THE TRANSFORMATIONAL LIMITS OF TECHNOLOGY
ON ARCHITECTURAL DESIGN
WITH EMPHASIS ON THE ROLE OF DIGITAL TECHNOLOGIES
IN THE DESIGN PROCESS

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This is to certify that we have read this thesis and that in our opinion it is fully adequate, in scope and quality, as a thesis for the degree of Master of Architecture.
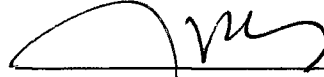
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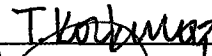Examining Committee Members

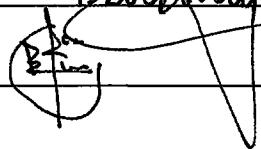Assoc. Prof. Dr. Abdi Güzer

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ABSTRACT

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This thesis tries to explore the transformational limits of technology on architectural design. With the guidance of certain philosophical arguments which are similar with their criticism on the Modernist discourses of legitimating the role of technologies in the processes of production, these limits are derived and questioned in the domain of architecture, with emphasis on digital technologies.

The discourses of especially Martin Heidegger and Jean-François Lyotard guide the development of an argument which can be summarized as the three issues of technological transformation. (I) That with the emergence of modern technologies, man conceives nature within mathematical considerations and rationally tries to get the most out of it. (II) That a technological transformation is needed at an instrumental level as a result of mathematical considerations. (III) That due to the loss of man's creative imagination, another level of transformation becomes apparent. Man himself is unconsciously transformed.

The limits are thus shaped. With respect to the level of dominance of mathematical considerations in the design process, two possible limits inside which the transformation of digital technologies is accepted are derived.

A case study questions these issues among designers. Conclusively, it is demonstrated that a majority of architects are conceiving design with mathematical considerations to a certain level where the role of imagination is still protected. Parallelly, the limit is put at the instrumental level. However, another common claim is that we encounter cases where the limits are broken and where digital technologies take the place of human imagination.

Keywords: Technology, Enframing, Technological Transformation, Architectural Design Process, Digital Technologies.

ÖZ

TEKNOLOJİNİN MİMARİ TASARIM ÜZERİNDE DÖNÜŞTÜRÜCÜLÜĞÜNÜN SINIRLARI DİJİTAL TEKNOLOJİLERİN TASARIM SÜRECİNDEKİ ROLÜ

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Bu tez, teknolojinin mimari tasarım süreci üzerindeki dönüştürücülüğünün sınırlarını araştırıyor. Modern teknolojik söylemlerin eleştirisinde birleşen seçilmiş felsefi tartışmaların ışığında, dijital teknolojilerin sorgulanmasıyla bu sınırlar ortaya çıkıyor.
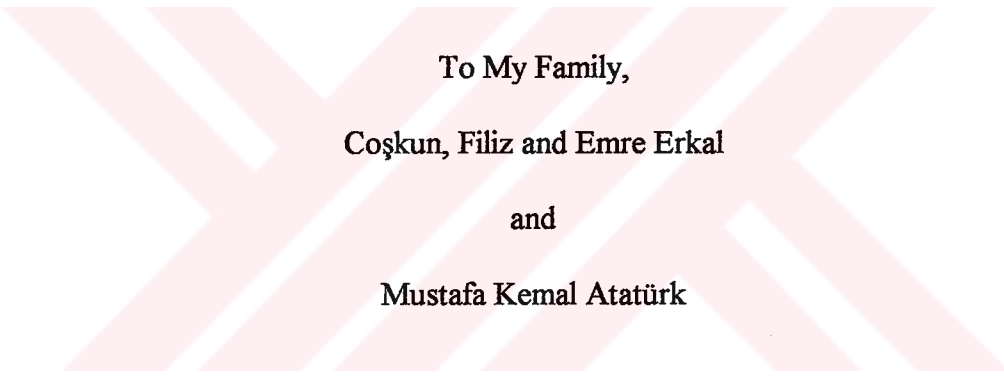
Özellikle Martin Heidegger ve Jean-François Lyotard gibi felsefecilerin söylemlerinin rehberliğiyle teknolojik dönüşümün üç boyutu açıklanıyor. (I) Modern teknolojinin getirdiği anlayışla doğanın sonuna kadar değerlendirilmesi gereken bir kaynak olarak algılanması. (II) Bu anlayışın bir sonucu olarak enstrümantal düzeyde insanın bir dönüşüme ihtiyaç duyduğu. (III) Bunun, insanın üretim sürecinde kontrolü ve yaratıcılığını kaybetmesi boyutunda bir dönüşüme kadar gittiği.

Bu üçüncü boyut, tehlike doğuran bir durum olarak ortaya konuyor ve buna karşı dijital teknolojilere bir sınır konup konmadığı soruşturuluyor.Tezin ikinci bölümünü oluşturan çalışma da bu soruşturmayı üstleniyor. Sonuç olarak, büyük bir

çoğunlukla, çalışmaya katılan mimarların teknolojiyi enstrümantal sınırlar içinde kabul ettiğini ortaya koyuyor. Buna karşın mimarlar arasında bu sınırın kimileri tarafından kaldırıldığı, yaratıcılığın dijital teknolojilere teslim edildiği görüşü de ortaklık gösteriyor.

Anahtar Kelimeler: Teknoloji, Çerçeveleme, Teknolojik Dönüşüm, Mimari Tasarım Süreci, Dijital Teknolojiler.

To My Family,

Coşkun, Filiz and Emre Erkal

and

Mustafa Kemal Atatürk

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CHAPTER 1

INTRODUCTION

1.1 PROBLEM

This is a thesis on the transformational role of technology on architectural design with emphasis on the effects of digital technologies in the design processes of architects. Architectural design process is here considered to be a process of production due to the creation of an architectural project which indeed is a one to one corresponding representation of the final product, the building. The role of digital technologies inside this process is usually presented in instrumental terms. Digital technologies are considered to be only the instruments of the design process. However, this thesis aims to present the danger of such an instrumental definition under the guidance of certain philosophers who are currently influential on today's philosophical debates.

Technological transformations are what is considered as danger by these philosophers. This needs an explanation. What is transformed is the process of production at first hand and man himself at second hand. The problem of this thesis is to determine the limits of these transformations on the process of architectural design.

Technology is the most important keyword in this study as the word itself may connote many different meanings. It is essential to develop a certain understanding of technology with respect to architecture, as research on what technology means for different ways of thinking and for different persons, in the domains of philosophy, art, architecture and language shows. Eventually the author has been led to take a general look on the changes in the domain of architecture, in order to determine in which aspects of architecture (and especially, the design process) is there an interaction with technology. This thesis takes the word technology in a wide sense. However, the aspect of technology which is of primary significance in this thesis is the digital technologies. The erection and construction of a building is sure to be related to building technologies. Therefore, there is seemingly a relation between architecture and building technologies. However, when considered inside the dominant discourse of this thesis, building technologies are the instruments of the processes of producing, (that is erecting) a building. When technologies are to be considered as the instruments of a process of production, the technologies inside the processes of architectural design should then be something different from building technologies. Here, what is concerned is the instruments of the making of an architectural project. Today, this process is closely related with digital technologies in many aspects. Therefore, this thesis puts the main emphasis on digital technologies. Within this scope, the situation that Martin Heidegger explains with the term "enframing" is being seeked inside design processes.

The research done for the preparation of this thesis demonstrates that there is a certain point of view in philosophy with respect to technology as a means of production. Although their methods or terminologies may differ, the common points among some philosophers present that with the emergence of modern technology and modern science, there has been a technological transformation of man's processes of production. Especially Martin Heidegger's argument on modern technology demonstrates that while celebrating technologies, man has to be aware that there is a threat on the importance of his own creative imagination inside his processes of production. Heidegger considers this threat to be caused by the change in the way that man conceives nature with the beginning of modern physical science which dates back to the seventeenth century. The conception of nature as something that is completely strange to man is the main threat for Heidegger, as man is actually nothing more than a part of that nature. With this change due to modern technology, man has been through a transformation and become a standing-reserve in his own processes of production. According to Heidegger, there is an essence of technology which forces man to challenge and which determines his place and role in the processes of production. This essence that puts mankind in order is named as "enframing". With this enframing, Heidegger refers to the side of technology that its unity with bringing forth in the sense of *poiesis* is lost.

In a specific essay of 1954, "The Question Concerning Technology" Heidegger puts forward these ideas. He is pointing to how the means of production change with respect to modern technology. Heidegger's work has been influential on most of the philosophers and writers since the time it has been written. Debates

on the argument derived in this essay have always been essential on shaping of the course of philosophy on technology. Inside the critic of the ideology of Modernism, many French Post-Structuralist thinkers, and especially Jean-François Lyotard, keep a similar approach related to digital technologies.

A great technological transformation is currently effective on the modern daily life. The proliferation of computers, computer networks, telecommunications, namely the emergence and worldwide acceptance of the digital technologies is the issue here. This situation is valid for architecture as for many other domains. Many architectural offices in and around Turkey are beginning to employ the usage of digital technologies in the design process. As a consequence of the world wide acceptance and use of digital technologies, many domains of business today are getting in touch with computers. This takes the transfer of information related to the business done, into the digital medium whether it be audio or video, script or graphic information. Furthermore, with the phenomenon of communication among computers, both the Internet and computer networks enable data transfers and communication within this digital medium. Briefly, information is being transformed into digital data. This transformation forms the base for Lyotard's argument.

Lyotard's criticism stands on the relations of modern science with the narration of it which is the philosophy of Modernism. He points that as a result of this relation there exists a continuous challenge of technology which enables the proliferation of digital technologies in every aspect of life. Knowledge is produced, disturbed and reached freely with the help of digital technologies. As Verena Andermatt Conley states, with this aspect, digital technologies are considered to

provide a "salvation" for ordinary people. Anyone can be a graphic designer, a musician or a movie producer with the help of appropriate digital support. Lyotard, however states that there is a danger of losing our humanity while trying to communicate with the computers, because we have to communicate via the language that the computer can understand. In the generation of French Post-Structuralism, this stance finds various expressions. For example in the work of Gilles Deleuze and Félix Guattari an extreme imagination of man as a machine among other machines is demonstrated. These examples are to be presented in the body of this thesis.

The problem of this thesis becomes apparent when one begins to seek the validity of these arguments in a reformulation with respect to the context of architectural practice. First, architectural design is considered as a process of production. This means that technology in this thesis is concerned as the means of design, the process of realizing an architectural project. The formulation of the problem starts with the application of Heidegger's definition of rational mathematical processes of production to the processes of architectural design. This conception of design makes it a process of production which is about the rational solution of a mathematical problem and for which there is a correct solution. Thus, with this kind of conception, architecture is an issue of knowledge. The job of design becomes a job of reaching the correct information. As this conception of production brings forth an enframing that pushes man to a technological challenge, man is changing his means of production. Digital technologies take the place of conventional means of design. This is an instrumental transformation. However,

Heidegger's argument is that there lies a danger in this instrumental conception of technology, because inside this enframing, man is turning into a standing-reserve which is now ordered by technology. This danger is similar to the danger that Lyotard sees in the proliferation of digital technologies.

When Heidegger's argument is summarized in one sentence this is the idea: Any process of production is under a change with the emergence of modern technology which reduces the importance of *poiesis* as a way of production that depends on man's being a part of nature. As a consequence of the aforementioned chain of ideas, the problem of this thesis relies on a reformulation by replacement of terms in this sentence. Process of production is replaced with process of design and modern technology is replaced with digital technology. The reformulation is: The process of architectural design is under a change with the emergence of digital technologies and this transformation which is mainly on an instrumental base has the possibility to become effective on man himself in the sense of standing-reserve.

A logical sequence of relations due to technological transformations is derived from Heidegger's and Lyotard's arguments together: First is the dominance of mathematical and rational considerations inside the process of production. Second, due to this dominance, transformation of the instruments of this process. The third and the most dangerous issue is the transformation of man into a standing-reserve due to the first two. Thus, both arguments turn out to be the discourse of an ontological position which indeed defends that while accepting technologies with an instrumental conception, we are losing our humanity, *poiesis*, experimentation, in other words, creative imagination.

Through the first two issues, Heidegger and Lyotard arrive at the third issue. Both philosophers are, although using different terms, while pointing to the transformation of the instruments of making, are pointing to an ontological problem as a third issue. Similarly, this thesis questions the first two issues and consequently tries to warn the domain of architecture and help the derivation of new questions with respect to the danger in this third issue.

Ontologically, this thesis takes a Heideggerian position due to technology. While questioning the first two issues in the domain of architectural practice, the main goal is to determine the limits to which architectural design is being left to digital technologies and to demonstrate to which limits this can extend when the third issue is considered.

1.2 AIM

The aim of this thesis is to introduce the aforementioned philosophical positions due to their common points, into the domain of current architectural discussions with respect to technology. Thus new questions are becoming apparent. Especially in developing countries like Turkey, technologies are seen more as a means of salvation which will help keeping up in the race against other countries. Digital technologies are considered as instruments, however, the point of view that is dominant throughout this thesis is one that sees danger in this instrumental conception of technologies. This dangerous conception may lead us to disregard the transformative effects of technology. Therefore, these ideas are borrowed from

philosophy in order to make a critical look to the technological transformations especially in the domain of architectural practice possible.

The relations of technology and architecture are discussed in many occasions among architects. However, there is limited documentation of these discussions. Thus, these discussions cannot find the possibility of being re-discussed. Especially in Turkey we begin to feel the lack of such documentation. The ideas cannot feed themselves. In order to take a step towards remedying this lacuna, the author has decided to make a case study that contains the ideas of a number of architects.

The main goal of this thesis is to derive questions. Some possible answers are consequently arrived, but the principal aim is to make the reader ask new questions concerning the relations of architecture with respect to technology.

1.3 METHOD

The research behind this study has been made through many sources on architectural ideas. Their effects may be seen in the style or certain phrases, but the majority of the quotations and ideas are from two unusual, but not irrelevant kinds of source. One is philosophy, and the other is determined architects. This is because of the belief that there is a need for such studies. Philosophy is theory, it derives ideas from actual life and interprets our lives. It always is meant to be directly relevant with life. At the same time it feeds itself with new discourses and arguments. Behind this thesis, lies a research in philosophy, especially in the philosophy of technology. After a while, a certain point of view is believed to be

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found among many distinguished thinkers of different generations, who are currently very effective on especially sociological arguments.

In this thesis the information or the ideas gathered from these two sources are first presented, and then put in an interrelation. Via this interrelative approach, the philosopher's ideas feed the architect's ideas and at the same time the architect's ideas feed the philosopher's ideas. In the following chapters, in a this interrelation is being structuralized.

In the second chapter of the thesis, the presentation of the research is made. While doing this, a certain point of view and the limits of the concepts are made clear. The argument develops mainly in the second chapter where new questions from the original question are derived consequently. These questions make up the problem of the thesis which is carried on to the case study which is in the third chapter. While concerning technologies, certain ideas have had the main guidance to the thesis. Controversial ideas are sure to have been considered inside the research, however not directly taken into the body of the thesis in order not to convert the study into a presentation of the discussions among various philosophers. Rather, inside a logical structure, the relevance of the guiding ideas is concerned with respect to the main domain that this thesis is meant to contribute, architecture. While this second chapter makes a presentation the ideas mentioned, new questions are brought forward all the time through an interpretation. These questions are being answered within a certain scope before the case study. The case study therefore, is not the main source of answers but it is important in order to

bring together the ideas of the individuals who are considered as the ones that are directly inside the practice of architectural design.

The third chapter is about the case study of questioning the validity of the figure drawn by the first step, inside architecture. This case study contains two parts. First is the two interviews with two architects who are selected to be interviewed for certain reasons. This first part also play a role in the development of the argument in the second chapter as they are in many ways distinctive from the second part of the case study which is a study of question and answer. Rather than the aim of the question and answer study, these two have a different significance with respect to their contribution to the aim of developing the argument in the second chapter. The second part of the case study, the study of question and answer, as mentioned, aims to question the validity of the argument developed. The questions are prepared in a logical order that the argument brings forth, as there is no chance of deriving new questions spontaneously. In order not to take much time of the contributor, a short introduction and six brief questions were presented. The third chapter contains certain quotations from the answers, and an evaluation of these answers.

Apart from the evaluation made in the third chapter, a conclusion chapter was necessary, in order to present the ideas reached throughout the text. This is the fourth chapter.

All the material acquired through the case study is included as appendices, to be consulted if needed.

The style has been tried to be kept simple, so has been the language. The order of presentation has been shaped again and again in order to be clear and reasonable.

CHAPTER 2

TECHNOLOGICAL TRANSFORMATIONS

1.1 TECHNOLOGY AND ENFRAMING

In the preface to a collection of essays on technology, the editor, Verena Andermatt Conley states that "technologies are often assumed to be the science of either salvation or human damnation"

> On the one hand, postmodern celebrations of contemporary technology and related cultural sensibilities as the most varied, mixed, and "advanced" assert that they are so beneficial they even help women and other cultural minorities gain higher status. They accomplish what humanistic discourses could never do. On the other hand, elegies on the death of nature and the dangers of automation and dehumanization counter the expression of praise. (1993, ix).

Conley has summarised two points of view with respect to technology with these phrases. In an essay of 1954, "The Question Concerning Technology", Martin Heidegger takes the term "technology" into consideration. According to Conley, Heidegger thinks "in terms of domination of nature and loss of humanness by way of technology". This essay is an evaluation of modern technology with respect to how man and his processes of producing are changing. Rather than "salvation", Heidegger is speaking of a "damnation". (Conley, xiii)

Heidegger's question concerns the transformation of man by the "enframing" of modern technology. He considers the discourse of technological

development in order to demonstrate that under this development lies the essence of technology. Consequently, via unfolding the concept of technology, what Heidegger reveals as the essence of technology is "enframing", a power that places man in a continuous challenge and that requires transformations. While doing this, Heidegger, with his poetic style, requires help from art, namely *"poiesis"* against the threat of the civilization of modern technology (Nalbantoğlu, 24-31). Heidegger does not mention computers, telecommunication or digital technologies, as the essay belongs to more than 40 years ago. However, his ideas are still effective today.

One important point about Heidegger's work is the fundamental idea that what is technological is due to change in time, while the essence he seeks is what is not due to change. Whatever we consider as technologies therefore, are due to change as the requirements of time change. However, what pervades all technologies as the essence of technology stays constant.

> Technology is not equivalent to the essence of technology. When we are asking the essence of "tree", we have to become aware that, that what pervades every tree, as tree is not itself a tree that can be encountered among all the other trees.
> Likewise, the essence of technology is by no means anything technological. (1977a, 287)

First of all Heidegger, makes one think about what one understands of "meaning" and brings another concept: "essence". The essence is not completely distinct from the meaning, for the very reason that in finding the essence of technology, he makes use of "meaning" both through his etymological and linguistic investigations.

His main question is "what is the essence of technology?" from which he derives the second, "what is technology?"

> Everyone knows the two statements that answer our question. One says: Technology is a means to an end. The other says: Technology is a human activity. The two definitions of technology belong together. For to posit ends and procure and utilise the means to them is a human activity. The manufacture and utilisation of equipment, tools, and machines, the manufactured and used things themselves, and the needs and ends that they serve, all belong to what technology is. The whole complex of these contrivances is technology. Technology itself is a contrivance- in Latin, an instrumentum.

> The current conception of technology according to which it is a means and a human activity, can therefore be called the instrumental and anthropological definition of technology. (1977a, 288)

Heidegger considers this to be correct, "indeed so uncannily correct that it even holds for modern technology" but not true, as "the correct instrumental definition still does not show us technology's essence." (1977a, 288) And his search for the truth, namely the essence of technology continues with various reformulations of this instrumental definition. From the means- end relation, he passes to the cause and effect relation, and its four causes as "philosophy has thought for centuries": (1) The *causa materialis*, the material, (2) the *causa formalis*, the form, (3) the *causa finalis*, the end, (4) the *causa efficiens*, which brings the effect that is the finished, actual object. The four causes, according to Heidegger is a false derivation from Aristotle, for Aristotle never had mentioned the fourth cause among his causes. (1977a, 289-90) So in order to speak of a definition that includes this fourth item, he passes to a relation of responsibility, a relation of bringing-forth and revealing. And the four causes now become the four

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modes of occasioning which are gathered within this bringing-forth and revealing. (1977a, 290)

The essence of technology, is searched within this conception of bringing-forth and revealing, ie. production. This essence which he derives through an unfolding of the processes of production, is at the end, named as *Ge-stell* ("enframing" as translated from German by William Lovitt). Enframing in its widest sense. In an interview of 1966 with Der Spiegel magazine, Heidegger makes a clear definition of enframing. This interview at the same time shows his insistence on his argument:

> I see the essence of technology in what I call Ge-stell... The reign of Gestell means: man is under the certain order, demand and control of a force which shows itself in the essence of technology, a force that he cannot control. (1993, 30)

This derivation cannot be separated from Heidegger's ontological position. In one essay by Ünal Nalbantoğlu, an explanation of Heidegger's point is made through a wider look on his phenomenological position. Here, Nalbantoğlu asserts that Heidegger's essay, rather than creating a new discussion on the quality of technology, is aiming to develop a phenomenological ontology. (1997, 26) According to Nalbantoğlu, The main point of focus here is "man", who takes himself out of the level of things that "be" (*seiendes*), to reach the quality of "in-time" being (*dasein*). With *dasein*, Nalbantoğlu states that Heidegger does not refer to man as the master of all other livings. "Man will understand the virtue of his task when he conceives that he is not more privileged than other things in the universe." (1997, 26) Nalbantoğlu's study demonstrates how Heidegger relates this ontological problem within the discussion on technology: "Instead of seeing

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ourselves as a part of nature, we are considering it as a strange object and we are using its sources to the extreme within the frames of rational mathematical plans." (1997, 27) As a result of conceiving every source as such a "standing-reserve", the creator of this process, man, is also conceived as standing-reserve. Heidegger's conclusive sentences bring the important terms together:

> We now name that challenging claim which gathers man thither to order the self-revealing as standing reserve: "Ge-stell" (enframing).
> We dare to use this word in a sense that has been thoroughly unfamiliar up to now.
> According to ordinary usage, the word Gestell (frame) means some kind of apparatus, e.g., a bookrack. Gestell is also the name for a skeleton.
> ...
> Enframing means the gathering together of that setting upon that sets upon man, i.e., challenges him forth, to reveal the real in the mode of ordering, as standing-reserve. Enframing means that way of revealing that holds sway in the essence of modern technology and that is itself nothing technological. ... In enframing (that) unconcealment comes to pass in conformity with which the work of modern technology reveals the real as standing-reserve. (1977a, 301)

In the course of this essay, Heidegger's problem is about the processes of revealing and bringing-forth, namely the processes of production. Technology, presented as a means to an end and as a human activity, is how an object is produced. Therefore, his argument involves the Greek terms *poiesis* and *techné* which are related with bringing-forth. *Poiesis* is the name from ancient Greek that Heidegger uses to name the process of constituting a means-end relation. Nalbantoğlu describes how Heidegger makes use of this word and relates it to his argument:

> *Poiesis.* A word that means, to give birth, to produce, to create, to reveal a hidden force or reality. ... *Poiesis* unites the four causes (from Aristotles) in order to produce or create something.

Heidegger uses the term *techne*, in order to name the different human abilities and virtues in this process of *poiesis*. (1997, 27)

Heidegger's argument will be more meaningful after this presentation of his main concepts. According to Ingrid Scheibler, Heidegger arrives the essence of technology, taking a closer look at the relations of these terms of producing. Scheibler draws attention to Heidegger's point that "in contrast to the Greek relation of *techné* to *poiesis*/bringing forth, modern technology does not engender a bringing forth in the sense of *poiesis*." (1993, 115)

When all of these concepts in Heidegger's work are brought together, his point will be clear. Modern technology, according to Heidegger, is changing man's processes of production. This change is related to how modern technology changes the interrelation of *techné* with *poiesis*. Because man is in a tendency to evaluate all the sources of nature within rational mathematical processes, there is no more a production (bringing forth) in the sense of *poiesis*. As a result of this state of mind, man is also putting himself into this order of enframing of modern technology which requires continuous challenge.

Heidegger's phenomenological point of view on technology, and the essence of it as enframing which forces man to change continuously is forming the fundamental problem of the work of Alberto Perez-Gomez. According to Perez-Gomez, technology is similar to a dark forest which is the subject of an ancient book belonging to centuries ago.

In "Polyphilo or the Dark Forest Revisited", a book of 1994, Alberto Perez-Gomez reissues an ancient novel ("Hypnerotomachia Poliphili") the author and the date of which have not been exactly determined. "Hypnerotomachia

Poliphili" is presented as one of the most influential works on the development of Renaissance Architecture. In the ancient novel, the hero is a man who has confidence in his own conscience. And though he has been lost inside the dark forest, eventually he is able to find his love (*poiesis*- true art.) While many obstacles occur and try to prevent him on his way to find his true love, he relies on his free-will. The story full of metaphoric images aims to assert that true beauty in art can only be reached with the free mind of the free man which has been one of Renaissance's keywords. The book carries Heidegger's argument into the domain of architecture. Perez-Gomez's point is that inside the process of architectural design there is a need to a bringing forth in the sense of *poiesis* and that inside this process the architect is being blinded by technology.

This is the portrait of a free artist as independent from any demand of commonly accepted orders (the orders which the dark forest represents.) Approaching the issue within Heidegger's terms, Perez-Gomez replaces the "dark forest" in his book with "technology". He takes Heidegger's use of the word technology and puts it in the context of art and architecture.

> Today the dark forest is no longer a threatening and disorienting place; technology is its equivalent, representing precisely that which we cannot control yet also a place of potential meaning once we recognise its mysterious origin (depth, not trickery) and our ability to deconstruct its language in an operation of acceptance, twisting, and eventual healing.
> ...
> Because the Renaissance duality of architecture and nature has been obliterated by technology, it is possible for artists to transcend perspective representation through its own devices and thus reveal a mysterious new cinematographic depth in a technological architecture, supporting the hope that the dangerous enframing of which Heidegger speaks might be deconstructed. Perhaps one day soon it will become possible to collapse the difference between technological and aesthetic

culture, and with it the difference between rationalism and irrationalism that has sustained and frustrated modernity since at least the early nineteenth century. (1994, xxii)

In this book, Perez- Gomez takes his point of departure as technology in the sense of enframing. He has an aim in mind as had Poliphili the aim of reaching his love, true art (*poiesis*). Therefore what is important in Perez-Gomez's discourse is that he points to two sides of architecture. His hero, Polyphilo represents free-will, independent from the enframing of the dark forest, technology. Against this enframing he has his intellect, his personal qualities. He is an artist. He neither is blinded by the dark forest nor needs any guide on his way through, as soon as he relies on his own. Perez-Gomez's book is a faithful reflection of the phenomenological ontological position seen in Heidegger's work. Furthermore, like Heidegger, against the rational mathematical conception of the world, of production and of man, Perez-Gomez requires help from free-will in order to reach processes of production in the sense of *poiesis*.

2.1 DIGITAL TECHNOLOGIES IN ARCHITECTURAL DESIGN

The phenomenological position presented here concerns technologies inside an ontological argument, in order to put forward the idea that man is under the transformative effect of the technologies of production. When current machine technology is considered, it is evident that there is a tendency to collect the tasks of different machines in one. Computer technology provides man with machines that can become different machines with respect to the user's will. Indeed, the facility that computers provide is that, any information that can be transformed into the

form of digital data can be produced, collected, communicated, modified easily with the use of computers. Thus, the main issue to be considered here is the digitalization of information. Computers, on the other hand apart from providing the manipulation of data, are becoming symbols of a technological challenge. This symbolization of computers is a secondary issue through the following evaluation of which, the main issue is to be clarified.

Here is a basic introduction to the characteristics of computers and digital technology. Computers are machines that run on digital principles, ready to realise the user's requirements which are communicated via a computer program. The hardware (chips and electronical circuits) digitally generates the orders of the software (the computer program). Software and hardware work together and without each other they are useless.

Hardware becomes the machine that the software lets it be. It can become a musical instrument, a fax machine, or an aeroplane with the directions of the software. However, this is not valid for some software. For example, word processors. With the use of a word processor like the one used in the production of this thesis, the computer is not only the typewriter. It is more than a typewriter as it can make corrections. It is capable of correcting the wrong spelling and the wrong use of words in the sentence according to certain grammar rules. It has an aim of helping man in both his mental and physical job. Besides, the final document is produced (printed or plotted on paper) as the final step, after all the work is complete and all the corrections are done. And what is more, the work can be stored as digital data in order to be reissued and edited anytime needed.

The emergence of developed operating systems adds to the capabilities of computers. With the use of these multi-tasking operating systems, a computer can become more than one instrument at the same time. The usage of a word processor along with communication software (and hardware needed for digital communication, like modems or network cards) makes the computer a very advanced typewriter that can collect information (in the form of digital data) from other sources of information, like other computers and worldwide databases, ie. libraries, companies or schools. With the help of data communications, the source of information is not only the computer's hard disk, but the database now is the whole world. Whether the required information be stored on a computer at the other side of the world or in the adjacent room it is accessible to the same extent. This data is brought together (pasted) on the computer screen and evaluated. Thus, the document is ready to be printed, stored, and to be used by others as new data.

As a result of these developments in digital technology, the computer becomes an instrument, with the use of which, man is now capable of doing all the three steps of production. Jean François Lyotard mentions this situation as the impact of technological transformations on knowledge.

> These technological transformations can be expected to have a considerable impact on knowledge. Its two principle functions- research and the transmission of acquired learning- are already feeling the effect, or will in the future. With respect to the first function, genetics provide an example that is, accessible to the layman: it owes its theoretical paradigm to cybernetics. Many other examples could be cited. As for the second function, it is common knowledge that the miniaturization and commercialization of machines is already changing the way in which learning is acquired, classified, made available and exploited. It is reasonable to suppose that the proliferation of information-processing machines is having, and will continue to have, as much of an effect on the circulation of learning as did advancements

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in human circulation (transportation systems) and later in the circulation of sounds and visual images. (Lyotard, 1992, 140)

These technological transformations, namely the proliferation of digital technologies is visible in architectural design process in the form of using computers. Especially CAD (computer aided design) software is widely used and preferred as an instrument of mainly drawing, producing the project. However, the computer, with the use of appropriate software, can mean more than an instrument of drawing, more than a "developed pen" as in the example on the usage of word processors along with other software.

The question now to be concerned is "Why is this proliferation, the technological transformations acceptable and preferable?" Time saving is an important reason for this preference. No matter what the distance be to the information needed, the time to access it is the same. Paul Virilio mentions this situation in "The Third Interval: A Critical Transition", an essay that considers the relations of technology and time in many dimensions.

> We know about critical mass, critical instant, and critical climate: we hear less often about critical space. There is no easy reason for this, unless perhaps it is because we have not yet assimilated relativity, the very notion of space-time. And yet space, or critical extension, has become ubiquitous, because of the acceleration of "means of communication" that collapse the Atlantic (the Concorde), reduce France to a square of an hour and a half on each side (the airbus), or, yet again, tell us that the high-speed train (TGV) wins time over time. These different slogans from the world of publicity indicate exactly how much we inherit old ideas of geophysical space; these advertisements also tell us, to be sure, that we are their innocent victims. Today we are beginning to realize that systems of telecommunication do not merely confine extension, but that, in the transmission of messages and images, they also eradicate duration or delay.

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In the shift from the revolution of modes of transportation in the nineteenth century, there emerge a mutation and a communication that affect public and domestic space so strongly that we are hard put to determine what its reality may be. When technologies of telemarketing replace those of the classical era of television, we begin to witness how the premises of an urbanization of real time follow on the heels of the premises of an urbanization of a real space. Because of interactive teletechnologies (the teleport), this abrupt transfer of technology moves from the arrangement of the infrastructures of real space (maritime ports, railway stations, airports) to the control of the environment in real time. Critical dimensions are also being renewed. (Virilio, 1993, 3)

There is a relation between time saving and technologies as Virilio demonstrates. However this is not the only reason of the preference of new technologies in the design process.

Digital technology, in this sense differs from the conventional or "older" technologies. Once all the information to be collected is accessible inside the digital medium (in the form of digital data), the job of bringing this information together can be done via computers and the production of the project document is possible again via additional hardware support to computers, architectural design is being forced, enframed, to be transformed into a profession that can be practised in front of the computer.

This computerization of the society and architecture among other domains, is the point of criticism for some thinkers. Jean-François Lyotard and Jean Baudrillard are two of these thinkers, usually mentioned with some others under the designations, "Post-structuralist thinkers", or "French Post-structuralism". What seems to be common among these thinkers is that their ideas demonstrate a similar approach to technology with those of Martin Heidegger. Although Heidegger's work is not directly cited in their works, the problems of these thinkers remind of

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the problem of Heidegger's work. For instance, Heidegger has pointed that the science of the future would be cybernetics and has united this term with the conception of enframing in the 1966 interview with Der Spiegel. (1993, 32) As the science of developing artificial intelligence that searches the possibility of creating thinking computers, cybernetics is one of the main issues in Lyotard's criticism on modern science and knowledge.

Lyotard's general attitude can be summarised as one against the relations of Modern science with the ideology of Modernism as a narrative of this ideology. While criticising the modernist relations of legitimizing between science and narratives (namely philosophy) he points to the problem of cybernetics and computer science. In his work "Answering the Question: What is Postmodernism?" he points to a demand that comes from every direction: A demand to "put an end to experimentation". (1992, 142) Mainly he characterises this demand with Jürgen Habermas and his thought of Modernism as an unfinished project. Then he expresses his observations on the consequences and potentials of scientific knowledge, knowledge in computerised societies.

> Scientific knowledge is a kind of discourse. And it is fair to say that for the last forty years the 'leading' sciences and technologies have had to do with language: phonology and theories of linguistics, problems of communication and cybernetics, modern theories of algebra and informatics, computers and their languages, problems of translation and the search of areas of compatibility among computer languages, problems of information storage and data banks, telematics and the perfection of intelligent terminals, paradoxology. The facts speak for themselves (and this list is not exhaustive). (Lyotard, 1992, 140)

As the discourse of scientific knowledge is mentioned, here it is inevitable to mention also the image based dimension of computers which also feeds this

discourse dimension on a cultural base. The image of computers is widely being abused in the public eye. Computers are being the symbols of a challenge and competition. Showing how many computers are owned is being the most relied on advertisement for any organization or company. That all the job in an office is computerized is becoming the biggest goal. Computerization is believed to bring civilization and thus creates a prestigious image in the public eye. The imagery created by computers thus feeds the proliferation that Lyotard is mentioning.

Mark Poster, known with his writings on the post-structuralist "generation" of thinkers evaluates this approach of Lyotard as one "in the spirit of Heidegger" as, "For Lyotard modern science, armed with computers, presents a dangerous threat to freedom." Lyotard points to a threat on experimentalism and freedom in a similar way with how Heidegger mentions the threat on *poiesis*.

Poster's research on Lyotard includes also a study on computer science. This study on the writings of computer scientists puts forward what is dangerous for Lyotard.

> If the essence of Computer Science is a machine, how is the boundary between the science and the scientist to be drawn and maintained? In another letter, Peter Denning expresses just such an anxiety about loss of boundary between the machine and the computer scientist: "Without knowledge of the abstractions of computer science we run the immense risk of being unable to recognise when we are becoming the subjects of the instruments we created to be our subjects." Allan Newell and Herbert A. Simon, Turing Award winners in 1976, precisely attempt to define computer science as the unity of man and machine: "The machine- not just the hardware, but the programmed, living machine- is the organism we study." For them, however, language is material in a literal sense: "intelligence resides in physical symbol systems." And the interpretation of "language" is algorithmic: the simple "carrying out" of processes designated by programs. Language, in other words, is formulaic, at its best closed and unambiguous.

Computer science then is a discourse at the border of words and things, a dangerous discipline because it is founded on the confusion between the scientist and his or her object. The identity of the scientist and the computer are so close that a mirror effect may very easily come into play: the scientist projects intelligent subjectivity onto the computer and the computer then becomes the criterion by which to define intelligence, judge the scientist, outline the essence of humanity. (Poster, 1990, 148)

The disappearing boundary between human being and machine. Man, in order to be able to communicate with the computer, has to use the same language with it. While computer science is giving importance on artificial intelligence and cybernetics, as the study on and the belief of the possibilities of creating the model of human mind in the digital medium, human mind begins to accept and utilise the capacities of the machine of his own creation. A loss of distinction between the object and the subject as Poster names.

This is what Jean Baudrillard refers to when he says that "there is no longer any system of objects."

> (... The famous Japanese car that talks to you, that spontaneously informs you of its general state and even of your general state, possibly refusing to function if you are not functioning well... The fundamental issue becomes the communication with the car itself, a perpetual test of the subject's presence with his own objects, an uninterrupted interface...) (Baudrillard, 1989, 127)

We have come from the initials of Heidegger to a point where we can conceive that there is a force (enframing) that we cannot control and that controversially controls and places mankind inside the system that it creates. The works of Lyotard, Poster and Baudrillard are chosen here to present this place that technology is forcing us to be in. Under this heavy load and force of enframing, man is day by day losing its distance and difference with the machines he has

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created. Gilles Deleuze and Félix Guattari seem to be the thinkers to explain this situation at its extreme.

> It is at work everywhere, functioning smoothly at times, at other times in fits and starts. It breathes, it heats it eats. It s**ts and f**ks. What a mistake to have ever said the id. Everywhere it is machines- real ones, not figurative ones: machines driving other machines, machines being driven by other machines, with all the necessary couplings and connections. An organ machine is plugged into an energy-source-machine: the one produces a flow that the other interrupts. The breast is a machine that produces milk and the mouth a machine coupled to it. The mouth of the anorexic wavers between several functions: its possessor is uncertain as to whether it is an eating-machine, an anal-machine, a talking-machine, or a breathing-machine (asthma attacks). Hence we are all handymen: each with his little machines. (Deleuze and Guattari, 1992, 1)

The reason for bringing all these ideas from different writers is bringing forth a relation with Heidegger's conception of technology with today's digital technologies in architecture. Heidegger, as beforementioned, speaks of the changing conception of bringing forth, production with respect to how man conceives nature and even himself within rational mathematical equations. With this argument, he draws attention to the loss of the relation between *poiesis* and *techne* in the domination of modern technology. Parallelly, this thesis tries to argue if this relation of modern technology with the processes of production can be valid for the relation of digital technology with architectural design process.

When all these ideas are brought together, it is possible to speak of a process of architecture that is completely done with the use of digital technologies. Is it possible to speak of architectural design without the architects experimentation, intellect, or *poiesis* in the process?

In order to reach the answer to this question the case study has been done. Two main issues are derived from the main question in order to prepare a base for the questions of the case study:

I. Is architecture business? This tries to question if architecture is conceived as a process of production in which rational mathematical criteria are effective. Is the architect responsible of the solutions of different equations or is he only the designer? Here the aim is to determine the role of the architect's intellect in the process of design. This is related to Heidegger's argument on *poiesis* and Lyotard's argument on experimentation.

II. To what extent do digital technologies actually get into the design process of architects and to what extent is it possible to get into. What do digital technologies mean for architectural design. Is there a technological transformation of instruments only, or does this transformation have an effect on the role of man and his creative imagination.

Indeed, these are questions that find hypothetical answers inside the aforementioned arguments. The range of possible answers is drawn between the lines. All the ideas borrowed for this chapter somehow speak of an aspect of humanity on which technology has a dangerous role. *Poiesis*, free-will, experimentation, freedom and true art are some of the terms that refer to this aspect of humanity. All the selected writers refer to a kind of binary opposition with these concepts on one side and technology on the other side. It is not a goal of this thesis to put forward such a concrete opposition between concepts since neither of these

concepts refer to a clear opposition with technology. However the range of possible architectural positions with respect to this opposition because, when the mentioned dimensions of digital technologies are considered, it is even possible to speak of an architectural design process that is completely independent from the control of man's creativity and intellect. The transformational limits of technology on architectural design are to be considered within the range that this opposition draws.

In order to relate this argument to the actual scene of architectural design, the two main questions that are introduced above are being questioned to architects who are currently effective as designers. Consequently, the aim is to present to which extent architectural design is going under a technological transformation on the instrumental base. The goal is then, to reissue the danger in the instrumental conception of technologies with respect to digital technologies.

CHAPTER 3

CASE STUDY

3.1 INTRODUCTION

This case study is made in order to relate the philosophical discussions to the domain of architectural practice. Therefore the case study is about questioning architects. The aim of the case study is to question the validity of the interaction between technology and processes of production, which is the subject of the previous chapter, inside the domain of architectural practice, namely architectural design. Is it possible to replace the process of bringing forth and production with the process of architectural design, and to replace modern technology with digital technologies. Is there relation between digital technologies and architectural design process similar to the relation between modern technology and bringing forth.

Two main questions are derived consequently, in order to be answered with the help of this case study:

1. To what extent is architectural design a mathematical rational process of production?

2. To what extent do digital technologies pervade this process?

The first question is searching a definition of architecture with respect to the architect. It aims to receive a definition that gives an idea on how (and to what extent) rational mathematical relations and considerations effect architectural design processes of the contributing architects. The second question seeks the validity of carrying the technological debates in philosophy into the domain of architectural practice. After these questions, another goal is to determine the parallelity between the answers to these two questions.

This structure of questioning the architects has been determined exactly, only after the first two interviews which are considered to make up the first section of the case study. These first interviews, rather helped this structure to be formulated, because the main question behind these interviews intended only to determine how the concepts of technology and architecture could be brought together. Technology and architecture are not indeed separable from each other when literature on current architectural discussions are considered, however, such a continuous and documented discussion is not available when the discussions among Turkish architects are to be considered. These two interviews were meant to help the author relate the concept of enframing to the daily practice of architects. Later, as a structure was formulated. The validity of this structure was to be questioned among a greater number of architects. The two sections of which the case study is made up differ so, with respect to the question they aim to answer. On the other hand, they also differ with respect to the methods of communication.

The first section of the study includes interviews, while the second section is a study of question and answer. The first two interviews were made face to face with the architects. The question and answer study was made with the help of fax communication.

3.2 THE FIRST TWO INTERVIEWS

The first two interviews were made with Murat Artu and Kenan Güvenç. What distinguishes these interviews from the others is that they present the two opposite points of view and that they help the formulation of the second section of the case study. Here is information on both the important points of these interviews and on how the discussion is carried on to the next section.

Murat Artu is a practising architect who also has an experience of teaching at the Middle East Technical University, Ankara. At the time of the interview, his office was working on four projects. Five architects work in the office. Güvenç, on the other hand considers himself as "an architect with no job". He is a part time instructor at Gazi University, Ankara. He is the director of publication of the "Mimarlık" magazine which is the publication of the Chamber of Architects, Ankara.

After the interviews, the essential point that these two architects differ from each other is in their definitions of architecture and the design process. And this difference is based on the ideas related to the ideas of the architects on the relations of technologies and architecture which this thesis

issue. The first interview to be presented is the one with Artu. Later, the interview with Güvenç is presented in order to demonstrate how a critic of Artu's position can be made and how can a Heideggerian position be applied to the domain of architecture. The presentation of these two interviews both demonstrate how different ideas can be put on the same issue, and how the question-answer study is formulated.

In the beginning of the interview with Murat Artu, a brief introduction that covers relevant arguments in philosophy is made. Then, the first question is directly about the use of computers in architecture. "What is the reason for using computers in various processes of architectural design? Is it that computers save time because preparing a project today requires more speed?" The answer is that speed is not the primary criterion. Speed is a criterion but it is secondary. Artu states that the primary criterion is the correctness of the job. Everything included in the project should be correct and precise in order not to encounter problems during the erection and use of a building. The need for correctness of a project is consistent in architecture. It is so, both in the past and in today's conditions. However, what is due to change today, is architecture itself. This change is caused by the increasing number of requirements ("parameters" with Artu's terms) from the architect. Thus, the question shifts to how architecture and architectural design change.

According to Artu, architectural design is no more about drawing walls and voids. As architecture is divided into different disciplines, the designer has to interact with all of these disciplines and has to cover all the

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requirements from the building at the process of design. Therefore an

architectural project has to include drawings of not only the walls and voids,

but also of all the services that the building is required to provide.

> The architect is seen as a lonely man. However this is
> changing. As a lonely man, he can be an administrator. He has to
> be the master and the organiser of the relations among the
> different disciplines inside his own office and at the same time, he
> has to organise the relations with other disciplines.
> ...
> What the architect has to do is not drawing, but
> deciding. The architect once decided 'this or that' on hundred
> parameters. However, now the number is a hundred thousand. It
> is not a job that one person can do to know and decide
> everything inside these parameters and to make the necessary
> connections. (Appendix A)

With these words, Artu states that there is a change in architecture.

As the requirements from the architect increase in number, architecture

changes from an artistic activity to a business. Artu's definition of the design

process is at the same time the definition of a rational mathematical process

of production. There are thousands of parameters for every service, and there

is one correct choice among all parameters. Therefore, the goal of the

architect is to select the correct choices and bring them together.

Artu, while making this definition of architectural design process,

does not leave artistic considerations out of this process.

> I think that what makes up a building is something else,
> which is invisible: Architectural principles. When correct is united
> with principles, you can be a good architect. Like being a writer. I
> can be a very good writer, but without a book, I cannot be. What we
> call "writing a book" depends on these "correct"s.

He mainly stresses the point that he sees digital technologies as an

instrument useful with respect to two aspects of design. First is about

gathering the necessary information. An example is the using the Internet. The architect reaches the information on different choices for the solution of a specific service via the Internet. Digital technologies are used in order to reach and collect information. The second is about bringing the information together in order to bring forth a project. These two aspects are considered within the concept of "correct". This is why Artu's definition of architectural design is considered to be a rational and mathematical one. From his point of view, architecture is like a mathematical problem that has one rational correct solution. And this is the point that Güvenç formulates his criticism on.

The Interview with Güvenç demonstrates that according to him, architecture is about design only. He refers to Louis Kahn to make a definition of design. "While designing a dome, if you consider how it is going to be built, that is no more a design." (Appendix B)

When reminded of Artu's words about parameters of design and the job of the architect as deciding, Güvenç says that one has to make the definition of the job one makes.

> The problem is about how one conceives the world. Inside that problem of conception, you define yourself. One either defines himself as someone who has to choose among door handles, or the handle is already buried in his own sources. Like crossing the desert. You have two choices. First is to load two refrigerators full of camel meat on camels. The second is to take two more camels with you and make them live as long as possible. While the former is adding something to the world, the later is already being inside the world. I think that technology is the refrigerator loaded to the camel.

Through this definition, Güvenç comes to the definition of architecture.

I say that only one of these is architecture. Both cannot be architecture at the same time. I think that Artu's profession is building management for which the building is an economical product. However for me, architecture is a means to conceive the world. (Appendix B)

According to Güvenç, space is not something measurable. Space does not have parameters and "correct"s which make another "correct" when put together. Consequently, architectural design is not about choosing, however, it is rather an intellectual activity that should avoid relations with technology. Inside his speech, Güvenç puts emphasis on the term intellect (*zihinsellik*) in opposition with technology. He states that architectural design should rely on one's own intellect, not the common "correct"s.

The opposition of modern technology and *poiesis* is visible between these two interviews. If we reformulate Artu's words with the use of Heideggerian terms, he speaks of a changing architecture which requires that the architect conceive design as a process of production that relies on mathematical and rational considerations as well as on intellectual considerations. Thus we encounter a relation between architectural design and digital technologies and this relation is similar with the relation between modern technology and processes of production that Heidegger defines.

To take the distinction between these two architects into the discussion about technology, the work of Alberto Perez-Gomez may be a guide. The hero (Polyphilo) who is seeking true art through the dark forest, has to keep himself free from all the forces inside this dark forest and depend only on himself and his senses. According to Perez-Gomez, the dark forest

today is technology which, in Heidegger's terms is enframing. The way an architect defines himself and his profession is related to his attitude about this enframing.

Güvenç's criticism on Artu is on this aspect. According to Güvenç, Artu's job is not architecture, but rather selection of door handles, a kind of engineering that reduces design as parameters to be satisfied correctly. Güvenç, on the other hand represents the architect that depends only on his intellectual values. He represents an ideal like Polyphilo, the hero of "Hypnerotomachia Poliphili". Like Polyphilo, he claims that his art should be free from the effects of other aspects than his own intellect and free-will. Thus Güvenç represents the architect who is aware that there is an enframing forcing the architect, however, he has a critical point with respect to this enframing and neglects its effects on design.

With the help of these two interviews, the formulation of the problem is now more clear. Here are two positions defined with respect to technology.

3.3 THE QUESTION AND ANSWER STUDY

As the aim of this case study is to question the validity of a certain kind of relation between technology and architectural design, the questions should be posed to designers. And as architectural design is considered to be the practice of preparing architectural projects, architects who manage offices were chosen. The two interviews determine the poles of the discussion. The

second section of the case study is aiming to determine to which side the majority of architects are near.

With the guidance of these interviews, six questions were derived and a list of architects who were practising their profession in Ankara was made. A questionnaire document including the questions and a brief introduction was prepared and sent to these architects. Among thirteen architects, eight replied via fax or mail, one requested an interview and four were not available or did not reply. Names of the total of nine architects involved in this question and answer study are as follows:

1. Kadri Atabaş
2. Coşkun and Filiz Erkal
3. Baran İdil
4. Merih Karaaslan
5. Adnan Ural
6. Semra and Özcan Uygur
7. Mustafa Yücesan

3.3.1 The Questions

Six questions were prepared under the guidance of the first two interviews. The original, Turkish full text of the question sheet is presented as an appendix (Appendix C). They were intended not to directly reveal the problem of the argument of the thesis. The six questions were as follows:

1. Is architecture a business? Is it a profession that provides the necessary income to survive? How do you define the limits of architecture as a profession/business in the design process.

2. What is primary in the design process? Is it only the quality of space and language or does this process include the solution of all the services that the building will provide and the solution of all the parameters and the relations among these parameters? What is your opinion on the dominance/ determinance of these inputs with respect to each other?

3. Consequently, is the architect only the designer, or is he an authority who makes these relations appear correctly? Is architecture an autonomous profession independent from all these inputs?

4. Is there an effect on design caused by the frames of; competition projects, application projects made for the municipality/ ministry, projects with high/ low budgets? Is there a change of approach to the project inside these frames?

These first four questions are related to the first main issue (I) which is; "To what extent is architectural design a mathematical rational process of design?" The question is divided into four relative questions and not posed directly in order to question the importance of different aspects in the architect's understanding of architectural design.

5. Some architects would defend the use of computers within a criterion of correctness. Computers begin to transform from an instrument of drawing to a controller that prevents us from making mistakes. Aren't we eventually pushed towards a conventional world and conventional "correct"s? Aren't we leaving the creative potentials of our own intellect in order to keep faith in the "correct"s of technology?

6. What do you think about the relations between architecture and technology?

With these last two questions, the aim is to find an answer to the second main issue (II) which is "To what extent do digital technologies

pervade the design process?" Here the aim is to understand if there is a parallelity between the use of digital technologies and the conception of architecture with respect to the opposition of technology and intellect. Thus, "intellect" is presented as an equivalent of *"poiesis"* of Heidegger and "experimentation" of Lyotard.

3.3.2 The Answers

The first group of answers (for the questions 1 to 4) which are related with the first main issue are considered together (I). The second group of answers (questions 5 and 6) are related with the second main issue (II).

There is a common view that architecture is becoming a complex operation of different givens but at the same time that it always keeps its artistic side. Short quotations from different contributors would help explain this view:

Kadri Atabaş: "(I)If language is a means of expressing oneself, materials, services etc. are already inside it... I think that nothing in life can be autonomous and independent. Everything affects one another. What can be independent from the era, country, city, class, culture that we live in... (II)Computer is a good slave but a bad master." (Appendix D)

Coşkun and Filiz Erkal: "(I)As a difference from other branches of art, architecture contains also a purpose of service. The profession can exist with the existence of a chain of complex givens and technological

possibilities. These qualities of the building push the architect to dream of the reality. With this artistic approach on one side, the architect has to be an authority at the same time. The answer is both designer and authority… (II)The use of computers in architectural design is a technological facility to produce the required drawings in a short time which lets changes. We are suspicious about the assistance computers can make at the processes of design and architectural thought." (Appendix E)

Baran İdil: "(I)During the design process, there is not a contradiction between aspects of content (like function, cost and technology) and the considerations of space and language. Because these make up the subject of design and even dreaming. However, space and language are inevitable aspects of design… (II)I believe that the most important thing that we acquire with computers is the time gained in 2 or 3 dimensional drawings… With the functional and technical data imposed to it, this instrument which cannot dream or discuss can not be even a master draftsman… The reason some architects evaluate computers in that way is their ignorance of their own culture, brain and imagination." (Appendix F)

Merih Karaaslan: "(I)I am not in favour of creating independent space and language. The answer to this question is clear for me. Because I think that the medium, conditions and function should affect the architectural language… (II)I think that the computer is something like the drawing pen. In this office there is a basic distinction between design and drawing.

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Computers are used only to get the necessary drawings. Not in design. I see danger in it." (Appendix G)

Adnan Ural: "(I)In the societies of consumption that evaluate products of design as merchandises, architecture appears to be a business with no doubt... I think that the values of space and language are made up at the end of the design process. The designer is supposed to find the solutions that gather formal expressions and functional requirements in a reasonable manner... (II)The system of the world is shaped by competitive and individual values today... In this context, inside the medium of competition, without leaving our creativity aside, I think we should design making use of right technologies through our own desires." (Appendix H)

Semra and Özcan Uygur: "(I)The architect is not only the designer. He has an important task like realizing what he designs. The architect cannot be independent from other givens. He has to organize them, make up the space that he designs without losing its essence. The architect is both the composer and the conductor... (II)Using a computer cannot be a criterion of making the job right. Computers can only support design. There is nothing that can take the place of human brain. In getting the most precise drawings and expression of the design, the support of computers cannot be denied." (Appendix I)

Mustafa Yücesan: "(I)Design process is a complex process with feedbacks, transformations, additions, subtractions, jumps and of which the limits cannot be measured. Everything in the limits of perception of the

architect get into the architect's job... (II)The computer has become not only a drawing instrument, but also an instrument affective in the design process... Computers are extensions of human brain, not alternatives. It is evident that only the products of brains that can master computers will survive." (Appendix J)

A very important point has to be made clear before an evaluation of the contributions is made. This evaluation is not an evaluation of the architects who were subject to the case study. Instead, the ideas are important. What the case study has provided is only words. There are questions and individual answers to these questions. However, the aim is not to determine and name the positions of all the contributors. The aim is rather to determine possible positions. Both Murat Artu and Kenan Güvenç seem to be representing certain positions, but they may have objections to these positions, or a deeper observation will demonstrate how their designs may conclude controversially. Their ideas on the other hand, when observed as this thesis has done, reveal the existence of certain positions. The interview with Artu, for instance, according to thesis, is not one that places Artu in a certain position, but one that demonstrates the possibility of such a position. Similarly, the others are not considered individually.

As a result of the case study, the relations between technology and architecture under the effect of the enframing of technology, are considered to be valid. Most of the contributors accept the idea that there is an enframing on the profession of architectural design with respect to the

definition of enframing in this thesis. The limits inside which the architect lets (or should let) technology have an enframing on architecture determine the differences among the contributors. In other words, the transformational limits of technology on architectural design differ with respect to the architect.

3.4 EVALUATION OF THE CASE STUDY

Beginning with Murat Artu, the case study is showing us that architecture is under a change. It is getting involved with different industries and specialities. Therefore design is being the job of the organization and the integration of different branches related to the realization of the final product. Design is becoming the bringing together of numerous information, on a document, i.e. the project. Thus a definition of the design process is made in terms of mathematical and rational considerations of which Heidegger speaks.

As a consequence of such a conception of the job of design, the design process is undergoing a technological transformation. Digital technologies are preferred as they provide the fastest and most precise instruments for the realization of the project through such a complex process. Thus, Artu speaks of the technological transformation of the design process on an instrumental base.

The case study reveals that this understanding of architectural design is common among all the contributors. This is valid for even Kenan Güvenç.

He, while criticizing Artu's stance, is pointing that this is not architecture, but an economical conception of space. However, through his definition of design as a sole mental activity, he accepts that Artu's stance is valid in today's conditions.

The common point among architects with respect to the two issues questioned is that to an extent the architect has to involve mathematical and rational considerations as well as creative imagination in the design process (I), and that therefore, a change of instruments, a technological transformation of the design process is necessary to the same extent (II).

The third issue is then answered. The transformation is on the process of design, not man. However, this does not mean that the contributors feel the same danger of transformation in the sense of standing-reserve. In order to demonstrate that they are not standing-reserves, like the example of the man who has lost control of his car, they put a limit to technological transformations in their discourses. They put a limit to digital technologies within which they can only transform the design process, and within which they can only be the instruments. Instruments, the control of which is still in the hands of man.

CHAPTER 4

CONCLUSION

There is an important place of the unity of Modernism and technology in architectural history. Especially, that there is a parallelity between the development of building technologies and formal changes in architecture has been a discourse behind Modern movements like the "International Style" since the beginning of the twentieth century.

The philosophical discourses that are fundamental to this thesis on the other hand, are ones that have developed alternative points of view to Modernist ideologies. In the essence, these discourses have a common character of that point to the "danger" in the glorification and conception of technologies as instruments that serve the "salvation" of mankind by making life easier. With this preference of guiding discourses, this thesis may be considered to be putting forward a reaction against Modernist discourses.

These guiding discourses, when placed into the context of architectural practice, seemingly draw attention to the relations of architecture with building technologies. And this thesis takes the word technology in a wide sense. However, the aspect of technology which is of primary significance in this thesis is the digital technologies. Here, what is concerned is the instruments of the making of an

architectural project. Today, this process is closely related with digital technologies in many aspects. Therefore, this thesis puts the main emphasis on digital technologies. Within this scope, the situation that Martin Heidegger explains with the term "enframing" is being seeked inside design processes.

Here, two issues related to the actual scene of architectural practice are beginning to gain importance. The first issue is considering how the balance is being constituted between a process of design that is reduced to mathematical equations and limited with rational solutions and a process of design that depends on *poiesis*. Two different positions with respect to this issue are determined with the first two interviews of the case study. One presents the process of design as one that aims to reach correct solutions for certain requirements. The other presents this process as one which is completely intellectual, independent and free, inside which the architect aims to reach poiesis via his own free-will and virtues. As previously stated, this thesis is not aiming to make evaluations and simple derivations on the architects who contribute. This contribution is rather on the base of ideas. Therefore, the positions which are referred to be derived from these two interviews should not be accepted as the positions of the two individual architects.

The second issue is the parallelity of the definition of the design process with the acceptance and use of digital technologies inside this process. What is apparent to be the result of the first two interviews with respect to this issue is that there is a parallelity between the definition of the design process as a mathematical and rational process and the acceptance of the proliferation of digital technologies into this process. This seems to depend on the reason that when one emphasizes the

importance of always making the correct choices, producing correct solutions through them and being faultless, one needs faultless instruments.

Here, we encounter the definition of architecture as an issue of knowledge. Therefore, the technological transformations, the digitalization of any kind of knowledge in the computerized societies to which Jean François Lyotard points is finding a suitable ground in architectural practice. This concept of technological transformations is taking us back to Heidegger's concept of standing-reserve as the human being who, apart from all the sources of nature, feels the need to perceive even himself as a source out of which he should bring out the most for the sake of being correct. The transformation of man in the sense of standing-reserve is a third issue presented as the result of the first two issues.

With the derivation of these issues, indeed the possible transformational limits of technology on architectural design are revealed. Two possible positions are reached as a result:

1. The architect limits digital technologies as only instruments. Design, according to this position is a mathematical operation as well as a mental activity.

2. The architect lets digital technologies beyond instrumental limits where the transformation is on man himself this time.

The question and answer study which is the second section of the case study, is made with a group of architects who are active in the scene of architectural practice, namely who exist as designers. The aim is to determine if there is a common attitude among them. What is common among the answers

received is that none of these architects make rigid definitions. Architectural design, according to these contributions is neither a mathematical rational process nor a bringing forth in the sense of poiesis. Most of these architects think that design is about art but never is and never can be free from calculations and rational considerations. It is observed that this situation of being in between is reflected to how these architects concern digital technologies. Computers are seen as instruments which are both inevitably used and avoided at the same time. Because, although accepted as "slaves", they can become "masters", like the "Japanese car" that commands its driver. They can be a threat against the experimentation in Lyotard's terms and *poiesis* in Heidegger's terms and they can break the limits of being instruments and they can be encountered as new personalities. This is the "danger" that finds its place in the guiding discourses of this thesis. An architect who becomes a standing-reserve, a human being who tries to communicate with machines, indeed like all the other things in nature, another machine among all the machines that he has created. Deleuze and Guattari explain the term standing-reserve in a perfect understanding of Heidegger.

The secondary significant conclusion of this thesis is apparent when the case study is reissued and reconsidered within an evaluation of the Modernist discourse of technology. The case study demonstrates a common approach towards the definition of the processes of design among active designers. The photographs with the appendices are serving an important task about this. The visible product of architecture, the building, has always been the point of departure for the evaluations on an architect. The architects who are the subjects of this case study would be, and

are, also evaluated under various names. There are even designations like High-Tech Architecture which give direct reference to technology which is about the process of production of a building. However, even this designation of High-Tech is not derived from this process of production. It rather is a product of a Modernist celebration of technologies in the last century that put an emphasis on mainly the term "Machine Aesthetics" which is due to an image-based evaluation of and expectation from architecture. The source is only the appearance, the visible final product. While concerning the design process in architecture, it is believed that this thesis is bringing an alternative to this kind of evaluation in architecture.

The harmonic duality of the philosophies of Modernism and modern technology which is subject to Lyotard's criticism has seemingly collapsed in the domain of architecture today. Postmodern Architectural discourses claim to have done this by bringing alternative forms against the common forms and styles which have been accepted and internationalized by Modern Architecture. However, although these formal evaluations may make it possible to speak of the collapse of Modernism in architecture and the birth of alternative architectural positions, a closer observation on the processes of production behind these formally different final products is demonstrating that the Modernist understanding of production and technology is still dominating the practice of architectural design. This understanding is even becoming more dominant with the everyday development of digital technologies.

This dangerous situation inside which man is losing *poiesis* and experimentation, namely the revealing of his own intellect is today, the equivalent

of the Dark Forest according to Alberto Perez-Gomez. Man has to be in the search once again to find his way to his love.

REFERENCES

Banham, Reyner (1992). <u>Theory and Design in the First Machine Age</u>. Cambridge, Mass.: The MIT Press.

Baudrillard, Jean (1993). <u>The Transparency of Evil: Essays on Extreme Phenomena</u>. New York: Verso.

Baudrillard, Jean (1996). <u>Amerika</u>. İstanbul: Ayrıntı Yayınları.

Baudrillard, Jean (1989). The Ecstasy Of Communication. In Hal Foster (Ed.), <u>The Anti-Aesthetic</u>. Seattle: Bay Press.

Bell, Daniel (1973). <u>The Coming of Post- Industrial Society: A Venture in Social Forecasting</u>. New York: Basic Books, Inc., Publishers.

Benjamin, Walter (1995). <u>Pasajlar</u>. İstanbul: Yapı Kredi Yayınları Ltd. Şti.

Colquhoun, Alan (1990). <u>Mimari Eleştiri Yazıları</u>. Ankara: Şevki Vanlı Mimarlık Vakfı Yayınları.

Conley, Verena Andermatt (1993) (Ed.). <u>Rethinking Technologies</u>. Minneapolis: The University of Minnesota Press.

Davies, Colin (1988). <u>High Tech Architecture</u>. London: Thames and Hudson.

De Landa, Manuel (1991). <u>War in the Age of Intelligent Machines</u>. New York : Zone Books.

Deleuze, Gilles & Guattari, Felix (1992). <u>Anti Oedipus: Capitalism and Schizophrenia</u>. Minneapolis: The University of Minnesota Press.

Deleuze, Gilles & Guattari, Felix (1993). <u>Felsefe Nedir?</u>. İstanbul: Yapı Kredi Yayınları Ltd. Şti.

Deleuze, Gilles & Guattari, Felix (1994). <u>A Thousand Plateaus: Capitalism and Schizophrenia</u>. Minneapolis: The University of Minnesota Press.

Foster, Hal (1989) (Ed.). <u>The Anti-Aesthetic</u>. Seattle: Bay Press.

Frampton, Kenneth (1992). <u>Modern Architecture: A Critical History</u>. London: Thames and Hudson.

Hançerlioğlu, Orhan (1993). <u>Felsefe Sözlüğü</u>. İstanbul: Remzi Kitabevi.

Habermas, Jürgen (1993). <u>İdeoloji Olarak Teknik ve Bilim</u>. İstanbul: Yapı Kredi Yayınları Ltd. Şti.

Heidegger, Martin (1977). <u>Basic writings from Being and time (1927) to The task of thinking (1964)</u>. New York : Harper & Row

Heidegger, Martin (1977). <u>The Question Concerning Technology, and Other Essays</u>. New York : Harper and Row.

Heidegger, Martin (1993). <u>Profesör Heidegger, 1933'te Neler Oldu? Der Spiegel' in Heidegger'le tarihi söyleşisi</u>. İstanbul:Yapı Kredi Yayınları Ltd. Şti.

Hitchcock, Henry-Russell, & Johnson, Philip (1966). <u>The International Style</u>. New York: W. Norton & Company Inc.

Jencks, Charles (1973). <u>Le Corbusier and the Tragic View of Architecture</u>

Jencks, Charles (1992) (Ed.). <u>The Postmodern Reader</u>. New York: St. Martin's Press.

Johnson, Philip (1953). <u>Mies Van Der Rohe</u>. New York: The Museum of Modern Art.

Klotz, Heinrich (1988). <u>History of Post Modern Architecture</u>. Cambridge, Mass.: The MIT Press.

Krell, David Farrell (1977). Introduction to "The Question Concerning Technology". In Martin Heidegger, <u>Basic writings from Being and time (1927) to The task of thinking (1964)</u>. New York : Harper & Row

Le Corbusier (1970). <u>Towards a New Architecture</u>. New York: Praeger Publishers, Inc.

Lovitt, William (1977). Introduction. In Martin Heidegger, <u>The Question Concerning Technology, and Other Essays</u>. New York : Harper and Row.

Lyotard, Jean- François (1990). <u>Postmodern Durum: Postmodernizm</u>. İstanbul: Ara Yayıncılık.

Lyotard, Jean- François (1992). Answering the Question: What is Postmodern?. In Charles Jencks (Ed.), <u>The Postmodern Reader</u>. New York: St. Martin's Press.

Mitchell, William J. (1996). <u>Space, Place, and the Infobahn: City of Bits</u>. Cambridge, Mass.: The MIT Press.

Nalbantoğlu, Ünal. "Teknoloji Sorununa Bazı Felsefi Yaklaşımlar Üzerine." Mimarlık 276 (1997): 24-31

Pawley, Martin (1990). <u>Theory and Design in the Second Machine Age</u>. Oxford : B. Blackwell.

Perez- Gomez, Alberto (1994). <u>Polyphilo or the Dark Forest Revisited: An Erotic Epiphany of Architecture</u>. Cambridge, Mass.: MIT Press.

Poster, Mark (1991). <u>Critical Theory and Poststructuralism</u>. New York: Cornell University Press.

Poster, Mark (1990). <u>The Mode of Information: Poststructuralism and Social Context</u>. Cambridge: Polity Press.

Rogers, Richard (1991). <u>Architecture: a Modern View</u>. London: Thames and Hudson.

Rossi, Aldo (1994). <u>The Architecture of the City</u>. Cambridge, Mass.: The MIT Press.

Said, Edward (1994). <u>Culture And Imperialism</u>. London: Vintage.

Scheibler, Ingrid (1993). Heidegger and the Rhetoric of Submission. In Verena Andermatt Conley (Ed.), <u>Rethinking Technologies</u>. Minneapolis: The University of Minnesota Press.

Scully, Vincent (1980). <u>Modern Mimarlık</u>. İstanbul: Çevre Yayınları.

Stone, Allucquére Rosanne (1996). <u>The War of Desire and Technology at the Close of the Mechanical Age</u>. Cambridge, Mass.: The MIT Press.

Sudjic, Deyan (1986). <u>Norman Foster, Richard Rogers, James Stirling: New Directions in British Architecture</u>. London: Thames and Hudson.

Tafuri, Manfredo (1995). <u>The Sphere and the Labyrinth: Avant-Gardes and Architecture from Piranesi to the 1970s</u>. Cambridge, Mass.: The MIT Press.

Touraine, Alain (1995). <u>Modernliğin Eleştirisi</u>. İstanbul: Yapı Kredi Yayınları Ltd. Şti.

Tunalı, İsmail (1989). <u>Estetik</u>. İstanbul: Remzi Kitabevi.

Virilio, Paul (1991). <u>The Lost Dimension</u>. New York: Semiotext(e).

Virilio, Paul (1993). The Third Interval: A Critical Transition. In Verena Andermatt Conley (Ed.), <u>Rethinking Technologies</u>. Minneapolis: The University of Minnesota Press.

Zeka, Necmi (1994). <u>Jameson, Lyotard, Habermas: Postmodernizm</u>. İstanbul: Kıyı Yayınları.
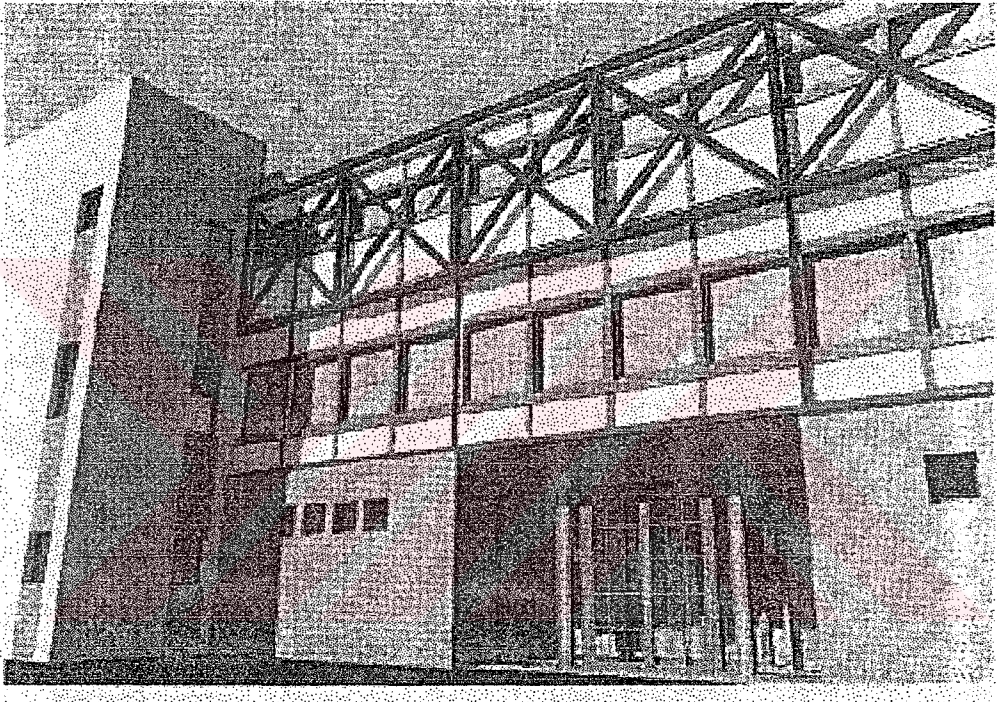
APPENDIX A

INTERVIEW WITH MURAT ARTU

Figure 1. EMTA Administrative Building, Ankara. Architect: Murat Artu.

Ozan Erkal: This thesis includes a certain point of view inside philosophy. We are beginning to lose control of things. As in Jean Baudrillard's example of Japanese cars, you have no more control of the car once you are in it. You have to do whatever it tells to you. Otherwise, it refuses to function. With an exaggerated look

at this situation, we can see mankind doing the job specified for him at the place specified for him inside an order of machines. In the book "Anti-Oedipus" Gilles Deleuze and Felix Guattari demonstrate such an approach. Everything is a machine and so are we. The apple tree is a machine that gives apples and the hand that takes it from there is a machine. There is an order of machines that produces, feeds, eats, digests that apple and our body is obliged to accept this order. I am referring to this order as technology with the definition of Martin Heidegger. Because, this order of machines that we call technologies, is beginning to command us. Man is becoming a ring inside a chain of machines. When business is the issue, this is much more visible.

Murat Artu: Without computers, we would be using pens and paper.

Ozan Erkal: Yes, the reason I mention computers is that I am speaking of current conditions. Mankind has always had to change with respect to his day's appropriate technologies. Today, I think that we have to talk about the instruments that have taken the place of pens and paper. The question in my mind is, "what are the reflections of this in architectural offices?" Because, briefly man has to work in order to live, has to have job in order to work and has to employ certain methods in order to finish those jobs. Therefore, he has to employ the quickest and most practical method.

Murat Artu: "Quick" is right but there is one more thing: "correct". Speed is not the only parameter.

Ozan Erkal: What is the criterion for correct?

Murat Artu: For example, I draw a line free hand. Then I have to determine its dimensions. This is not exactly possible with rulers, however, it is certainly possible with a computer. Once, the number of the services that make up a building were few. Now, a building has to be very clever with all the services from the sanitary and electrical services to ventilation and fire precautions. All this complication is valid for even a door handle. Once, we had only those aluminium handles. Now, choosing a door handle is another job. For example you can find building materials displayed on sixty thousand square meters in an exposition. All preferences together make architecture a complex job. It is no more a job that one person can do without help. Different branches of engineering and architecture were the disciplines that made up a building. Likely, architecture today is being divided into different disciplines. Ones who know about materials, ones who do rendering, ones who design, and ones who make the coordination of these. Therefore, I think that there is no more such an artistic work under such technologically advanced buildings. The architect does not only draw a project. The architect has to be the master of building by providing the coordination among all these disciplines. With hand made drawings that don't fit with each other, this coordination is impossible. The architect is seen as a lonely man. However this is changing. As a lonely man, he can be an administrator. He has to be the master and the organiser of the relations among the different disciplines inside his own office and at the same time, he has to organise the relations with other disciplines. For example, with the help of computers, you can determine all the cost and the project is done seeing all technologies and their costs. The other way is saying "I made it, so it is." Michael

Graves' lecture here is an example. As the source of inspiration for his University campus project, he showed a nature-mort he had seen in Pompeii. These are very mediatic for me. Irrelevant with the essence of the job. We are the ones who produce buildings, not ones who draw projects.

Ozan Erkal: Is this a serial production?

Murat Artu: No. It is a difficult production. Producing a building is not as easy as it was. What the architect has to do is not drawing, but deciding. The architect once decided 'this or that' on hundred parameters. However, now the number is a hundred thousand. It is not a job that one person can do to know and decide everything inside these parameters and to make the necessary connections. So I have to make a research. How do I do this? For example through the Internet. How else can I do it standing here?

Ozan Erkal: What we have been talking about was about the processes after getting a job. There is on the other hand, a process of getting the job. And there is a competition in that process. For example, officers of the municipality of another city come to Ankara in order to meet architects as they want to build a cultural center. There is a competition among these architects. For them, the most important criterion would be speed. So they would prefer the office that proves this with the first impression. Doesn't computer provide advantages in this case?

Murat Artu: This is not important for me. That is secondary. What is important is that the job done is correct. If we consider the instruments of getting a job, the architect who does his job correct has more chance to get a new job than the architect who is quick. Speed is important but correct is the first parameter. When a

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project is required from you, you do not only make architecture. You also do the engineering. All these disciplines have to be in correspondence. (Here, Artu shows an advertisement from a magazine. In the picture, there is a bridge spanning a long distance on columns that is separated from its expansion joint, all the construction is now useless.) When you reach this point, there is nothing to do.

Ozan Erkal: Such bridges and the clever buildings that you have mentioned were not possible a short time ago. So there is a force that pushes man to realize such things. Something determines new targets for man all the time. In order to reach that target, we are changing our methods.

Murat Artu: That change is inevitable. There is no more cars with carburettors. Similarly, The requirements from the architect are changing. For example decoration is another discipline now.

Ozan Erkal: So, With the requirements changing, and the parameters increasing, the methods of doing jobs are changing.

Murat Artu: With changes, we have to develop ourselves.

Ozan Erkal: That is what I call transformation.

Murat Artu: Transformation is not the right word. Because I am not changing, I am developing.

Ozan Erkal: Perhaps what is changing is something else but in order to catch it we are changing.

Murat Artu: No. For example, you can be unaware of all these new systems. For example, you know no ventilation system. You build without ventilation. But later, when people want to place ventilation in that building, the building may collapse. Is

this change or development? Development is catching up with reality. Even ceiling height is about reality. I could prefer the height as 1.80 meters, but I wouldn't, because I have to be aware of reality.

Ozan Erkal: This is about knowledge. The more you know, the more you develop yourself.

Murat Artu: Development is something consistent. The problem is to catch up with it or not. In philosophy, there are two aspects, the object and the subject. One is mind, the other being the world. These two have to fit each other. Then we can catch up with reality. So the problem is: Will the mind follow the world, or will the world follow the mind? I say that my mind has to follow the world. Because the world cannot change according to my mind. This is simple reality.

Ozan Erkal: Doesn't this development change an architect's surrounding?

Murat Artu: Maybe, but to a little extent. Indeed, what we are talking about are not relevant to architecture, which determines the principles and the effects of the building. These are things that determine the building itself. Things which determine if the building will live or not, be used or not. But these are not things that make up the essence of the building. I think that what makes up a building is something else, which is invisible: Architectural principles. When correct is united with principles, you can be a good architect. Like being a writer. I can be a very good writer, but without a book, I cannot be. What we call "writing a book" depends on these "correct"s.
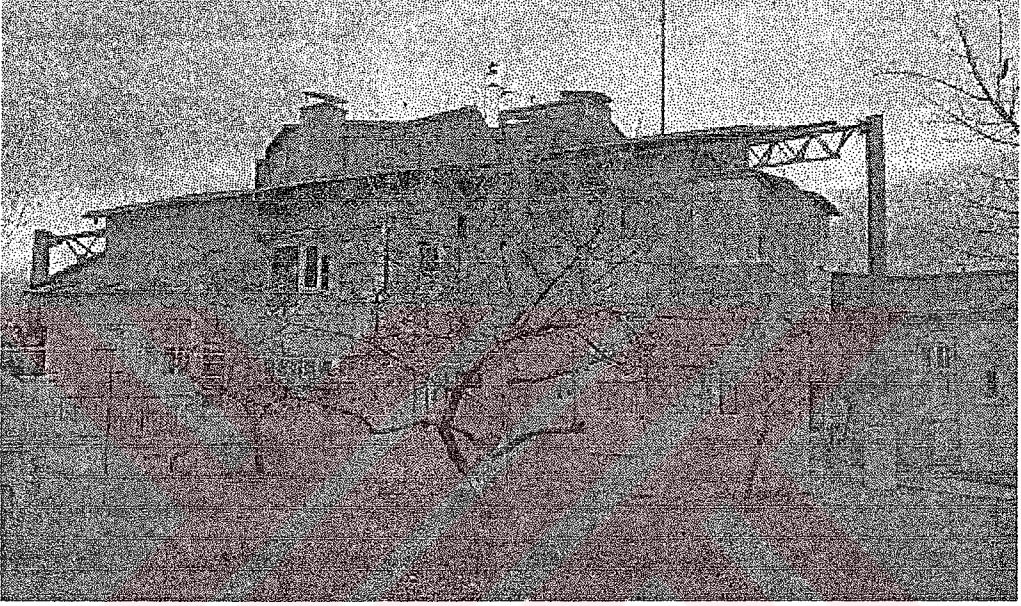
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INTERVIEW WITH KENAN GÜVENÇ

Figure 2. Residence in Ankara. Architects: Kenan Güvenç, Bülent Bardak.

Ozan Erkal: Doing a job using the most precise methods makes one happy. Personally, I prefer making use of computers which help me solve problems. However, different points of view make me question my position. It is possible to think about a dehumanization and transforming into machines. Because, in order to work with machines, you have to communicate with it, accept its level of communication and its language.

Kenan Güvenç: The mind of the architect is known at different poles. This makes up the architect's job. Some architects have a lot of jobs. Therefore the relation between your job and you is being determined by that state of having so much work. Not having a job, but having much job. In time, the interaction begins to depend on quantities. At this point, if not with computers, the architect works with more people. One who has few jobs like me, on the other hand, reads, observes and consequently, quality is becoming primary.

I think that there can not be relations between architecture and technology. Architecture and technology can not be corresponding. When does architecture get in correlation with technology? Only when it is a value in economical processes. But at that point the designer is out of the process. However, there is something between architecture an technic. Heidegger tries to figure out the relations between man and technic. Through an unfolding of technic, Heidegger makes a critic of technology. The point he arrives at is recommending a more poetic lifestyle. He makes a critic out of the unfolding that belongs to making, techne. I think that architecture, in the process of design, is in relation with technic. The thing that it is homologous with is technic. For example, we cannot formulate the relation between Ozan and computer. However, our identity as a designer, is developing around our names. I am a designer as myself, not as an architect. A phrase from Kahn defines the relation between technic and design. "If you consider how it is going to be built while designing a dome, that is no more a design." He figures the relations of design and technic at this point. There is technic, but is not separated from design. When the relation is taken from this point, inevitably, we come to the point of

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discussing these relations depending on real examples. Architecture does not have a theory, according to me. The Greek had over 15 words on making. Each of these are about another field. The making of architecture in the sense of techne or poiesis has to be observed through examples.

In the case of erection of what is designed, The line between what is designed and the beginning of the design process is not a line that is breakable. Because of this, The existence of computers in between makes us see it as an instrument. Because computer is not something that can take place in those processes with the mind of architecture. Because it changes its state according to what program is loaded. Therefore, the intellectual processes of design are completed only with the construction itself. For example, the design of the library building by Dominique Perrault in Paris is measurable with its image that it gives to Paris. As we approach to this building, the relation between the building and us should turn from the relation with the total image to the relations with the constructive, structural, programmatic and semantic pieces in the minor scales. Thus, as we approach, the building gets farther. Because we cannot make the reading about the production processes of any piece that makes up the building. Those pieces appear to be industrial totalities. You can take the piece of steel produces in the factory and use it inside a building. But indeed, it is still that piece in the factory. Although it is inside the building, it is the steel at the factory. Because, it cannot be at the state of revealing its secret named by Heidegger as aletheia, as it is an economical product in the factory. The enframing that Heidegger refers to has not happened inside it. There is a process on it, but that process is not going through relations of being

with that piece by you. Therefore, although it is inside the building, it turns out to be something which does not exist. The building becomes a pure container. Such a relation between technology and architecture can be figured out. We seem to be far from especially the initial subject, because, I think that the relations with technology can be questioned in this context.

Ozan Erkal: Was your debate with Murat Artu about this? Here, I am facing two different definitions of design. According to Artu, design is no more just about drawing walls and windows. For even a door handle, there are thousands of choices and only to choose a handle, the architect has to see large expositions. According to him, the architect is one who organizes and checks the relations between different disciplines, some kind of business man.

Kenan Güvenç: The problem is about how one conceives the world. Inside that problem of conception, you define yourself. One either defines himself as someone who has to choose among door handles, or the handle is already buried in his own sources. Like crossing the desert. You have two choices. First is to load two refrigerators full of camel meat on camels. The second is to take two more camels with you and make them live as long as possible. While the former is adding something to the world, the later is already being inside the world. I think that technology is the refrigerator loaded to the camel.

Ozan Erkal: But in this case, you have two choices and you are free to choose.

Kenan Güvenç: Yes, but one of these is choosing a brand of refrigerators, like door handles. The other is walking on with camels, needs are secondary.

Ozan Erkal: With these discussions left aside, isn't architecture a profession, a business? There is such a reality of life. A profession which helps us earn money. Crossing the desert in this perspective may seem irrelevant.

Kenan Güvenç: That is right. They are not the same thing. But I say that only one of these is architecture. Both cannot be architecture at the same time. I think that Artu's profession is building management for which the building is an economical product. However for me, architecture is a means to conceive the world. The architect conceives the world through architecture, man is made up in space, they build themselves. We will either say that we do not need space, or that we need space but space is something measurable. That it has parameters, that when we gather these parameters, these corrects together, you create what is correct. In fact, The discussion is born from the discussion about what space is. Not from the discussions about the relations between the architect and architecture. When he got the second prize at the competition of Bornova Lycee of Science, he had a nice report. He said that school begins under a tree. This sentence is also taken from Kahn. Kahn continues like this: People gathered, one stood under a tree, others gathered around. He was teling something, but never knew that he was teaching, he as not yet a teacher. He did not know that he was teaching and the others were discussing without knowing that they were discussing about what they learned. Later came an instrumentalism. Space is the speech of those people unconscious about what they are doing. Not school, teacher, table. However, today Artu's point of view is that space is teacher, table. My conception of the world is under the tree.

APPENDIX C

QUESTION SHEET

Mimarlara Sorular

Sayın ... ,

Bu soru-cevap çalışması, Orta Doğu Teknik Üniversitesi'nde Sayın Abdi Güzer ile birlikte yürüttüğüm yüksek lisans çalışmalarının bir parçasıdır. Konu aşağıda özetlenmiştir. Yardımlarınız çok değerli olacaktır. Eğer isterseniz, yanıtları fax ile de gönderebilirsiniz. Teşekkür ederim.

Konu:

Bugüne kadar yaptığım çalışmalar, mimarın teknolojiyle olan ilişkilerini sorgulama temeline dayanıyor. Teknoloji bu çalışmalar içinde, dönüştürücü zemin olarak yer alıyor. En önemlisi de kullandığımız metotlardaki dönüşüm. Herzaman doğruyu yapmak, çağı yakalamak adına sürekli bir dönüşüme ayak uydurmak zorunda kalıyoruz. Birşeyler yerini başka şeylere bırakıyor ama bıraktıkça da o yeni gelen, insanın özgürlüğünü biraz daha sınırlıyor. Jean Baudrillard'ın otomobil örneğinde olduğu gibi, artık otomobiller sürücünün hatalarını kontrol edip düzelttiği ölçüde iyi otomobil oluyor. Onun istediği hızda, onun istediği şekilde kullanmadığınız zaman, çalışmayı reddediyor. Biz, doğruları yapmak adına o otomobilin denetimine giriyoruz. Mimarlıkta bilgisayar kullanımı da insanı bu şekilde sınırlandırıyor.

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Teknoloji, tasarımı maddeleştirmenin bir aracı olmaktan çıkıp onu bizzat yönlendiren ve bu doğrultuda insanı dönüştüren güç oluyor.

Benim tezimde sunulan bakış açısı bu. Yaptığım görüşmelerde ise iş yapan mimarlar "dönüşüm" olarak nitelediğim bu durumu, "dünyanın gerçekleri doğrultusunda kendini geliştirmek" olarak niteliyorlar. Sonuçta bu iki bakış açısı arasında bir tartışma ortaya çıkıyor.

Bu soru çalışmasının amacı da, bu tartışma içinde sizin yerinizi belirlemektir. Ama ortaya bir harita çıkarıp mimarlar arası bir kıyaslamaya gitmek değildir. Amaç, mimarlık literatüründe, mesleğin aktif uygulamacılarının, proje yaparak hayatlarını kazanan mimarların fikri katkılarını bu araştırmanın dışında bırakmamaktır.

Bu katkıyı sağladığınız, ve aşağıdaki soruları el yazısıyla toplam üç sayfayı geçmeyecek şekilde yazılı olarak yanıtladığınız için şimdiden teşekkür ederim.

Ozan Erkal,

Orta Doğu Teknik Üniversitesi,

Mimarlık Bölümü,

Yüksek Lisans Öğrencisi,

Tel: (0-312) 447 40 10

Sorular:

1. Mimarlık bir iş mi? Yani hayatı sürdürmek için gereken geliri sağlayan bir meslek mi? Tasarım sürecinde meslek/ iş olmasının sınırlarını nasıl tanımlıyorsunuz?

2. Tasarlama aşamasında öne çıkan yalnızca mekan ve dil değerleri midir, yoksa bu sürece binanın sağlayacağı tüm servislerin ve binanın inşasını sağlayacak

kalemlerin ve ilişkilerinin çözümlenmesi de dahil midir? Bu girdilerin birbirleri üzerindeki belirleyiciliği/ baskınlığına yönelik olarak ne düşünüyorsunuz?

3. Bu bağlamda mimar sadece tasarlayan mı, yoksa bu ilişkilerin yerinde sürmesini sağlayan otorite midir? Mimarlık tüm diğer girdilerden bağımsız, özerk bir konum mudur, değil midir?

4. Kimi mimar, bilgisayar kullanmayı doğru iş yapma kriteri içinde savunuyor. Bilgisayar gerçekten de sadece bir çizim aracı olmaktan çıkıp, yanlış yapmamızı engelleyen bir denetleyiciye dönüşüyor. Peki ama bu durumda konvansiyonel bir dünya, ve konvansiyonel doğrulara doğru sürüklenmiyor muyuz? Kendi zihinselliğimizin yaratıcı gücünü teslim edip teknolojinin doğrularına sarılmış olmuyor muyuz?

5. Yarışma projesi, imara/ bakanlığa yapılan uygulama projesi, yüksek bütçeli ya da sınırlı bütçeli proje çerçeveleri, tasarım ürününü etkileyen girdiler mi? Projeye yaklaşımınız bu çerçeveler içinde değişiyor mu?

6. Mimarlık ile teknoloji arasındaki ilişkiler hakkında ne düşünüyorsunuz?

ANSWERS OF KADRİ ATABAŞ

Figure 3. Toyota Plaza, Ankara. Architect: Kadri Atabaş.

1. Architecture is a business. But not only a business. You can do any other business to survive. However, if you have chosen architecture, that means that you want to make a living with architecture. What is important is that you have chosen it.

In the undefined section of the design process, I only consider the task of design. While getting the job, it is business. Later, this is not primary.

2. Design gets complicated with our experience and culture. This can be defined depending on the architect. If language is a means of expressing oneself, materials, services etc. are already inside it.

3. I think that nothing in life can be autonomous and independent. Everything affects one another. What can be independent from the era, country, city, class, culture that we live in.

4. For a long time, we did not have governmental job. That happened only once under the conditions that would not affect our design. I never chose working with persons or institutions that I cannot discuss with.

5. Computer is a good slave, but a bad master. I never believed in masters.

6. Architecture/technology, is equivalent to architecture/painting, architecture/ poetry, architecture/philosophy or architecture/sculpture.

APPENDIX E
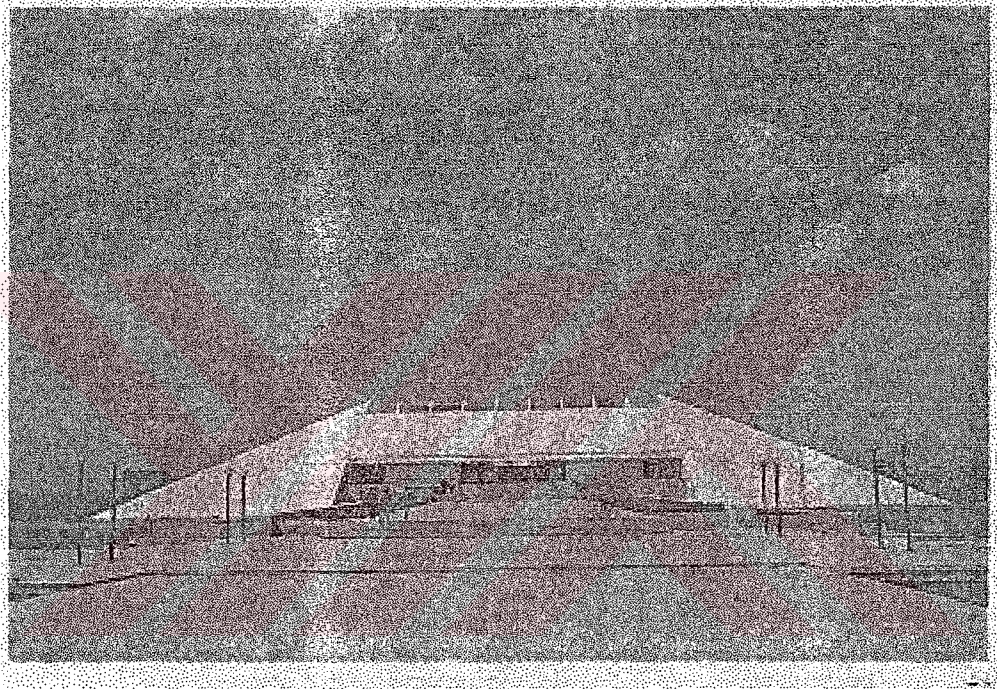
ANSWERS OF COŞKUN AND FİLİZ ERKAL

Figure 4. Atatürk Cultural Center, Ankara. Architects: Filiz Erkal and Coşkun Erkal.

1. The most important thing that affects a person's life is his profession. We define the scientific and cultural relationship between what we want and what is possible, with the limits of our profession. For the architect, this definition has perhaps a more interesting dimension. It turns out to be a form of conceiving life, thought and even the world and the events.

2. Designing as an architect is a process through which, complex givens are evaluated by the effects of the moment and our interpretations. It is not possible to foresee which one will gain primary importance among different givens like the kind of the job, its state in time and space or the program. However, as architecture has to create spaces, it is evident that all these factors will affect it.

3. As a difference from other branches of art, architecture contains also a purpose of service. The profession can exist with the existence of a chain of complex givens and technological possibilities. These qualities of the building push the architect to dream of the reality. With this artistic approach on one side, the architect has to be an authority at the same time. The answer is both designer and authority.

4. Economical givens are sure to be effective on design. Though the usage of rich materials is generally preferred, the cheapest and simple design can also be preferred.

5. The use of computers in architectural design is a technological facility to produce the required drawings in a short time which lets changes. We are suspicious about the assistance computers can make at the processes of design and architectural thought. However, with the everyday development of programs, it is evident that they will help the correction of design decisions.

6. Architecture cannot exist unless it joins real life. Because of its concrete quality, technology is also a given that shapes the design. However, these definitions may change with respect to the job. Some projects may require a dense concentration on technology, while some may require pure and primitive solutions. The consistency of constant change in life has different reflections on our lives and thoughts.
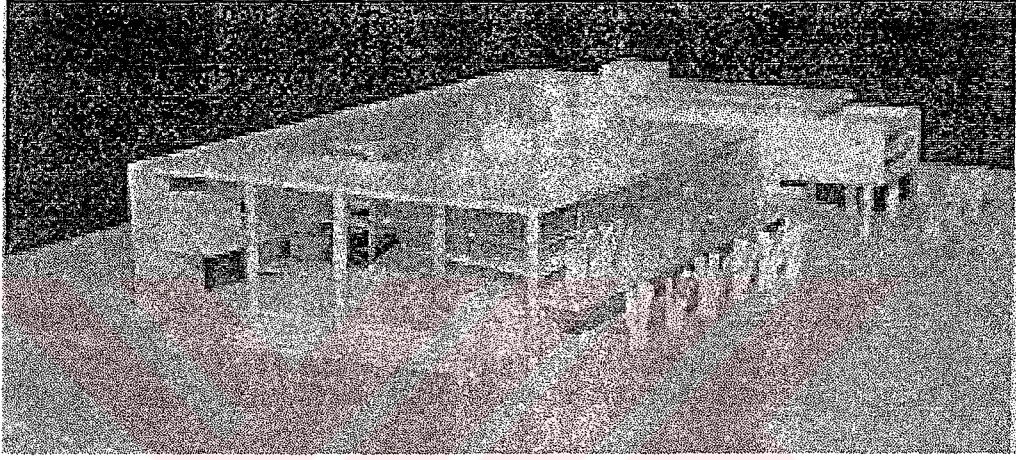
ANSWERS OF BARAN İDİL

Figure 5. Proposal for TARİŞ Adminstrative Building Competition, İzmir.
Architects: Hasan Özbay, Baran İdil, Tamer Başbuğ.

1. There is no reasonable reason or example that architecture is a business.

- The period of education is very long. There is no guarantee for the professional standard to be reached at the end of this period. Consequently, the architect's task is naturally something more than building like an engineer.

- The need for architecture after the Industrial Revolution and the facilities that building technologies provide, place architecture at a higher cultural level. Even in the societies that are assumed to "know architecture at its best", architects are mostly jobless. On the other hand, developed countries have decided to give

longer and harder education for architecture. This does not seem to be a valid profession to make a living.

- The limits of being a profession/business can be explained with the reason a painter or musician sells his work.

2. During the design process, there is not a contradiction between aspects of content (like function, cost and technology) and the considerations of space and language. Because these make up the subject of design and even dreaming. However, space and language are inevitable aspects of design.

3. These relations can be changing in time. For this reason, we can speak of not authority, but incorporation. However, architecture is stable. The existence and stability of architecture cannot be isolated from these givens. If they lower the level of design, then we cannot speak of architecture.

4. These frames are affective. However this effect is not on our approach to the project.

5. I believe that the most important thing that we acquire with computers is the time gained in 2 or 3 dimensional drawings. The correction of computers can be possible only with the technical and numeric aspects of design. With the functional and technical data imposed to it, this instrument which cannot dream or discuss can not be even a master draftsman.

The reason some architects evaluate computers in that way is their ignorance of their own culture, brain and imagination.

6. Technology is a phenomenon the existence of which cannot be denied even for the most abstract fields of art. What is possible is requesting other roles from

technology. If man left the shaping of the socio-psychological dimension of life to technologists, there would be no meaning of humanity and thousands of years of life. However, it is possible that technology which finds the possibility of domination in fields of average culture can increase the level of populist culture.

APPENDIX G

ANSWERS OF MERİH KARAASLAN

Figure 6. Peri Tower Hotel, Cappadocia. Architects: Merih Karaaslan, Nuran Ünsal

1. Architecture has a different quality with respect to many other professions. Because it is in relation with everything in life. Architecture is art, but on the other hand, can be done only professionally. The reason that architects cannot make themselves as important as they should be in a country like that needs architecture like Turkey is that they cannot accept that this is at the same time a business that

needs a professional mentality. Architecture cannot be conceived as a business that makes a living. But needs a professional order.

2. I am not in favour of creating independent space and language. The answer to this question is clear for me. Because I think that the medium, conditions and function should affect the architectural language. Even political and administrative relations, can affect the process of production. For example, in Şanlıurfa, there is no builder who can read a project. So we have to draw as he can understand. If the mayor does not have much time left in duty, you may have to design so that the building will be finished before his time finishes.

3. The architect is a man of work. Design is the most important among the qualities he should own, but it is not alone. Therefore he cannot stand independent from everything else.

4. Yes. Everything is affective. What is important is to evaluate all the positive sides of these effects.

5. That is very right. I think that the computer is something like the drawing pen. In this office there is a basic distinction between design and drawing. Computers are used only to get the necessary drawings. Not in design. I see danger in it. Maybe another generation will come and use the computer as we use pens, however, current generations cannot use the computer as an instrument to which they can reflect all their capability.

6. When something is perfect, it is becoming lifeless. Living things are never perfect. I did not like the museum of technology in La Villette, because you cannot talk to a person, there are only machines that can answer you. In nature there is no

flat line, you cannot draw a flat line free hand. However the computer always draws

flat lines. I think that this will be discussed in the next century.
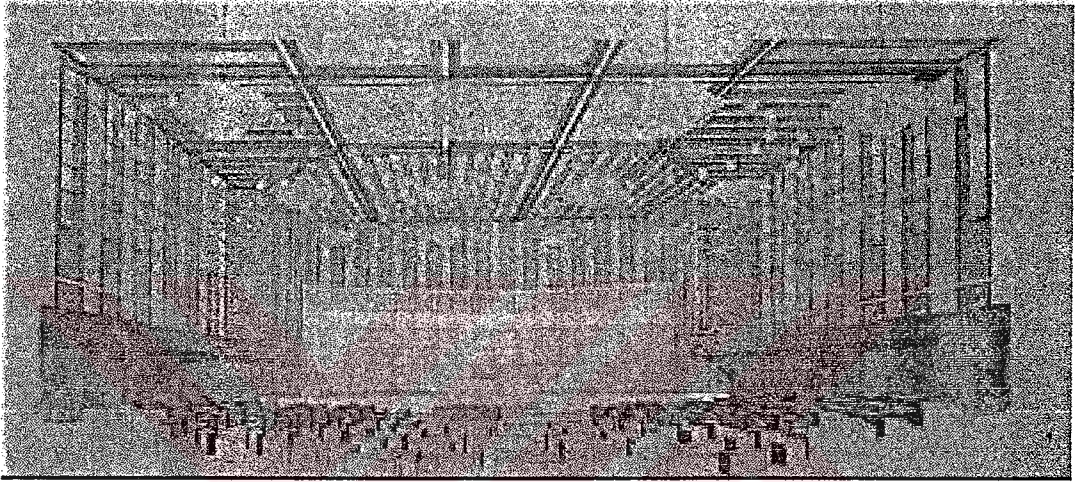
APPENDIX H

ANSWERS OF ADNAN URAL

Figure 7. Competition Winner for the Rearrangement of the Grand Hall of the Turkish Parliament House, Ankara. Architects: İlhami Ural and Adnan Ural.

1. In the societies of consumption that evaluate products of design as merchandises, architecture appears to be a business with no doubt.

2. I think that the values of space and language are made up at the end of the design process. The designer is supposed to find the solutions that gather formal expressions and functional requirements in a reasonable manner.

3. In the creation of the merchandise, I believe that the conscience of the designer should shape and even educate the requirements of the client.

4. Whatever the subject of design be, we should aim to reach solutions that evaluate all givens at the highest level inside its own reason.

5. The system of the world is shaped by competitional and individual values today.

In this context, inside the medium of competition, without leaving our creativity aside, I think we should design making use of right technologies through our own desires.

6. Technology, or building technology can be in relation with architecture, to the extent that it satisfies the requirements of the architect. Technology should be in development with reference to the design and imagination of the designer.

Therefore technology is developing itself as a consequence of architectural design. And every work of architectural design makes up its own technology.
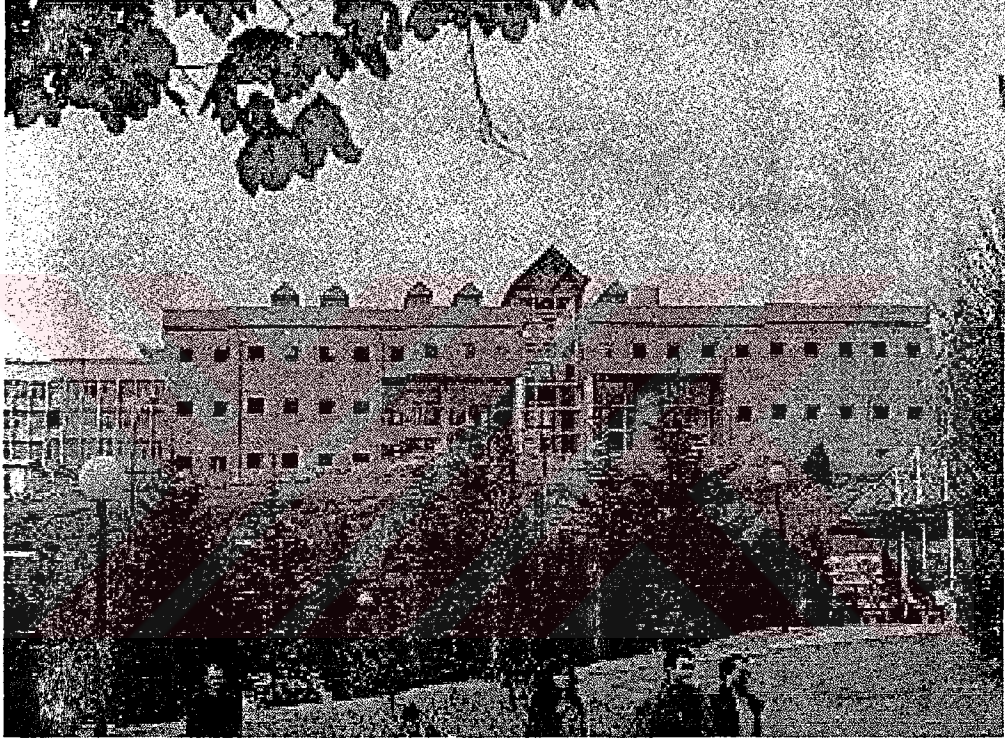
ANSWERS OF SEMRA AND ÖZCAN UYGUR

Figure 8. Additional Building of Yüksek İhtisas Hospital, Ankara. Architects: Semra Uygur, Özcan Uygur.

1. Architecture is rather a lifestyle than a business. Making a living is secondary. Some other profession would be preferable if that was the case. This understanding directly is reflected to the process of design. Design and architecture define the

process themselves. If the state of being a merchandise gets primary, this is reflected to the design.

2. What is primary is space and the creation of space with the dimension of thought and feeling. All other aspects should be depending on this principle. Of course the solutions of the services and relations that make up a building are important pieces of design, because these define space and give it a spirit.

3. The architect is not only the designer. He has an important task like realizing what he designs. The architect cannot be independent from other givens. He has to organize them, make up the space that he designs without losing its essence. The architect is both the composer and the conductor.

4. Whatever the type of the project may be, the givens do not affect the essence of the project. The essence remains the same, the instruments of expressing that essence may change.

5. Using a computer cannot be a criterion of making the job right. Computers can only support design. There is nothing that can take the place of human brain. In getting the most precise drawings and expression of the design, the support of computers cannot be denied.

6. Technology aims the well being of mankind. Technology is under the order of man. In architecture, technology should be used to the possible extent. Architecture helps the development of technology. Design should be the product of the moment it is created.

ANSWERS OF MUSTAFA YÜCESAN

Figure 9. Main Bulding, Shopping Area, Selçuk. Architect: Mustafa Yücesan.

1. Architecture is sure a business. A business that defines the architect's lifestyle in the platforms of both the mentality and production. Design process is a part of the profession and is open to all external influences. The mastery of the architect depends on not only the ability to design the final product, but also the medium in

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which the job is done. An architect's work is not something that waits for an unknown client like in painting and sculpture.

2. Design process is a complex process with feedbacks, transformations, additions, subtractions, jumps and of which the limits cannot be measured. Everything in the limits of perception of the architect get into the architect's job. No architect can stand against this transparency.

3. As we cannot speak of an architect's independence, he cannot be an authority. The architect takes his place in the process of production with the knowledge about his profession and provides a consensus.

4. Whatever the conditions may be, the architect has to do his job in the best way. The conditions in which the job will be done affect the design but this cannot be the reason of bad design.

5. The computer has become not only a drawing instrument, but also an instrument affective in the design process. The correctness of the work is visible only after the building is erected and useable. This is irrelevant with the use of computers.

6. History is full of the examples of the incorporation of architecture and technology. Today man can wander in virtual media. We can see that the limits of thought are expanding towards infinity.

Computers are extensions of human brain, not alternatives. It is evident that only the products of brains that can master computers will survive.