leads to the release of significant amount of CO₂ a greenhouse gas ; one ton of portland cement clinker production is said to create approximately one ton of CO₂ and other greenhouse gases (GHGs) [T.R Naik, Gmoriconi]. We are building structures using cement in 21st century and we give a great harm to our environment but 400 years ago our master Sinan used natural materials for his structures and gave minimum damage to the environment. He never needed to use a methodology like LCA. By the help of new technology the diversity of the materials are increasing but the pollution caused during the production of the new materials is also increasing.

LCA methodology, by the help of different softwares such as SimaPRO, GaBI, RMIT, TEAM, etc., deals with life cycle cost of the structures for architecture. There will be an initial cost and a future cost, which consist maintenance costs also. Selimiye Mosque is still serving us for more than 400 years with only little touch ups.

Because of the reasons above we can say that it can be not so suitable to use LCA methodology for Selimiye Mosque. But by the help of the LCA methodology's way of thinking we can decide that Selimiye Mosque is one of the best natural structures of the world which gave minimum damage during the construction period and which is still giving us a perfect charming effect after 400 years. By the help of LCA methodology's way of thinking we can decide that Selimiye Mosque is a sustainable structure.

The word 'sustainability' first defined in Brundtland Report in 1987, LCA methodology first used in 1960 and Selimiye Mosque is built in 1574 as a sustainable structure.

CONCLUSION

Mimar Sinan's buildings and structures are the foundation of a sustainable future of Turkish Architecture. Here it is aimed to introduce a global view over the Selimiye Mosque. Because this building is a monumental building, in order to make it sustain as long as possible, the building materials are chosen to be durable as possible. As a result of this fact, by the durability of the structural materials that are used in Selimiye Mosque, this building has provided its sustainability. In this paper it is stated that Selimiye Mosque illustrates the importance of a perfectly constructed building with its durable structural materials and provides sustainable solutions in the construction sector. Therefore it can be said that Selimiye Mosque of Architect Sinan is one guideline for young architects to follow in order to design and construct sustainable buildings.

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REFERENCES

- Egli, Hans G. (1992), *SINAN, An Interpretation*, Ege Yayınları, İstanbul.
- Evison, A. 1980, *Oxford Keys English Dictionary*, Oxford University Press, Great Britain.
- Goodwin, G. (1971), *A History of Ottoman Architecture*, Thames and Hudsins Press, London.
- Günay, R. (2007), *SINAN The Architect and His Works*, 5th edition, YEM Yayın, İstanbul, 96-105.
- Kayili, M. (2005), *Acoustic Solutions in Classic Ottoman Architecture, Foundation for Science and Civilization*, Publication ID: 4087; United Kingdom.
- Kuban, D. (1997), *Sinan'ın Sanatı ve Selimiye*, Türkiye Ekonomik ve Toplumsal Tarih Vakfı, İstanbul.
- Kuran, A. (1986), *Mimar Sinan*, Hurriyet Vakfı Yayinlari, İstanbul.
- Naik, T.R. & Moriconi, G. , *Environmental –friendly durable concrete made with recycled materials for sustainable concrte construction*.
- Pierpont, A. (2007), *Sinan Diaryz. A Walking Tour of Mimar Sinan's Mouments*, Çitlembik Publications, İstanbul, 124-131.
- Sturges, J. , *Towards Sustainable Construction Materials Selection For New Milenium*.
- Usal, A. (2006), *Selimiye Camii*, Edirne Vergi Dairesi Başkanlığı, Edirne.
<http://www.sustainableabc.com/lca.html>
http://www.ecobilan.com/uk_lca02.php
<http://www.uneptie.org/pc/pc/tools/lca.htm>
http://www.theottomans.org/english/art_culture/edirne.asp

EXAMINATION OF ŞEHZADE MEHMET MOSQUE

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ABSTRACT

Architect Sinan's works can be evaluated as suitable case studies. Although Sehzade Mosque is one of the preliminary mosques of Architect Sinan, the building can be taken as an important example in the meaning of examination.

In this paper, Sehzade Mosque will be examined in the meaning of space organization, the structural system behavior, the structural elements, acoustical and daylight performances. These items will be the subtitles of the main paper. It is expected that this study would make a contribution to space organization and structural behavior of buildings for achieving sustainability of buildings. Although there have been a lot of studies done about Sinan's buildings and architecture, the originality of this paper will be that it combines all the items (architectural and structural elements) together and discusses them.

Keywords: Architect Sinan, Sehzade Mosque

INTRODUCTION

Sehzade mosque was situated in the middle of a complex consists of a mosque, a medrese, primary school, hospital, stable, caravanserai, time keeper's room and thombs. Suleyman the Magnificent dedicated this mosque to his son after his son's death, and this mosque is called as "Şehzade" in the name of Suleyman's son. Sehzade Mehmet Mosque was established in the years between 1543-1548 in Istanbul Eminönü, near Fatih and Bayezid Kulliyes, on a plane area where is dominant within the city [1].

The mosque is roofed by a central dome, and by four half domes or semi-domes. The plan of Sehzade Mosque was adopted in the design style of 17th century mosques plan schemes, such as Sultan Ahmet Mosque or Yeni Mosque. The central dome is nineteen meters in diameter, and thirty-seven meters in height, and constitutes a square baldaquin with pendentives. The roof is carried to the sides of the building by means the half domes surrounding the central dome. There are also independent domes in the corners of the ceiling of the mosque. The lack of galleries gives the

interior a greater spaciousness and daylight. Solid walls are replaced by a colonnade, which gives the mosque its uniqueness.



Figure 1. Şehzade Mosque (Source: Mutlu Seğer, June 2008)

DEFINITION OF THE MOSQUE

Urban Context

Şehzade Complex is situated between Fatih and Bayezid complexes. It stood on a flat site looking onto both the Golden Horn and Marmara Sea. However today, it has been surrounded by dense urban tissue that it is impossible to see neither the Horn, nor the sea from where the mosque stands.

The complex consists of the mosque, the tomb of Prince Mehmet, school, madrasa, kitchen for the poor, time keeper's room and the caravansarail. The mosque and its courtyard are surrounded by a wall that separates them from the rest of the complex [2].

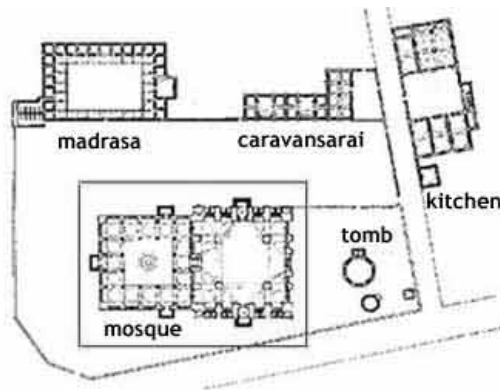


Figure 2. Şehzade Mosque and its Site Plan (Source: Mine Tanaç Zeren, July 2008)

The medrese forms the northeast wall of the outer courtyard. It is asymmetrical in plan. It contains a classroom and 20 cells. Like the mosque, it is adorned with polychrome stonework and rows of palmettes. The primary school is located on the south side of the outer courtyard. It has a single dome 7.50 m in diameter. The classroom has a fireplace and a single dome. The original entrance portico has not survived. The İmaret is located in the southern part of the complex. It comprises a kitchen, refectory, storeroom and pantry arranged around the courtyard. The tabhane (hostel) is built on a very simple plan. Entered from the outer courtyard mosque, it consists of two equal but independent sections, each with a plan resembling that of a domestic dwelling with four rooms opening on to a hall [3].

Architectural Context and Structural System

The building has a closed square planned worshipping space, and covered with a square planned open colonnaded courtyard space. The two minarets with two şerefe elements, located on the entrance facade are the most remarkable elements of the mosque. The square worshipping space is covered by a central dome, flanked by four half domes.

This mosque is the example of the ultimate in evolution phases of the square planned mosques with a central dome covering within the Ottoman Architecture tradition. The early phases of the evolution of the mosques are Edirne Uc Şerefeli Mosque, Fatih Mosque and Üsküdar Mihrimah Sultan Mosque [4] Şehzade Mosque is one of the most notable mosques of Sinan, attributed to be the first major large scale work after he had been appointed as the "chief architect"



Figure 3. Şehzade Mosque Minaret (Source: Mine Tanaç Zeren, July 2008)

The building preserves its original form, structural system, structural materials, and its usage confirmation from the time being of the period it has been established. The building stands still by maintaining its original structure system, and original structural materials, and carried them till today despite the five hundred years of building life.

Şehzade Mosque as mentioned above is surrounded by an inner collonaded courtyard with an area equal to that of the mosque itself. At the center of this courtyard there is a fountain (sadırvan) for ablution facilities which reduces the interior of the courtyard space to human scale as well.. The same proportioning of the square plan of the mosque is repeated at the courtyard. The courtyard is surrounded by a portico, covered by 16 little domes. It is one of the most balanced courtyards in Ottoman Architecture.



Figure 4, 5. Şehzade Mosque Courtyard and the Fountain in the center of the Courtyard (Source: Mine Tanaç Zeren, July 2008)

The mosque itself has a square plan, covered by a central dome, flanked by four half-domes. The dome is supported by four pillars, and has a diameter of 19 meters and it is 37 meters high [5]. It was in this building that Sinan first adopted the technique of placing collonaded galleries along the entire length of the North and South facades in order to conceal the buttresses.



Figure 6. Collonaded Galleries (Source: Mine Tanaç Zeren, July 2008)

The central dome was supported by four half domes-semi domes in four directions-South, North, east and west- in the shape of a four leaf clover. The corners of the square plan is covered by four smaller domes as seen in the drawings of figure 7. The loads of the covering system is carried to the ground by four main pillars and by load bearing stone walls located on each side of the mosque. The strength of the load bearing walls are reinforced by buttresses, and by this way the loads of the covering system stabilized by semi domes and exedras. As an extension to this system, four gravity domes are added at the corners of the central square part where the main dome covers, and sides of semi domes to prevent the arcs to be opened.

The interior of the mosque has a very simple plan without galleries. The combination of the square plan and the dome surrounded by four semi-domes is unprecedented in Islamic Architecture.

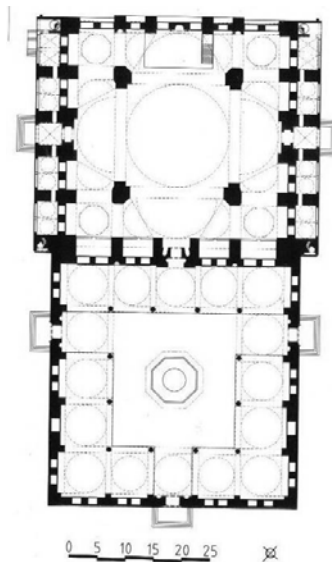


Figure 7. Şehzade Mosque's Plan Scheme (Kuban Doğan,2004, pp: 71)

Sinan has worked out a 5/5 modular plan, dedicating 3/3 area to the main dome. This way of planning make the centrality more effective. Moreover, Sinan has tried to make the pillars more slender again to optain the centrality [6]. The domes are identical in size and height. Yet, the pillars in Sinan's later mosques are integrated more into the interior, sort of vanishing in the space and decoration like in Süleymaniye Mosque or in Selimiye Mosque. Whereas, in Sehzade Mosque, as it is the first large scale mosque by Sinan, the pillars are stil massive and visible. Transition from pillars to the domes is handled by four large arches. The two minarets located at the corners of courtyard and the worshipping buildings are the two main elements which ties these two spaces structurally.

In addition to the rasonality of mosques structural system principles, the vertical structural elements which are coloumbbs are located in the portico of the courtyard are connected to each other by square sectioned iron bars. In the courtyard, and at both sides of the mosque in the garden at the entrance places, there are again iron bars to complete the masonry arch structure with iron bars as a complete structural form.

The main worshipping buildings load bearing walls and the walls of the courtyard are tied to each other by the same type of iron bars as well to strengthen the stability of the system. The same case is obtained also within the dome elements. There are iron bars between the spans of four semi-domes around the central dome to share the loads coming from the surface of the central dome. Because of the loads in the meaning of pressure, the iron bars are carrying the tension loads to prevent the deformation of the dome structure while completing the circle at the bottom of the dome. In the interior space, either the small semi-domes under the main semi-dome on the mihrap wall or the other smaller semi-domes located under the other tree main semi-domes are tied with steel bars. As a conclusion, iron bars structural system of Şehzade Mosque, are very important feature of the main structural system, making the construction of the mosque easily in a more durable situation from the point of sustainability of its construction.



Figure 8, 9, 10. Şehzade Mosque Interior Main Dome – Half Domes supporting Main Dome – Main Pillars (Source: Mine Tanaç Zeren, July 2008)

Daylight and the acoustical performance of interior space are the most important items to be obtained within the religious buildings. As the structural system depends on the pillars, arches, the dome and semi-domes, the walls are freed of load and thus are perforated as much as possible to let the daylight in. Also, the mihrap wall has openings. Essential daylight is obtained from this wall into the interior. The lack of galleries gives the interior a greater spaciousness and daylight. Sinan also added many candles to the interior to sustain the effect of light during night. This also shows the importance Sinan gave to his design.



Figure 11, 12. Şehzade Mosque Interior Openings for obtaining daylight
(Source: Mine Tanaç Zeren, July 2008)

In Mosques, music practice is usually not used while praying. It is more important to be concentrated as much as possible during the pray. But, on religious days, a special session named as 'mevlid' is held and in this session musical function is more emphasized. Another activity is speech, which is made by muezzin (religious officer) in the mosque. With this idea, it can be said that long reverberation times should be avoided, since it interrupts the speech intelligibility. On the other hand, interior noise level is very important especially while people are trying to concentrate on pray. If the interior is considered, it is not easy to design such a big volume without dealing with the acoustical problems. But Sinan's unique work shows that he thought about the acoustics of the mosque from the beginning of design. The materials that used interior, such as plasters and magnificent examples of "çini" has the reflective character and this probably cause long reverberation time in the mosque. But on the other hand, the carpet that covering the entire floor could help the absorb some sound energy. And he installed cavity resonators around the dome to prevent echoes that dome can cause [7].

CONCLUSION

There are many reasons for carrying a traditional building to nowadays. One reason can be the importance of the building to the society, if the building is a monumental building mainly a religious one, and if the religious beliefs of the society had not been changed, the religious buildings can survive for a lot of years.

Addition to this way of thinking, a building has to have correct structural system applied, the materials should be durable and perfectly constructed. In order to carry the building from past tracks to nowadays.

Mimar Sinan's buildings and structures are the foundation of a sustainable future of Turkish Architecture. Here it is aimed to introduce a global view over the Şehzade

Mosque in the case of sustainability. This building is sustainable because it has a great importance such as being the most notable mosques of Sinan, attributed to be the first major large scale work after he had been appointed as the “chief architect”. This building is sustainable because a very well structural design is applied to the building with the durable materials perfectly constructed.

ENDNOTES

- [1] Kuran Abdullah, 1985, pp:53
- [2] Kuban Doğan, 2004, pp:64
- [3] Günay Reha, 1998, pp:48
- [4] Sözen Metin, 1988, pp:116
- [5] Kuban Doğan, 2004, pp:65- Günay Reha, 1998, pp:49
- [6] Kuban Doğan, 2004, pp:65

REFERENCES

- Goodwin Godfrey,1993, “Sinan Ottoman Architecture and its Values Today”, pp:33-35.
- Kayili, M. (2005), *Acoustic Solutions in Classic Ottoman Architecture, Foundation for Science Technology and Civilization*, Publication ID: 4087; United Kingdom.
- Kuban Doğan, 2004, “Sinan’ın Sanatı ve Selimiye (Sinan’s Art and Selimiye)”, pp: 64-71
- Kuran Abdullah,1985, *Mimar Sinan*, pp: 53-57.
- Oktay Aslanapa, "Osmanlı Devri Mimarisi", p. 182-189, İnkılâp Kitabevi, İstanbul 1986.
- Reha Günay, "Sinan the Architect and His Works", p. 48-50. YEM-Building & Industry Centre, İstanbul 1998.
- Sözen Metin,1988 “Sinan Architect of Ages”, pp:114-117.

LEARNING FROM PAST: “EDIRNEKAPI MIHRIMAH SULTAN MOSQUE”

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ABSTRACT

In this paper, it is aimed to look at Mimar Sinan's works to be used as a “constructional innovation”, because it is obvious that, for a construction, the success and ability of standing for more than 400 years should not be a coincidence. With this idea, Edirnekapi Mihrimah, one of the most famous works of Sinan, has chosen to evaluate from the points of view social and architectural organization, structural system analysis, acoustical and lighting features and sustainable design. The Kulliye built for Suleyman's daughter Mihrimah Sultan and especially the Mosque within the complex is a good example showing architect's structural and architectural researches during the period that passed between construction of Suleymaniye and Selimiye Mosques.

Keywords: Architect Sinan, Edirnekapi Mihrimah Mosque

INTRODUCTION

Like other disciplines, one of the most practical and effective learning method in architecture is examination of past examples and finding some clues to create new ideas. Especially from the point of view sustainable architecture, buildings that could manage standing still with their original functions are very important and worth to be researched again and again.

Traditional “Külliye” architecture that encouraged during the Ottoman Empire can be evaluated as one of the most important examples of Social Construction. This is a whole that every people in the society can find some place in the complex without any kind of segregation. Usually, Kulliye's built on behalf of the Sultan of the period and includes a mosque, a medrese (a school), sometimes Turkish bath(s), aşevi (eating house for especially poor people). Also, sometimes the complex was surrounded by shops or connected to a covered bazaar. Besides being a landmark for the city, this kind of a complex becomes a meeting point for citizens of the city and these people somehow make social connections even with unfamiliar ones.

In this context, Mimar Sinan is possibly the first architect come to the mind. He applied a complete design process, which starts with the selection of the building site and includes (concerns) even small details in building, for almost all his works. He aimed to make an improvement in new works by comparing the past experiences, although sometimes it can be difficult to realize.

One of the most important works of Mimar Sinan in İstanbul is Edirnekapı Mihrimah Sultan Mosque and it is chosen for this study as an example that is showing the high level of the structural design as well as the architectural design of its period.



Picture 1. Edirnekapı Mihrimah Sultan Mosque [1]

Actually, Edirnekapı Mihrimah is the second Mosque and Kulliye that built for the Mihrimah Sultan and located in Edirnekapı, very close to the city walls. The construction period of the Mosque dates back to 1560's. (Kuran 1985, Goodwin 1993, Topaktaş 2003) Külliye consists of a mosque, a school (medrese), mausoleum, Turkish baths and 63 small shops, which were reclining the city walls partly. However, these shops could not survive till today. (Kuran 1985: 123).

The two Mosques that dedicated to Mihrimah Sultan have also an interesting story, a kind of interaction that can be evaluated as a myth or an architectural foresight but, in both cases it is worth to be mentioned. There is an outstanding relationship between these mosques other than the similarity in the names. Eighteen years after the completion of Mihrimah Sultan Mosque in Uskudar, Mihrimah Sultan requested a second Mosque and Mimar Sinan decided to build it in Edirnekapı. But the selection of the location was not a coincidence. It is said that once a year, sun sets from Edirnekapı Mihrimah Mosque Minaret while at the same time moon rises between the Uskudar Mihrimah Mosque's Minarets and this day might be the birthday of Mihrimah Sultan. Furthermore, when the word Mihrimah is analyzed in Persian language, "mihr" means sun and the "mah" means moon. (Secer et.al, 2008: 27)

ARCHITECTURAL TYPOLOGY

The mosque Edirnekapi Mihrimah Sultan, can be evaluated as the most important and advanced example of Sinan's mosques that have a dominant dome over the main space (nave) which is designed as a square in plan. The dominant effect of the dome can be seen from all sides of the building, since the two side galleries (secondary naves) of the mosque had been built in the lower height. Three small equivalent domes (cupola) cover the each side gallery. The narthex of the mosque (which is named as "son cemaat yeri" in Turkish) is also covered with seven equivalent small domes. And the mosque has a thin minaret with a surrounding balcony.

STRUCTURAL SYSTEM

The four main arches carry the wide and high main dome. At the connection points of the main arches there are four polygonal weight towers, which can be seen from outside. These towers, which are finished with dome, built as the extension of the four main columns that carry the main arches. There is an important point that neither columns nor towers can be seen from the inside, since the columns are built within the masonry walls. There are many windows within the masonry walls that under the main arches. These windows are designed like a lacework. By placing the masonry walls at the middle axis of the arches, Sinan should be wanted to make the main arches seem thinner, since they have the dimensions of 3,60x2,40 meters (on the kiblah direction) and 4,20x2,40 meters (on opposite direction) in transverse section. (Günay, R. 2007: 181)



Picture 2, 3. The Dome of Mihrimah Sultan Mosque from exterior [2]; General view of Kulliye [3]

The mosque has a rectangular plan with the exterior dimensions of 39.50x28.00 meters. The diameter of the main dome is 20.25 meters while the diameter of cupolas over the side galleries are 6.00 meters. Cupolas over the side galleries are

carried by two small columns. Main dome, which is supported by pendentives and arches, is placed on four main columns. (Kuran,1985:124). Distances between main columns are 19.30 meters in Kiblah direction and 19.78 meters in opposite direction. The height of the dome from the interior is measured as approximately 31.15 meters (Measured by the authors, during the visit on June 2008). With these structural features, the Mosque seems as if a skeleton building instead of a masonry one and also this monumental building shows that Sinan is a great engineer besides being a great architect.

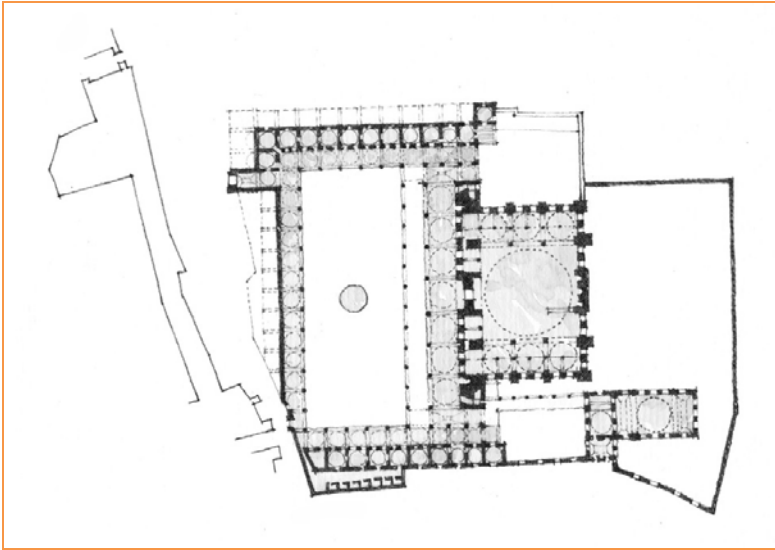


Figure 1. Plan of the Mihrimah Sultan Mosque in Edirnekapi [4]

Other important supporting elements of the Sinan's structure are iron bars that prevent the arches becoming swollen by the effect of loads. The vertical load bearing elements of the porticos around the courtyard are supported in two directions by iron bars that have rectangular shape in section. Also inside the building, same iron bars are used as supporting elements, at the connection points of columns and arches.

The structure of Edirnekapi Mihrimah Sultan Mosque has been affected by the several earthquakes in the years 1648, 1690, 1719 and 1894. After the earthquake of 1894, the mosque had been closed till the renovation works that held in 1956-57. The nice hand-carved paintings of interior space were the products of this renovation. (Kuran, 1985: 126). Unfortunately, the Mosque and minaret damaged by the effect of the earthquake in 1999. And, for this reason an extensive restoration work has been started and it is decided to rebuild the half of the minaret.

INTERIOR DESIGN

Edirnekapi Mihrimah Sultan can be evaluated as the Sinan's most considered works from the point of view daylight design. As mentioned before, this is the second Mosque that dedicated to the Sulayman's Daughter Mihrimah. There is a belief that, after the completion of the first Mihrimah Sultan Mosque in Uskudar, the owner, Mihrimah Sultan disappointed with the dark interior design. Because of this, it is thought that, in the second Mosque, Sinan had designed a brilliant interior by opening as much window as possible.



Picture 4. View of the dome from inside [5]



Picture 5. Interior view [6]

Because of the daylight coming from hundreds of windows, interior of the mosque is very luminous. To obtain this brilliant atmosphere inside, it can be said that Sinan had replaced every unnecessary stone with a window opening and his success could not be reached till 18th and 20th centuries in the design of other Islamic masonry buildings. (Goodwin, 1993: 49-50-66)

The windows are thought that also affect the acoustical characteristics of the interior space, since they have very reflective characteristic, while thick carpet that is covering the floor helps reducing the reverberation time. The volume of the Mosque is 13.600 m³ and the reverberation time for this volume is found as 4.5 seconds by the acoustical simulations. (Topaktas, 2003: 118). Although having such a quite long reverberation time can be evaluated as a negative effect from the point of view speech intelligibility, for the activities that includes musical parts such as Mevlit or reading Kur'an, long reverberation time can have a positive effect.

In addition, Sinan had used some cavity resonators around the dome to prevent the possible echoes or focusing points that caused by the concave shape of the dome. It shows that he also considered the acoustical design as well. But it is thought that during the restoration works openings of these resonators were filled and mosque has lost its original acoustical character. (Topaktas, 2003: 124).

CONCLUSION

Edirnekapi Mihrimah, one of the most famous works of Sinan, has been tried to evaluate from the points of view social and architectural organization, structural system analysis, acoustical and lighting features within this paper. The Kulliye built for Suleyman's daughter Mihrimah Sultan and especially the Mosque in complex is also a good example showing architect's structural and architectural researches during the period that passed between construction of Suleymaniye and Selimiye Mosques.

With its all features that tried to be explained above, it is very clear that the success of Edirnekapi Mihrimah Sultan Mosque and its ability of standing for more than 400 years cannot be a coincidence. The dominant central dome and brilliant interior space of this mosque became a model for many following examples. Mosque's simple but impressive structural system also continues to inspire and its level of refinement is very hard to be reached even today's conditions.

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REFERENCES

- Goodwin, Godfrey, 1993, "Sinan Ottoman Architecture and its Values Today", Saqi Books.
Günay, R, 2007. Sinan the Architect and His Works. Yem Yayın. İstanbul.
Kuran, A., 1985, Mimar Sinan. Hurriyet Vakfı, İstanbul
Topaktas, L., 2003. Acoustical Properties of Classical Ottoman Mosques Simulation and Measurements; PhD Thesis; M.E.T.U; Ankara.
Secer, M., Bozdog, O., Kahraman, I., Aktuglu, Y., Altin, M., Tanac, M., Karaman, O., 2008. Uskudar Mihrimah Sultan Mosque and Sustainability Concept. Proceedings of 5th ARCH'08 International Symposium. Lefke.

IMAGE CREDITS

- [1] http://www.sinanasaygi.com/i/eserler/b/29_2048.jpg - retrieved:14.07.2008
[2] Photo: Caner Cangül, date: 12.07.2008
http://www.sinanasaygi.com/i/eserler/b/29_54593321.jpg
[3] Photo: Caner Cangül, date: 12.07.2008
http://www.sinanasaygi.com/i/eserler/b/29_54593489.jpg
[4] Drawing by Metin Keskin from http://www.sinanasaygi.com/i/eserler/eskiz/29_02.jpg
[5] Photo: Prof.Dr. Reha Günay – Skylife, April 2006 (http://www.thy.com/images/skylife/4-2006/78/10_78edirnekapi%20mihrimah-04.jpg)
[6] Photo: Prof.Dr. Reha Günay – Skylife, April 2006 (http://www.thy.com/images/skylife/4-2006/78/10_78edirnekapimihrimah3.jpg)

DISCUSSING LIVABLE ENVIRONMENT PERSPECTIVE BY EXAMINING FIVE DIFFERENT RESTORATED STRUCTURES IN TURKIYE

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ABSTRACT

Architecture is one of the most important things that transfer our past and history to today and future. Buildings or constructions that witness our past may become deformed or these constructions may not be enough to meet today's needs. So, restoration is very important in keeping such works alive and adding them new functions. This change and development process not only help keeping the constructions alive and adding them new functions but also improve the social environment around these constructions.

So, in this way, we chose five different case studies from five different cities in Turkiye. First one is an agglomerated stone structure in Adana which is used as girls' high school. This building is now used as culture and art centre. Second one was a Turkish bath constructed during The Ottoman Empire in Afyonkarahisar. It was a Turkish bath in past but now it is used as gallery, theatre and conference hall, intelligence and traditional game centre and a building for national education. Third one is a stone building in Kayseri. It was a madrasah during the Ottoman Empire. But now it hosts to bookstores and stationeries. Fourth one also is used as Turkish bath in Istanbul. But this building is now a café. The last one is a building that was built during The Roman Empire. It was an ancient church and grinder. It is now used as library in Ayvalık, Balıkesir. The value, gained from these restored buildings, was added to the life of community and social environment, form the subject of our paper.

Keywords: Livable environment, Restoration, New functions, Changing, Land reclamations and recycling in the social environment

INTRODUCTION

In the paper, it is aimed to discuss benefits of restoration and adaptative re-using of old buildings and structures. For this reason, we chose five different case studies from five different cities in Turkiye. These works are Adana Culture And Art Centre (Ex- Adana Girls' High School), Afyonkarahisar Culture And Cityhome (Ex-Millet Turkish Bath), Balıkesir–Ayvalık Sevim and Necdet Kent Library (Ex-Agios Yannis Church And Grinder), Cafe Istanbul Kahvehanesi(Ex- Tahtakale Turkish Bath), Kayseri Bookstores and stationeries (Ex - Sahabiye Madrasah).

BUILDINGS

All examples were having different functions in past and after restoration, they gained new functions.

High School for Girls in Adana

The building is constructed by hewn Stone. There is a hall in T- form on the ground floor. This hall, used as an art gallery now, is having eight rooms in that floor. One of the rooms was separated for graduated from girls' high school and it is exhibited as a classroom. The other rooms are used as office for administration, newspaper archives, photograph atelier, cafe, and toilets. . With stairs, it is possible to reach to the basement level, having 8 rooms, too. In these rooms, there are several activities as gold silk cocoon film festival, fourteen snapshot art festival etc. are run. Unlike ground floor and basement, there is a smaller hall in the first floor and also this base has 5 rooms which 4 of them are designed as saloon that you have chance to arrange meetings, concerts and cinemas. One of them is utilized as a city archive.

The building which was known as the historical girls' high school is at previous centre of the city. Nowadays it is used for culture and arts center. It is in the south of the historical stone bridge and the west of the Seyhan River. It carries incredible history. In 1881-1882, Abidin Pasha who was the governor of Adana aimed to build a soldierly middle school. The school was completed in 1883 by public's grant and help. This building was one of the highest structure in Adana. Until First World War, the education given in this school has changed due to the owner of the building. When the war started, the building was passed to the military's control. After the war, the school started giving education again and it was named as Adana high school in 1927. In 1934 Adana girls' high school started using the building. On 27th of June, 1998, an effective earthquake took place, and the building has been damaged. After the earthquake, the building was drained. In 2004, the building was restored by Adana city private administration. Zulfikar Tumer Company did the restoration.



Photo 2. Adana Culture and Art Center (www.mimdap.org)

Sevim and Necdet Kent Library

The library named as Sevim Necdet Kent, located in Ayvalik, at the western coast line of Turkey and it is at the top of Cunda Island of Ayvalik. The building first used as a church for many important saints, patriarchs and monks in past. At that time, it is called as Agios Yannis Church, having a windmill and a chapel in the complex. There are some highlights about the windmill of the complex. Windmill's entity wasn't discussed the ruined building for a long time. During the excavations in the area, the substructure of the windmill came into light at the east of the chapel. When we look at the history books about Ayvalik, we have learned that there were 6 windmills at the top of Cunda Island in the old photos. And it was written that only two of them were producing flour for the area.

It was reported in the archives that that founded windmill was built in 1600s and the chapel was built in 1800s. The monastery which was a home for many saints, patriarchs and monks, came to the fore with publishing about 17th and 18th century church law, like servicing as a library about religion. The Agios Yannis Church, where patriarch secluded himself for a long time, is left back of the agreement signed in 1924.

This ruined structure was rebuilt by Rahmi Koç Foundation of Museology in the perspective of historical monument's recovery. The chapel part is used by the library which has more than 1300 books. All books belong to Necdet and Sevim Kent, whose names were given to the library. Necdet Kent, an important Turkish Ambassador, said that he is not sad that he can't see, but he can't read, after he lost the ability to see back of his age.



Photo 4. Sevim and Necdet KENT Library by Rahmi Koç Foundation of Museology

Sahabiye Madrasah

The moslem theological school, built in 1267 by Ali, has a crown door in square form. It has a courtyard and rooms are in order at its sides. There is a big eyvan at the opposite side of door, and two big classrooms at eyvan's both sides. Also there are two small eyvans at its east and west front.



Photo 5,Sahabiye Madrasah by wowturkey.com

Tahtakale Turkish Bath

Tahtakale, which has been an important trade center since Byzantium and Ottoman Empire, is an ancient port village in Istanbul. Here there are dress stores, ironmongery, home stores and others where you can buy all, what can be needed. Rustempasa Mosque and Tahtakale Bath are in the central area of the village. Tahtakale Bath, that its architect is Mimar Sinan, was built in 1453 in the period of II. Mahmut. It was built for tradesman to take bath after work. The double bath, which is one of the most ancient and biggest bath in Istanbul, has an area around 5350 m².

The double bath of Tahtakale was partially destroyed during the great earthquake, took place in 1894 in Istanbul and later endamaged by the fire in 1911. After First World War, it was used as a storehouse for selling cheese. During this period, its walls were destroyed, windows and doorways were closed and an insulation layer was added.



Photo 3. Tahtakale Hamam Carsısı taken by Gokhan Taspınar, Feb.2009

Millet Turkish Bath

Millet Turkish Bath, restored as Afyon Culture and City Home, is constructed in masonry. Hewn Stones were used in its structure. It is estimated that it was built in 17th century. It stays on a sloping land, lies from south to north.

Along many years, due to the effects of climate, it has some parts, demolished and disappeared. The bath is one of the best examples of Ottoman Architecture in 17th century[1] and also one of the most important buildings of architectural texture in the area, but not able to fulfill today's requirements.

Community is in need of a service to learn about past to evaluate it today and to have a progress in future. Then Afyonkarahisar Culture and City Hall is a very important building to be used for the favors of the people living in the city.

Millet Turkish Bath, after having lots of owners, now is under the control of municipality for public use. Respectively, Afyon Kocatepe University, Ministry of Tourism and Afyon Educational Foundation had rented it to use for different aims after restoration. But any of them could be able to overcome the budget for restoration. Finally, in 2003, Special Provincial Administration could support it and has rented for 29 years to use it after restoration, without any commercial purposes.



Photo 1. Afyonkarahisar Culture and Cityhome (www.afyonkarahisar.gov.tr)

RESTORATION PERIOD

The reason having a restoration for all buildings is that, they were not enough to meet today's needs. After restoration, they have new functions for public needs.

High School for Girls in Adana

During the restoration period, the company aimed to protect the original form of the building. First of all, the additional spaces, added to the original building before have been removed. And also the closed windows were opened again. The additional participation walls removed also. And new substructure was added.

This restored building gained a living feature and the street where this building is constructed has a characteristic texture created by surrounding buildings in the environment. There is ancient city government house which is called that its age is actually same with the age of Adana girls' high school. Ancient stone bridge was repaired and opened to the pedestrians. Also, the Inn of Suphi Pasha where Atatürk had stayed is being used as museum of Atatürk. Finally Bosnian Salih Efendi inn, be used as a boutique hotel are the elements of the street texture.

It is clear that all old and very well preserved buildings are very important story tellers of a country and they have to be protected to make the info pass to other people in future

Sevim and Necdet Kent Library in Ayvalık, Balıkesir

There are no differences between original church and restored one (only a door which is suitable for the structure was built among windmill and chapel to block the wind.) The tiles of chapel's roof collapsed during the earthquake in 1944. Construction of the roof, was completed with analyzing the old photos. The stone wall with its special stone, esp. in this area, named sarımsak stone, was executed like original building. Knit of stone wall was bought here from the substructure of windmill and its base dimension is the same with the other windmills in Cunda. It was completed in the suitable form with the original result of the restitution project. It has 3 floors inside the windmill. The library located at the top of the island, has a café and a kitchen and also there is WC and car parking area for free for the customers, taking place in the landscape. It shows easy access to the area.

In chapel, there are also some photographs of historical Ayvalık and some objects which help to preserve the church ambience. For universality and to express humanity as a whole, Christian wall paintings, Jewish candles and Muslim writings are used in the decoration as a whole. In addition to these, books of different languages are available in the library, in which the number of books increases everyday. The books are not allowed to be rented or sold. There is a wide table inside to read the books on, and the books are allowed to be photocopied. There is also internet connection inside. The windmill part of the building is reserved for souvenir sales and management, the upper floor is Mr. Kent's personal room.

There is a cafe in the outdoors of the building which has a great visual effect of sea, both at north and south. This cafe is available for varieties of celebrations and exhibitions.

By being one of the first and most important examples of the local architecture, it differs from the rest by its means of use. The religious building, by being a public library, shows difference between it and the rest of the restored buildings. Therefore, taking into consideration the fact that not a single one of the rest of the churches in the island is used as this building, it is a very important factor which helps the advancement of the island by educating both children and the local citizens and by improving the environment. For tourists, it is not only a library, but it acts like a museum which helps one to learn about the local and national culture.

Sahabiye Madrasah in Kayseri

Moslem theological school was restored in republic period of time but original repair could not be managed and handworks which are on door's sides were made by passing over. The rooms of this building are being used as stationery at last state when it is restored so it is called as Bookseller Bazaar by Kayseri People.

The restoration of an ancient building and its adaptation to day's use is great success. Sahabiye Madrasah is one of the successful cases this context and there are so many buildings in this situation, are in need of support.

Tahtakale Turkish Bath in Istanbul

The bath was bought by Azmü Sebat Company in 1988. They financed the restoration project for the bath, prepared by Dogan Kuban. In this project, it is aimed to reuse the bath as a bazaar. Even though, Azmü Sebat Company decided to make the shops be rented as touristic shops, between 1993 and 2003, no progress took place, except the entrance part where there are toy shops. In nowadays, a great part of the bath was rented to iron-mangers.

In 2003, Ahmet Cizrelioglu rented the mid part of the bath and then Café Istanbul Kahvehanesi was opened there. The café part is the only part in the bath, designed as how Azmu Sebat Company wanted; means adaptive re-use is very successful.

Restoration of this ancient project and its adaptation to today's requirements are a great success. Tahtakale Hamam Carsisi can be accepted as a very important case study in this context. And the same process can be useful for other buildings in that situation.

Millet Turkish Bath in Afyonkarahisar

In the Bath, there are sections as dressing spaces for men and women, warm room, hot room, kulhan, input openings. There is a big courtyard in front of the dressing spaces. Warm room, hot room and input openings are covered with paneled

monastery arched roof [2], while the dressing spaces for men and women were covered with kaburgah monastery arched roof. The bath has a rectangular plan layout. There is a marble pool with fountain in the middle of the women dressing part.

When we glance at its plan of the Bath and the place of hot room, it is clear that it has a unique planning. In Afyonkarahisar, this bath has an individual and unique plan, while there are many examples in Anatolia. These examples have a transverse hot room and double halvets. In Anatolia, bath's halvet cells are on the hot room's long edges. But Millet Turkish Bath's halvet cells are on different long edges.

Today, this building has a different function after restoration. Now, it is used as an art gallery, theatre area, and a conference hall, intelligence and traditional game centre, a building for national education and play school.

Marble basins and bath heated scrubbing platform, used in past, still were protected safely. Now, a part of hot room, ex-name was hell room, is used as a recreation hall, women dressing space is used as a workroom for national education, other part of hot room is used as a gallery, warm room is used as theatre and conference hall, men dressing space is used as cafeteria and game room. The bath, constructed totally with Stone, was decorated with Afyon Culture and traditional Prints. Afyon Marble, a world famous travertine, was used very effectively to clad the structural elements and oak was used for all furnishings in interior decoration.

All iron, steel and wooden elements, necessary for restoration, were manufactured by students of Afyon Vocational High School. In addition to all things, there are indigenous hand woven carpets which were prepared by trainees, educated in the courses of Afyon Culture and City Home.

At the same time, while restoring the building, the social environment around the bath were reclaiming and finally this area of the city has become a protected area [3] And it may be thanked to all these efforts for restoration, that the bath and this region have gained a great importance for all kind of tourism activities, both national and international. By these efforts, protected areas, can create cultural and economical benefits for its real owners, city people by presenting the features of living conditions in past as living organisms today with new functions.

As a conclusion, it may be written that this restored structure is a good example for livable environment and livable architecture. This building could have been collapsed and a new building could have been built there. And there is a very important point that we should not miss that if a building disappears, its history and past will disappear, too. There are many structures waiting to have a new life. The expectation is to be able to reach other valuable buildings to make them stand up for letting the info about past be transferred.

CONCLUSION

As a conclusion, these five built examples from our Anatolian culture define how the social, economical, architectural life in past was, and because of their successful restoration process, they will survive be in service for all.

REFERENCES

For Adana Culture and Art Center:

A technical visit to site area of Adana high school for girls by Gokce Bilisik in Feb. 2009

An interview by Aksoy, Derya Adana Culture and Art Center's director by Gokce Bilisik in Feb. 2009

Isık, Mehmet Pekcan architect, "technical explanation report and restoration report" 2004
www.mimdap.org

For Sevim and Necdet KENT library:

An interview by Yasemin Site(director of library) on 2009 by Gozde Akman

Bayraktar, Fulya 2008 Natura Magazine p.76-80 n.33 2008

Brochure of library

Yorulmaz, Ahmet, "Ayvalık'tan Cunda'ya" Remzi Kitapevi, İstanbul

Yorulmaz, Ahmet "Ayvalığı Gezerken" Dünya Kitapları, İstanbul

Yorulmaz, Ahmet "Giritten Cundaya" Remzi Kitapevi, İstanbul

Technical visiting to the area of Sevim and Necdet Kent Library by Gozde Akman in April 2009.

For Sahabiye Madrasah:

Technical visit by Sahabiye Madrasah by Gungor Engur Feb.2009

<http://wowturkey.com>

a technical booklet about the restoration of Sahabiye Madrasah

For Tahtakale Hamam Carsısı:

A technical visit to site area in 2009, Feb. by Gokhan Taspınar

Brochure of Café İstanbul Kahvehanesi

An interview by the service crew of Café İstanbul Kahvehanesi on 17th of Feb. in 2009, by Gokhan Taspınar

For Afyonkarahisar Culture and Cityhome:

[1] İlaslı Ahmet-Üyümez Mevlüt- Kaya Fevzi, AFYON'DA MIMARI, published no:21, Afyon, 2004, p. 207

[2] Daş Ertan, AFYON'DAKİ TÜRK ANITLARI, Unpublished graduate thesis, Ege University Institute Social Science, p. 117

[3] İlaslı Ahmet-Üyümez Mevlüt- Kaya Fevzi, AFYON'DA MIMARI, published no:21, Afyon, 2004, p. 224

Yüksel İbrahim-AFYONKARAHISAR'DA CANLANAN TARİH, Governorship of Afyon, Ankara, 2005

Yıldırım Mehmet, www.arkitera.com, date:12.01.2006

A technical visit to site area in 2009, Feb. by Hilal Altıngargı

Yüksel İbrahim, ANADOLU'NUN KILIDI AFYONKARAHISAR, Governorship of Afyon, Published no:21, Afyon,2004

www.afyonkarahisar.gov.tr

POSTER PRESENTATIONS

Revision Concept on Display Window of Stores and Retro Design Practices

Hülya Yavuz

Seeking Zero Energy in Multi-Storey Buildings

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**An Assessment of Recreation Activities According to Culture in Urban Parks:
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REVISION CONCEPT ON DISPLAY WINDOW OF STORES AND RETRO DESIGN PRACTICES

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ABSTRACT

Philosophically, general design which covers common features of objects and events and which assembles them under one roof derives from the word "to grasp".

Revision means review, correction, monitoring. It is defined as looking over an application in parallel with a new situation and new circumstances. The fact that revision is frequently seen as a concept in display window designs is not accidental.

The fact that tastes of spontaneity gained with U turn can be a strong expression of attitude which contains black humor. This is also mentioned as revision or to revise.

We come across with two things if we apply the recycle rhythm of the nature, which comes from past to the present, to the human mind and human body.

As a result of the new and old design meet together, the retroactive designs are kept an important place on display window design.

In this study having information about recycling old materials and retro design styles how did take a big part on display window designs.

REVISION CONCEPT

The concept of revision is an abstract and general design of an object or thought in mind. Philosophically, general design which covers common features of objects and events and which assembles them under one roof derives from the word "to grasp". The basic point in the formation of design is "concept".

On the condition that we investigate the steady idea that waste materials are already useless, the material that one throws is still valuable for another protects the environment.

The fact that tastes of spontaneity gained with U turn can be a strong expression of attitude which contains black humor. This is also mentioned as revision or to revise.

Perception means to get, interpret, choose and organize sensory knowledge in psychology and cognitive sciences. Eventually, we should comprehend what we see in the display window and envisage it.

Similar to other design disciplines, in display window design there are several concepts. As present day products range increases, display windows are used like surrealist paintings that inspire people's imagination. Besides, display windows are formed by reusing materials which have lost their meanings.

DEFINITION OF REVISION

Revision means review, correction, renovation, analysis, monitoring. It is defined as looking over an application in parallel with a new situation and new circumstances. The fact that revision is frequently seen as a concept in display window designs is not accidental.



Figure 1. 2. On the picture above there is waste baskets designed for recycling and expressed with different colors and the symbol of recycle that is applied on a non-plastic recycle material fabric bag.

DEFINITION OF RE-CYCLE

Recycle, which works for diminishing world's pains by means of making tables for children from milk boxes and by putting plastics, glass, paper and metals to different containers, is frequently used in design.



Figure 3. Lighting element which is formed by using old bulbs



Figure 4, 5, 6. Storage made of gramophone record; Battery recycle box that is prepared for reuse of used batteries; On the last picture above, plates are made more convenient for today by the application of different signs and patterns.

In order to transform a material it is enough to change a physical or chemical feature. However, for the transformation of the design, creative design should become a part of the activity.



Figure 7, 8, 9. In the picture above there is a lighting element that is made of plastic pipettes; On the furniture above there is a chair designed by using old CDs; Another chair design is made by assembling bicycle rubber and its other parts.

A U sign that is seen behind a package indicates that the package is recyclable and it can reduce the damage on the environment. We can understand that this package with a U sign serves to this goal.

Consequently, while we are holding this object, we are also holding that concept in our hands.

We come across with two things if we apply the recycle rhythm of the nature, which comes from past to the present, to the human mind and human body. Recycling starts when the object gets rid of its original form and is recorded as a junk material of its culture.

It is necessary to mention creativity, culture and money when concepts and objects are waste materials.

Consumers are given much more option in this application where different patterns are given to the old chair designs.

DESIGNS PRODUCED BY REVISION

A distinctive display window design obtained with old calash fabric, sand and dim light

If we have look at the history of display window design; in 1960s, under the influence of a public who is more positive compared to the public in 1950s, much more colorful and organic designs are produced.

Patterns peculiar to the woman, decorative shapes are frequently used indoors, display window designs and other designs. Humorous display windows, designs that are cherished in picture frames aim at display window variety and drawing consumers' attention.



Figure 10, 11. The sitting element above is designed with secondhand rug, fabric and similar mixed materials; In the other picture shower tap is designed in the form of a gas mask.



Figure 12, 13. Retro wallet design. After the decaying usege of cassette tapes designer gave it a new function which made it a wallet; Cassette whose usage is diminished transformed to a purse with the new form designer gave.



Figure 14. Furniture design in which shower tray is converted into a sitting element. Chair design made of different materials.



Figure 15, 16. Retro electric torch design; This design seems like an alarm clock but also it has iPod function

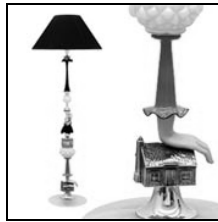


Figure 17, 18, 19. Lighting design; In this furniture design shower tray had converted to sofa

In today's designs retro style, which means going back to past are observed.

A product that had been successful in the past can create enthusiasm in consumer when it confronts years later. Particularly, we constantly see designs and new models of the 60s and 70s in 2000s. Mankind is interested in the fact that they are confronted again with the products in which they find something from themselves in the past.

Up today this situation often showed itself in clothing field, in particular times old products became fashionable again. Design firms that utilize this fact effectively

presented designs renovating the ones which had been successful in the past. In the last years adaptation of very successful old models to today has been fashion



Figure 20, 21. This shop window design obtain from old sailor's hammock, sand within gloomy light. In the other display window that has been constructed with secondhand bottles, a beach atmosphere and a natural environment is created.

Designs facing past and confrontation of old and new have an important role in display windows designs. Imaginary and humorous display windows and eye catching designs that reuse old materials have increased today.

RETRO AND REGENERATION CONCEPTS WHICH USED ON SHOP WINDOW

Except from these, some of them were being very successful at past. These designs are improved and being quick produced through developing technology and all named "Retro". Thus they all appear nowadays. Moreover retro designs were affected from Pop Art term.



Figure 22, 23. Old newspapers used for shoe shops window. Retro designs which exhibited on the shop window



Figure 24, 25. In the display window above a lampshade has taken the form of a classical model. Instead of the classic model form take its place lampshade .

On this shop window design model sits on the archaic red sofa and wallpaper which remembered us 50's design savvy also they have used 80's hair style on the model.



Figure 26, 27. In the display windows above baroque chairs are surrealistically hanged as if they are flying.

Concept on design during first part of 1900s, we can see telephone, faucet and bathtub which is made with plastic materials. When we talk about colors, attractive and emotional colors like cream, pink and light blues are seen.



Figure 27, 28. In this furniture design shower tray had converted to sofa.

At the beginning of 1900s, as we can see on above pictures, bath furniture had been used on display window designs.

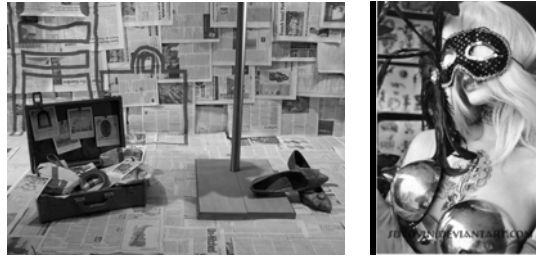


Figure 29, 30. Both display window design contests and display windows created by designers caused in the reflection of objects that resist the time and mass production. From time to time, old newspapers, masked ball accessories or the characters of an old movie have started to be seen in display window designs.



Figure 31. This quest for getting rid of commonness has received positive reactions. It has been much more attractive to buy candies from a shop with a display window where an actress of 1950s is presented as a candy

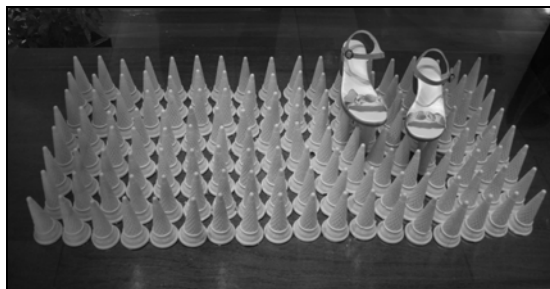


Figure 32. For an example of re-cycling and using cheap materials, ice - cream cones were used as a stage kind of display field. More emotional designs are mostly utilized due to liberty gone around at the period Pop Art.

As a result of the new and old design meet together, the retroactive designs are kept an important place on display window design.

Consequently, nowadays especially recycling old materials and utopian or spicy display window have take a big part.

REFERENCES

- Onur S., 2000, Mobilya Biçimlenişine Etki Eden Faktörler Ve Tasarımcı Kullanıcı Faktörü Üzerine Bir Yöntem Önerisi , MSU, doctorate thesis, page number: 44-50,. İstanbul
Yaylalı H., 1999,Pop art Hareketi, Art Decor , Number: 74 .,May
http://www.greenegrassdesign.com/images/Rag_chair-lg_copy.jpg
www.deviantart.com
<http://www.mimarizm.com/Haberler/HaberDetay.aspx?id=47850>

SEEKING ZERO ENERGY IN MULTI-STOREY BUILDINGS

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ABSTRACT

Today's and the future architecture coming out as ecological and sustainable approaches are forming in the line of composing an artificial healthy environment, using adequate and efficient energy system, paying attention to usage of building materials that are sensitive to environment and recyclable and make maximum benefit from building's natural input. This new architectural approach aiming to protect priority the nature and human contain the concepts such as 'identification with the nature, sun, soil, water and wind'. In this approach, designs which are called as zero energy buildings are to be coherent to nature with form, structure and building materials and provide comfort and peace to users.

From 20th century, zero energy building approaches in the worldwide are taken into account in multi-storey buildings rather than the least storey ones as well as skyscrapers. So, it is aimed to reduce the burden of mechanical energy system during the building's operating process by paying attention to user's comfort and economic cost are decrease to minimum.

The objective of this study is to reveal the principles that could direct today's architecture by defining the priorities and design approaches as a plan and structure of multi-storey buildings which connect architecture with ecology. Chosen samples with the aim of identifying the building's designing criteria aiming zero energy consumption are paid attention to have been made recently, being modern and taking part in literature. It is emphasized that this analyzed building designs contributions to the ecology and sustainability of today's architecture.

Keywords: Sustainability, Ecology, Zero energy, Healthy artificial environment, Multi-storey buildings

INTRODUCTION

Ecological design involves the holistic consideration, of the sustainable use of energy and materials over the life- cycle of building "system", from source of materials to their inevitable disposal and/or subsequent recycling. That is to reduce the impact of buildings upon the natural environment. The ecological design of a skyscraper begins by first considering its design in terms of energy conservation.

Recent years, the towers begin to consider the low environmental impact of material sourcing, and the reuse and recycling of materials. The inputs and the outputs in the matrix of ecological interactions are given greater attention, though it will be some time before the built results are evident (1).

The objective of this study is to reveal the principles that could direct today's architecture by defining the priorities and design approaches as a plan and structure of multi-storey buildings which connect architecture with ecology. The ecological design of a skyscraper begins by first considering its design in terms of energy conservation.

ZERO-ENERGY BUILDINGS

A zero energy building can be defined in several ways, depending on the boundary and the metric. Different definitions may be appropriate, depending on the project goals and the values of the design team and building owner. For example, building owners typically care about energy costs. Organizations are concerned with national energy numbers, and are typically interested in primary or source energy. A building designer may be interested in site energy use for energy code requirements. Finally, those who are concerned about pollution from power plants and the burning of fossil fuels may be interested in reducing emissions. Four commonly used definitions are: net zero site energy, net zero source energy, net zero energy costs, and net zero energy emissions (2).

- **Net Zero Site Energy:** A site ZEB produces at least as much energy as it uses in a year, when accounted for at the site.
- **Net Zero Source Energy:** A source ZEB produces at least as much energy as it uses in a year, when accounted for at the source. Source energy refers to the primary energy used to generate and deliver the energy to the site. To calculate a building's total source energy, imported and exported energy is multiplied by the appropriate site-to-source conversion multipliers.
- **Net Zero Energy Costs:** In a cost ZEB, the amount of money the utility pays the building owner for the energy the building exports to the grid is at least equal to the amount the owner pays the utility for the energy services and energy used over the year.
- **Net Zero Energy Emissions:** A net-zero emissions building produces at least as much emissions-free renewable energy as it uses from emissions-producing energy sources.

Multi-storey buildings are currently undergoing a resurgence around the world. While tall buildings have not been particularly known for their energy efficiency and low carbon footprint, a growing number of them are incorporating green design features such as solar panels, wind turbines, and energy efficient glass, ventilation, and water usage (2).

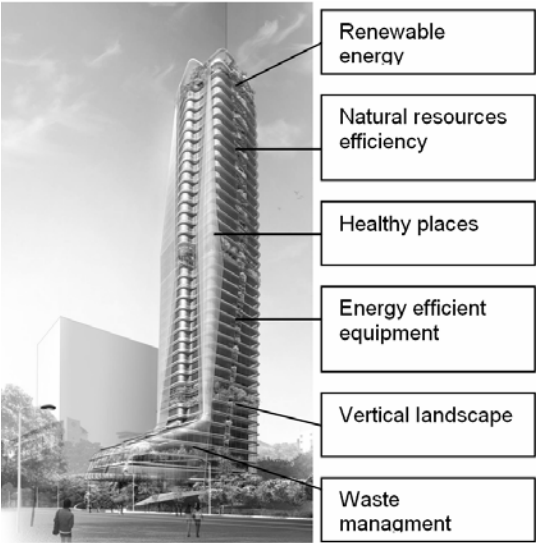








Figure 1. Ecological design strategies for multi-storey buildings

Table 1. Zero-energy multi-storey buildigns

Name and Place of Building		The Pearl River Tower, Guangzhou, China
Architect		Skidmore, Owings & Merrill
Construction Date		Under construction
Function		Mixed-use (Office, hotel)
Features	The owners don't apply for any energy certificate	<p>Turbines that turn wind into energy for the HVAC system, solar collector for more power generation, a rainwater collection system, part of which is heated by the sun to provide hot water. The building is cooled, in part, through heat sinks and vertical vents. The turbines do more than generate electricity, though. The openings through which the wind flows help reduce the overall wind load on the skyscraper (3).</p>

Name and Place of Building		COR – Miami	
Architect		Chad Oppenheim	
Construction Date		Under construction	
Function		Mixed-use (offices, fitnessstudio, Residents)	
Features	LEED* Silver certification	Cor extracts power from its environment utilizing the latest advancements in wind turbines, photovoltaic's, and solar hot water generation – while integrating them into its architectural identity (4). The building's exoskeleton is a hyper-efficient structure that provides thermal mass for insulation, shade for residents, and architectural elements such as terraces and armatures that support turbines.	
Name and Place of Building		The Hearst Tower, New York City, NY	
Architect		Foster Partners	
Construction Date		?- 2007	
Function		Office building	
Features	LEED Gold certification	80% of the steel used to make the behemoth was recycled. On the inside, the floors and ceiling tiles are made from recycled materials as well. Rainwater is collected on the roof and is funneled into a 14,000-gallon tank in the basement. The Hearst gathers enough water from the sky to account for 50% of the tower's usage. It's pumped into the cooling system, used for irrigating plants and for the innovative water sculpture in the main lobby (3).	

Name and Place of Building		Bank of America Tower, New York City, NY	
Architect		Cook + Fox Architects	
Construction Date		2004-2008	
Function		Bank	
Features	LEED Platinum certification	<p>The building is made largely of recycled and recyclable materials. The BoA Tower is designed with energy efficiency in mind. The air-conditioning system produces ice at night, when municipal power demand is at its lowest, then stores it for daytime cooling use. Air quality inside the BoA Tower is a top priority, with a filtration system that eliminates 95% of particulate pollution. Air is drawn inside at least 100 feet above street level, filtered, and distributed to individual floors where it gets a second filtration. Rain is collected on all roof areas, and storage tanks can hold up to 269,000 gallons of rainwater, meaning zero storm water goes into city sewers. Collected water is used for toilets and plant irrigation, saving over 10 million gallons of potable water annually; low flow fixtures and waterless urinals further reduce water use, and a graywater treatment plant in the cellar provides water for the building's cooling tower (5).</p>	
Name and Place of Building		340 on the Park, Chicago	 
Architect		Solomon Cordwell Buenz & Associates	
Construction Date		2005-2007	
Function		Residents	
Features	LEED Silver certification	<p>It has an 11,000 gallon tank for storing rainwater for watering the landscaping. It also has plants on the lower roof to reduce rainwater runoff, and special glass to reduce heat absorption and loss (6).</p>	

Name and Place of Building		EDITT Tower, Singapore	
Architect		Hamzah & Yeang	
Construction Date		Under construction	
Function		Mixed-use (shops, restaurant and plant life)	
Features	The owners don't apply for any energy certificate	Photovoltaic panels, natural ventilation, and a biogas generation plant all wrapped within an insulating living wall that covers half of its surface area. The building collects rainwater and integrate a grey-water system for both plant irrigation and toilet flushing with an estimated 55% self-sufficiency. 855 square meters of photovoltaic panels will provide for 39.7% of the building's energy needs, and plans also include the ability to convert sewage into biogas and fertilizer. The tower will be constructed using many recycled and recyclable materials, and a centralized recycling system will be accessible from each floor (7).	

* **LEED:** Leadership in Energy and Environmental Design, standard for Green Building design in USA

CONCLUSION

Ecological goals and the aproach of the architects who are more motivated by concerns of sustainability are illustrated in the following table.

Table 2. Ecological Design Approaches

Priorities and Design Approaches of Zero Energy Multi-Storey Buildings	
Built-form configuration	Environmet influenced
Building orientation	Crucial
Façade and Windows	Environmental responsive
Energy source	Generated/ambient/local
Energy loss	Crucial/reused
Environment control	Electro-Mech/manual
	Artificial/Natural
Comfort level	Variable/Consistent
Low-energy response	Passive/Electro- Mech
Energy consumption	Low energy
Materials source	Low environmental impact
Materials output	Reuse/recycle/reintegrate
Site output	Crucial

We can say that sustainability and energy efficiency of tall buildings is like a theory of architecture. At the present, all buildings are moving in this direction and get two reason. The first reason is climate change and global warning. The second is natural resources, specifically, petroleum and coal. For that reason, architects are increasingly directing their own energies toward innovative alternative practices, with designs that call for solar panels, photovoltaic cells, wind energy and fuel cells.

REFERENCES

- [1] Powell R.; Rethinking the skyscraper, The complete architecture of Ken Yeang, Thames&Hudson, UK,1999
- [2] Torcellini, P., Crawley, D., "Understanding Zero-Energy Buildings", Journal of The American Society of Heating , Refrigerating, and Air Conditioning Engineers (ASHRAE), September, 2006.
- [3] <http://www.altdotenergy.com/2008/10/11-super-green-skyscraperspers/>
- [4] <http://www.thelohasian.com/2009/04/insights-on-sustainable-architecture.html>
- [5] <http://www.metaefficient.com/architecture-and-building/update-bank-of-america-tower-greenest-skyscraper-in-us.html>

AN ASSESSMENT OF RECREATION ACTIVITIES ACCORDING TO CULTURE IN URBAN PAKS: A SAMPLE OF VIENNA

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ABSTRACT

Urban parks, which offer recreation and green space to visitor and resident of cities, known as municipal park, public park or open space. Urban parks supply many opportunities for people living in urban, towns and cities to enjoy nature and relax in pleasant surrounding free from traffic, stresses of life. Parks in urban are attracting increasing attention after a long period of decline and neglect. Urban parks make a critical contribution n the quality of life of people live in urban areas and play an important role in creating a sense of benefits to human societies. Additionally, recreation activities set high standards for the quality of city space. And urban parks include several recreation activities. Running, walking, hiking, jogging, skating, biking, picnic facilities, passive staying are some kind of recreation in urban parks. Open spaces and parks in the urban are the area of breathing space and cultural activities performing space for human. These spaces used intensively by both inhabitants and tourists.

In this paper we describe different recreation activities according to socio-cultural dimension in Vienna's urban parks. Vienna is the capital city of Austria and has a 1.7 million population. Vienna has many park facilities, over the years; outdoor recreation has become popular according to percentages of population and culture.

In communities having different culture has different activities in their open spaces and parks. Generally in Vienna, recreation activities and cultural elements changed according to the socio-cultural dimension. Because of Vienna's different historical value, people's life style and view point of life, there is a different recreation activities beyond standard activities in Vienna. Moreover, tourist density and growing population increase the interest of open space activities. And with growth in numbers and greater diversity of those who use recreation sites and facilities comes new and different challanges.

Life in urban parks was an integral and utterly essential aspect of society.

Keywords: Urban parks, Recreation, Vienna, Open spaces, Activities

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AN ASSESSMENT OF RECREATION ACTIVITIES ACCORDING TO CULTURE
IN URBAN PARKS: A SAMPLE OF VIENNA

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INTRODUCTION

The city, urban or towns are place for everyone to meet and everyone has access. Children and adults from all cultures and lifestyle experiences with visual appeal in the city, urban or town spaces. Today more than ever it is crucial for us to encounter people with other lifestyle and from other cultures as the starting point for a social and cultural exchange in our daily and public lives.

At a different level of concern for people's well-being, the way social use of space interacts with the need for and quality of life (Molnarson 2000). It is argued, however, that urban parks and open green spaces are of a "natural" spaces is one which raises interesting challenges in terms of open space planning and strategic importance for the quality of life our increasingly urbanized society (Chiesura 2004).

Urban open space is defined as publicly accessible open spaces such as parks, plazas, streets, community gardens and green ways (Carf et al. 1992; Lynch 1972).

Recently it has become more commonly understood that successful parks and open spaces such as plazas, streets and public squares are ones that are lively and well-used by people (Holt 2003). Thinking of urban open space not as an isolated unit but as a street, park or square-but as a function. Public space should be conceived of as an outdoor room within a neighbourhood, somewhere to relax and enjoy the urban experience, a venue for a range of different activities from outdoor eating to street entertainment, from sport and play areas to a venue for civic or political functions; and most importantly of all a place for walking or sitting out. Public spaces work best when they establish a direct relationship between the space and people who live and work around it (Thompson 2000). Open spaces and parks in the urban area are a source of breathing space and cultural activities performing space for human. These spaces used intensively by both inhabitants and tourists.

Public places are a stage for our public lives. They are the parks where celebrations are held, where marathons end, where marked and where connections between all the functions of the city. (Gefli, Germze, Kirknösä Söndergaard, 2006). Public places are a place for communicating, and commercial, in addition to the silent voices of the many people who come to be seen. (Gefli, Germze, Kirknösä Söndergaard, 2006).

People activities are the basic building blocks of a place. They are the reason people come the first time and why they return. When there is nothing to do there, a place will be empty and unused and that generally means that something is wrong. (Project for Public Spaces, Inc., 2000)

When people see friends, meet and greet their neighbors, and feel comfortable interacting with strangers, they tend to feel stranger sense of place, attachment to their community-and to the place that fosters these types of social activities. This makes sociability a difficult but unmistakable quality for place to achieve. (2000)

Life in the parks has also changed over the years. More than a century ago, promenades were taken on the city ramparts, affording a fine view to people and city below. When the ramparts were razed, the green areas that replaced them became sites for a wide range of pursuits, play, ball games, sunbathing. And now in recent years small cafés with outdoor service and music performances have been added to the other traditional pastimes. (Gehl, Genzler, Kirkness, Sundgaard, 2006)

1. passive staying activities such as stopping to watch city life from a stair step, a bench or a café
2. active, sporty activities like jogging and skating (Gehl, Gemzoe, Kirknoes & Søndergaard, 2006)

DIFFERENT SEASONS . DIFFERENT  AKTIVITIES

STADT PARK

[illegible]

Autumn
Winter
Spring

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Becoming the first public English gardens.

VIENNA

One of the symbols of Vienna: Rathauspark (City Hall).

Recreational area since the time of the monarchy

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MATERIAL AND METHOD

In this study we describe different recreation activities according to sociological dimension with observation method in Vienna's urban parks. Vienna is the capital of the Republic of Austria and also one of the nine states of Austria. Vienna is Austria's primary city, with a population of about 1.7 million (2.3 million within the metropolitan area). It's cultural, economic and political center (Wikipedia). It's the 10 th largest city by population in the European Union (EU). Vienna is host to many major international organization such as the United Nations (UN) and OPEC.

Vienna possesses many park facilities, including the Stadtpark, the Burggarten, the Volksgarten (part of Hohenburg), the Schönbrunn Palace, the Belvedere (home to the Vienna Biotope Garden), the Donaupark, the Schönbrunner schoolpark, the Prater, the Augarten, the Rathauspark, the Stadtpark, the Tiergarten, the Dohngarten, the Volkspark, the Kurpark Oberlaa, the Augarten, Elisabeth-Park and Türkenschanzpark.

Also small parks are everywhere in the inner city areas. Many of Vienna's families parks include monuments, statues and fountains. The imperial Schönbrunn grounds contain an 18 th century park which includes the world's zoo founded in 1752. Art and culture have a long tradition in Vienna, including theater, opera classical music and fine arts. Vienna also has a number of opera houses, including the Theater and Vienna, the Staatsoper and the Volksoper the latter being devoted to the typical Viennese opera.

CONCLUSION

People in Vienna use leisure time pursuits differently. They use many different activities that would have been on a list that may become useful and appropriate additions to parks (Morris and Francis). People always visit parks for having a relaxing and historical places. These are well received help to create a positive image.

- Many people of all ages come to parks to relax, especially elderly people use downtown parks. They go to the park to look for friends. And they interested in meeting new people.
- School-aged children always come to the parks to find a playmate. They want to play where they most enjoyed playing, often overgrown, unimproved areas.
- Teenager may cruise to visit through a park looking for friends, and a young adults. They play with tennis racket. But urban parks are not suitable for them. Because of society does not fully acknowledge their needs. They offer basketball court and basketball backdrops. And they use parks for much more than organized sports.
- Vienna's people mostly use urban parks to contact with nature. Especially for elderly users, some natural environment of a park is not enough to attract them.
- Some users visited parks less frequently and were also more likely to visit alone. They engaged in passive activities such as sunbathing in sunny weather, on the beach, reading, sleeping under the sun, sitting, walking, informal games or imaginative uses the other activities such as walking with dogs, jogging, skating, cycling, doing exercises, studying and playing a game (volleyball, tennis, basketball).
- And there is more activities for children doing with their parents.

We asked their suggestion to the outdoor recreation facilities (according to our interview) they came to the park to escape small over crowded apartment living and also technology, to meet friends, to visit the urban parks to breathe fresh air, view of natural scenery.

They describe their city with too structured and poorly landscape. When asked to describe these parks in three words, more than half offered descriptions that could be classified under the general heading: they used these words: nature, peaceful calm, relaxing.

Their suggestion according to our interview, they come to the park to escape crowded people and traffic congestion. And also they came to the park to meet friends, visit park to breathe fresh air and look for landscape.

Besides this many low income people leave in Vienna. And they can not go to many parks, such as Stadtpark. So they have to use neighbourhood open space when possible. When we asked their open space, they say, they want to clean air, much more trees, safety from children to play and having a time. And they want to feel better lifestyle.

REFERENCES

- Chesnut, L., 2004. The Role of Urban Parks for the Sustainable Development of Cities. London: The Urban Planning Institute of America.
- Francis, C., 2004. Urban Open Space: A Guide to the Design and Management of Urban Open Space. London: The Urban Planning Institute of America.
- Carli, E., M. Parnis, L. Smith and A. Stone, 1992. Public Space: A Guide to the Design and Management of Urban Open Space. London: The Urban Planning Institute of America.
- Smith, L., 1972. The Government of Open Space. In: A. Stone, L. Smith and A. Stone, 1992. Public Space: A Guide to the Design and Management of Urban Open Space. London: The Urban Planning Institute of America.
- Smith, L., 1972. The Government of Open Space. In: A. Stone, L. Smith and A. Stone, 1992. Public Space: A Guide to the Design and Management of Urban Open Space. London: The Urban Planning Institute of America.

CAUSES OF STRUCTURAL DAMAGE FORMATION OF SHORT COLUMNS

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SUMMARY

Both designer and practitioner should work carefully to prevent the disorder in constructions. The disorders in constructions can be discussed in plans and in vertical structural elements. Torsion of construction, disproportion of consoles, weak floor formation, discontinuity of covering, joint column, the formation of short column, and more spaces in coverings can be shown as an example for this situation. In this study especially the formation of short columns which is the one of the column damages and the cause and effect relations of them are analyzed. Samples are compiled from practiced constructions, the importance of the subject is emphasized for the engineers and architects by the damaged examples after the earthquake.

INTRODUCTION

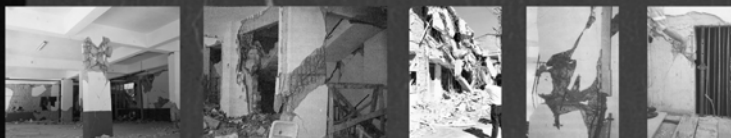
The researches after the earthquake give information about the factors that cause damages in constructions. In this study, "short columns" that one of the damage causes of the disorder construction is dwelled on. Accommodation of a good architectural design and a good structure system is always an acceptable formula. Structure is the essential bearing of construction. For example, column, joint and coverings in a reinforced concrete carcass construction are shown in the group of bearing elements (1). Columns are the vertical bearing elements of a construction. The rules of the standards and regulations, scientific procedures of that country are taken into account while calculating the structural elements. But in some cases project and calculating errors occur and also in some cases there may be construction site errors.



COLUMN DAMAGES

As a result of scientific researches, the damages in the columns and the cause of them can be summarized as follows:

- 1- It is essential that the strength of the columns must be more than the joint. There will be joint damages in the edges of the columns if the columns are designed weaker than joints, the reinforcement placement is short and the stirrups are not tied tightly. Tension cracks on the concrete occur by the fact of the reversal of the earthquake movement, crushing increase by pressure crushing events, concrete covering peels off.
- 2- There will be shearing cracks of nearly 45 degrees inclination if the strength of the column is not enough to carry the shearing force.
- 3- Pressure crushing events occur during earthquake if pressure resist of concrete that constructed the column is lower than the resistance assumed in the project and the axial load for column is %50 more than the bearing capacity of that column. This is brittle fracture and instantaneous rupture of a column. Construction may suddenly settle down.
- 4- Diagonal torsion cracks occur on the one side of the column by the effect of torsion momentum (2).



FORMATION OF SHORT COLUMN

One type of the damage that destructs columns is the formation of "short column". According to disaster regulation, if the formation of the short columns can not be prevented, shearing force essential for calculating of lateral reinforcement will be calculated by the equation of $V = (M_a + M_b) / L_n$. The moments that occurred at the top and the bottom edges of columns, they will be calculated by $M_a = 1.4 M_{ra}$ and $M_b = 1.4 M_{rb}$ for the top and the bottom of short columns, L_n will be taken as the height of the short column (3). Here, designer is suggested to enter the exact height of the short column while entering the calculating data, and to increase the moments %40 if the formation can not be prevented.

Short columns may arise because of the bearing system or the spaces between the columns in the infill walls. The other reasons of the formation of short columns are indicated by the general fixings that take place in the work. The restoration and reinforcement of the reinforced concrete construction. While restoration is made for damaged constructions, there is no need for the construction to be damaged for the reinforcement. There may be the need of reinforcement for a construction that is not damaged.





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For example;

- in the cases to understand that the construction is projected or constructed insufficiently,
- The reinforcement comes into consideration when the aim or the conditions of the use of the construction is changed, although it is not damaged (4).

Column becomes more rigid than in the project because of the preventing the horizontal deformation of the column by non-bearing elements such as division wall, transom etc. and as a result of this it is exposed more shearing force than calculated in the project. It is a kind of invitation for the damage of shear fractures.



Nearly in all of the constructions the height of the columns bearing the intermediate ding stairs decreases half of the normal floor columns because of the intermediate ding joists getting stuck. As the exact height is not taken into consideration by the designer, it turns to be a short column behavior. These parts of the construction invite the damage.

The sticking of the eaves practiced in the entrance door of the construction to the around columns transforms these columns to the short.
The height of the floors is higher when the ground floors are projected as big store, market and shop, the coverings and the joists of the clerestory are determined to some columns.

PRECAUTIONS

One should prevent the irregular construction formations and select the essentials of calculating carefully during the construction process for preventing the unacceptable damaging cases. Interventions should be made to abolish the risk of short column during the construction process and while using the construction.

Damage in construction is seen at the bearing elements and non-bearing elements. The damage at the non-bearing elements may not be dangerous for the stability of construction. But damages at bearing elements create significant danger.

Shearing stress should be searched carefully at the connection points of column and joist. The number of the frequency of the stirrups should be increased at these zones, and continued along the height of the joist.

During the earthquake the amount of the load on the reinforcement causes the sticks' inelastic torsions. By increasing of the reinforcements, concrete is departed and upper coverings peels off. The shrinking concrete section can not carry the load, column is broken. For that reason the stirrups are important.

"A rule of thumb" should not be preferred for the sake of the simple calculating, the fewness of procedures, the usage of symmetry and similarity. The exact height of the column should be entered into calculating data and should be calculated according to the rules of regulations. The approved project should not be changed.

The entrance eaves, coverings of clerestory, intermediate ding should not be stuck to columns. Short columns should be supported from edges and the wing wall that is sufficiently high should be put up to shortening columns' free sides while putting ribbon window for lightening concern and especially building basement outer walls.

REFERENCES:

1. Türkçü, C. H., 2003, "Çağdaş Yapırcılık Sistemleri", İstanbul.
2. Bayraktar, N., 2001, "Depremde Hasar Gören Yapıların Onarım ve Güçlendirilmesi", İMİ, İzmir Şb., No 15, İzmir.
3. Anonim, 1998, Afet bölgelerinde yapılacak yapılar hakkında yönetmelik, 2 Temmuz 1998 tarih, 23390 sayılı Resmi Gazete.
4. Demir, H., 1999, "Depremde Hasar Görmüş Betonarme Yapıların Onarım ve Güçlendirilmesi", İstanbul.

CONCLUSION

The damages occur in constructions because of errors of project and calculating, not obeying the standards and regulations in validity, not strengthening the constructions built according to the old regulation, construction errors, defects of materials, changing the aim of the usage of the construction, deformation of load balance, changing the project during the construction process, negative interferences to the bearing elements while using the construction.

In this study, column damages and especially the formation of short column are emphasized.

This will be a good experience for engineers and architects as not to live these negative examples occurring by the natural disasters. Because of the existence of the formation of short column still in many constructions causes emphasizing the importance of the subject and insists to tell.

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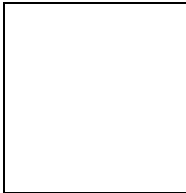
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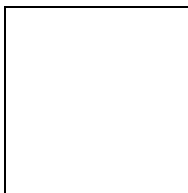
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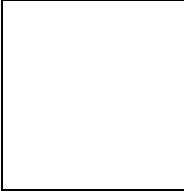
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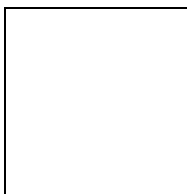
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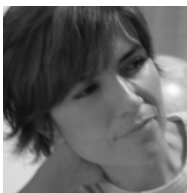
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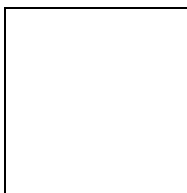
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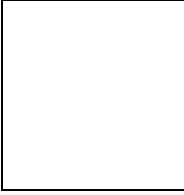
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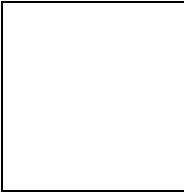
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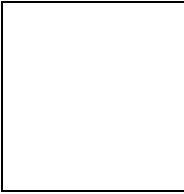
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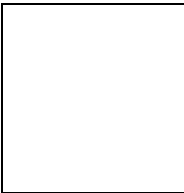
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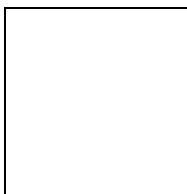
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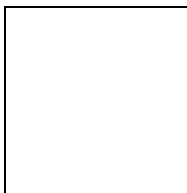
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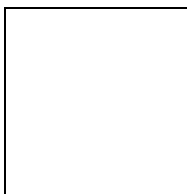
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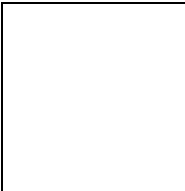
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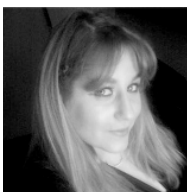
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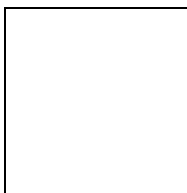
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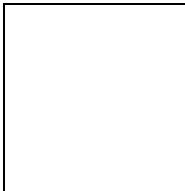
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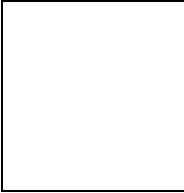
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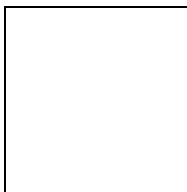
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