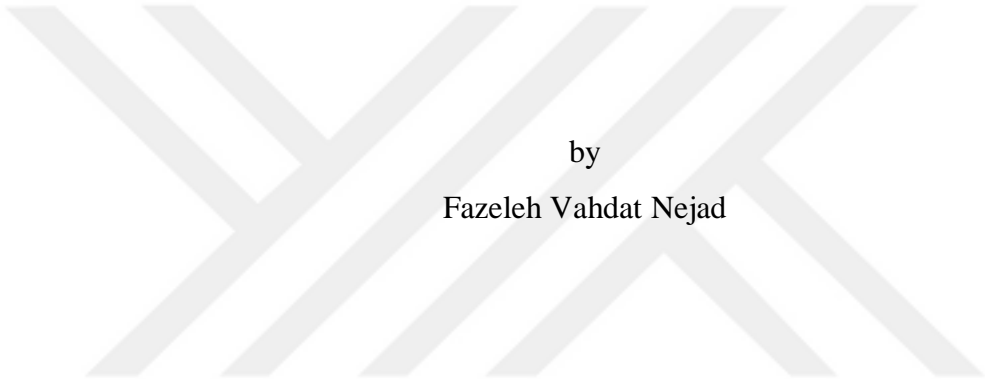


MEDIA ARCHITECTURE: AN INVESTIGATION ON THE USAGE OF
TECHNOLOGY-DRIVEN DEVICES IN THE SPATIAL CONFIGURATION OF
CITIES



by
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ABSTRACT

MEDIA ARCHITECTURE: AN INVESTIGATION ON THE USAGE OF TECHNOLOGY-DRIVEN DEVICES IN THE SPATIAL CONFIGURATION OF CITIES

In this era, technology and media are in a rapid change, cities have become a platform to present different forms of media. Media architecture, as the integration of media and architecture, has provided new approaches for architects to implement media and technology-driven devices to design living spaces. One of the contemporary aspects of digitalization, which has been signified by the emergence of media on the face of cities, is the new modes of interaction that are formed because of the new media platforms. The significant number of media platforms in the urban spaces have had an influence on how citizens perceive their environment, and as a result of this influence, people's interaction forms have been affected as well.

This thesis investigates the role of early forms of media, photography, films and screens from 19th century to present, in reshaping the experience of living spaces. In the aspect of flexibility and user freedom qualities of Media Architecture, the concept of Mobile Architecture in the 20th century is investigated as earlier approaches in architectural designs that paved the path for implementing media and digital devices in designs of living spaces. As the use of media and digitalization grow in the face of cities, this thesis investigates the new social spaces that are created because of them, by demonstrating different new forms of interaction that these contemporary spaces have shaped. While these forms of interaction are being created, other aspects of perception are realized in citizens' experience of their living spaces. Although the content and forms created by abundance of large urban screens and illuminated facades may be familiar for citizens, the context that they are presented creates a new mode of perception and brings up feeling that are explained as "Technological Uncanny" in this thesis. Throughout the thesis, it is discussed that presenting media is not the only role of cities and architecture in the contemporary world, but they have the significant role of forming these new modes of perception and facilitates the spatial experience of users to address the uncanny sensation of people.

ÖZET

MEDYA MİMARİSİ: ŞEHİRLERİN MEKANSAL KONFIGÜRASYONUNDA TEKNOLOJİK CİHAZLARIN KULLANIMI ÜZERİNE BİR ARAŞTIRMA

İçinde bulunduğumuz çağda teknoloji ve medya hızlı bir değişim içinde ve şehirler farklı medya biçimlerini sunan platformlar haline geldi. Medya ve mimarinin entegrasyonu olarak medya mimarisi, yaşam alanları tasarlamak amacıyla medya ve teknoloji odaklı cihazları kullanma konusunda mimarlara yeni yaklaşımlar sağlamıştır. Medyanın şehirler sebebiyle ortaya çıkmasıyla ifade edilen dijitalleşmenin çağdaş yönlerinden biri, yeni medya platformları sayesinde oluşan yeni etkileşim şekilleridir. Kentsel alanlarda çok sayıda bulunan medya platformları vatandaşların çevrelerini algılama şekilleri üzerinde etkili olmuş ve yarattığı bu etkinin sonucunda insanların etkileşim biçimleri de etkilenmiştir.

Bu tez, 19. yüzyıldan günümüze kadarki zaman aralığında medya, fotoğraf, filmler ve ekranların erken dönem biçimlerinin, yaşam alanlarının deneyimini yeniden şekillendirmedeki rolünü araştırmaktadır. Medya Mimarisinin esneklik ve kullanıcı özgürlüğü nitelikleri açısından 20. yüzyıla ait Mobil Mimari kavramı, yaşam alanı tasarımlarında medyanın ve dijital cihazların kullanılmasına giden yolu açan mimari tasarımlarda daha önceki yaklaşımlar bağlamında incelenmektedir. Şehirlerde medya kullanımı ve dijitalleşme artarken bu tez, bu çağdaş mekanların oluşturduğu farklı yeni etkileşim biçimlerini göstererek, onlar nedeniyle oluşan yeni sosyal alanları araştırıyor. Bu etkileşim biçimleri yaratılırken vatandaşların yaşam alanlarına ilişkin deneyimlerinde algının diğer yönleri fark edilir. Geniş kentsel ekranların ve ışıklı cephelerin bolluğunun yarattığı içerik ve biçimler vatandaşlara tanıdık gelse de, sunuldukları bağlam yeni bir algı biçimi yaratır ve bu tezde “Teknolojik Gizem” olarak açıklanan hissi ortaya çıkarır. Tezin tamamında, günümüz dünyasında şehirlerin ve mimarinin tek rolünün medyayı sunmak olmadığı, ancak bu yeni algı biçimlerini oluşturmada önemli bir role sahip olduğu ve kullanıcıların mekansal deneyimlerinin gizemlilik hissine hitap etmesini kolaylaştırdığı tartışılmaktadır.

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LIST OF SYMBOLS/ABBREVIATIONS

GPS	Global Positioning System
LED	Light-emitting diode
GEAM	Groupe d'Etude d'Architecture Mobile
VR	Virtual reality
MIT	Massachusetts Institute of Technology
CAD	Computer-assisted design
CRT	Cathode ray tube



1. INTRODUCTION

In the 21st century, a contemporary form of hybrid architecture has aroused based on the rapid growing technological trend in lightening, media and structural material. In this aspect, lightening and media are presented additional elements that can be weaved into three dimensional spaces. This new hybrid architecture is known as Media Architecture. In this era, cities are facing the abundance of lightening designs, interactive surfaces and façades and also digitally presented billboards. All these all under Media Architecture category and it can be said that social life is progressively a life lived in media architectural cities in these days.

The term media architecture consists of two main elements as the name itself indicates, media and architecture. Media Architecture is a multidisciplinary practice, it enables architects and artists to design and develop beyond the boundaries of one discipline. Both Media and Architecture have undergone major changes in the last decades because of the rapid technological developments. In cities, the spaces and architectural elements drastically varies from what they are in classical models of urbanism. Also, as much as the face of the city has changed in the past decades, so have the media.

Media architecture combines architecture and media together, but it is not a practice that simply 'represents' media and visuals through architectural elements. Media architecture facilitates the modern social life's spatial experience through the combination of architectural structures and media feedback. Although the implementation and integration of media and architecture have been an ongoing process since the technological images developments in the mid-19th century through the context of Modernization, the full potential of media and architecture combination is coming fore because of the developments in digital networks with their speed and ubiquity. The media's convergence in media architecture, which is being mobile, instant and prevalent in urban spaces, is a fundamental mode for social experiences. Digital networks constantly provide instant feedback in 'real-time', not like what they used to be as a record of events. This has led social interactions to be distributed in diverse space-time settings and caused technological networks to be an integral part of social dynamics in architectural spaces.

Media Architecture, with its architectural and media aspects, has the ability to extend the sociability of citizens. In Media Architectural cities, a new aspect of sociability, which social networks are formed instantaneously instead of being pre-given, emerges. Private interactions can happen at a distance and not only face to face. In this setting, which many social interactions rely on access to a form of media platform, Media Architecture has the potential to pave the path to new ways and approaches to experience spaces.

1.1. AIM OF THE STUDY

As the main characteristic of space and its definition in regard to the separation of physical form and mental perception, has been re-examined since 1960s, new apprehension in architecture and its spatial design elements come to light. In the process of architectural designing, the materials, method of the construction and even the intended use of the construction, are not considered sufficient enough and a more responsive practice in regards of the design's social, cultural and psychological implications are involved. On the other hand, ever growing use of technology and media has effected almost all aspect of human life to an extend that a city life without the use of technological devices is almost unimaginable. Smart and technological devices are inseparable part of social life and citizen's connection with each other and as the result how users perceive their living spaces and their experiences in them have been altered.

Although one aspect of architecture design is to embraces physical structures and more recently with Media Architecture to utilize digitalization and media to actively or passively expose its vicinity, Media Architecture needs to go beyond the representation of reflected or distorted images that have already been established somewhere else. This thesis tries to investigate how technological advancements effect the way citizens experience the living spaces, not only in regard of the use of material and construction, but to form new modes of knowledge and perception, alongside with the making new types and areas of social interaction. The main aim of this thesis is to investigate how the imbrication of media technologies in an urban context has the potential to create new social spaces and the possibility that these new social spaces have altered users' and citizens' perceptions of their environment and eventually established new interaction forms to correspond with them.

1.2. SCOPE OF THE STUDY

This thesis aims to investigate the use of media in the spatial configuration of cities through Media Architecture. As Media Architecture is a multidisciplinary practice itself, different disciplines are investigated in the thesis. Within the scope of the thesis, photography is examined with a historical method and the development of photography during 19th century is scrutinized. During investigating photography, the book *Architecture and Its Image: Four Centuries of Architectural Representation* by Eve Blau and Edward Kaufman has been the main references. The photography methodology is limited to the 19th century as it is argued in the second chapter of this thesis that the ground of media-based cities has started to articulate from the mid-19th century by photography. In this regard, the development of technological photography is not covered and the thesis is limited to investigating photography as the pioneering technological media in reforming the understanding of citizens about their living spaces. In the aspect of Films, the effect of films and cinema in the early 20th century on viewers' perception of space and city is examined. *The Production of Space* book by Lefebvre is been used as the main reference to investigate the effect of film on perception of city and the movies *Alphaville* by Godard, *Dark City* by Proyas and *Man with the Movie Camera* by Vertov are the main secondary references. *Learning from Las Vegas* a book by Denise Scott Brown, Robert Venturi, and Steven Izenour is the main reference for early usages of billboards and screen in architecture in the 20th century and they are further investigated through different projects in the 4th chapter. The transformation between the effect of various media is not seen as a linear succession where one medium replaces another one in this thesis, but are broad thresholds that transformed the spatial experience and the way citizens perceive their environments and urban spaces. Also, based on McLuhan's theory of media which considers media as a message regardless of being the content or carrier, photography, films and Venturi and Izenour's concept of screens are all considered as media themselves that effect citizens' perception of society, and some argued differences between them such as 'architecture in media' and 'media in architecture' are not investigated.

In this thesis, to investigate the potential of Media Architecture in the aspect of flexibility, mobility and user freedom, the concept of Mobile Architecture as the pioneer approach is discussed. To meet the aim, the thesis limited the investigation of Mobile Architecture to its

flexibility and user freedom properties during 20th century, as it is seen as primary concepts that facilitated the shift in citizens' perception of their built environment, as the result, the thesis does not cover other concepts of architectural designs being argued during that period.

Furthermore, the effect of these flexibility, user freedom and technology is examined under Freud's concept of Uncanny which is the uncanny sensation resulted from familiar forms presented in unfamiliar context.

To address the problem of Uncanny sensation, the Media Architecture's property concerned with social and geographical characteristics are deliberated in relation with Spatial Design. As a result, the definition of public/private spaces and geographical boundaries in design is investigated through Spatial Design concept.

1.3. METHOD OF THE STUDY

In this thesis, phenomenological method of qualitative research approach was used to investigate conceptual explanations and examples of Media Architecture. The related fields are explained through examples and projects. The examples in relation with photography and films are the first created projects that are debated as genre defining projects. In regard of the Media Architectural projects, the leading and award winning projects of Spatial Design based on Media Architecture Institute's database are investigated.

The early forms of media are discussed in the second chapter through historical and conceptual researches. The historical research of Haussmannisation and Lefebvre's theory of space as conceptual research is used in the first and second subchapters consecutively. In the last subchapter, the secondary data obtained from Venturi's "Learning from Las Vegas" is presented to examine the role of screens and billboards in media architecture.

In chapter 3, a brief history of early ideas of Mobile Architecture is discussed. The pioneering examples of mobility in architecture in the 20th century in accordance to avant-garde architects' perceptions about users' freedom and their arguments about individual roles in intervening in their environment have been discussed through conceptual and historical researches, and it is followed by the pioneering examples of usage of computerization in architecture. These examples are the most debated examples in The last subchapter is

dedicated to the emergence of modern screens, and the history of their development has been discussed through conceptual and historical research.

To investigate the sociological aspect of media architecture caused by the abundance of digitalized platforms and the way they have caused different form of perception in citizens, the “Uncanny” essay of Freud’s is examined in the fourth chapter. And finally, different forms of citizens’ interaction with media architecture is discussed through several projects and examples in the last subchapter.

While each chapter presents its own coherence, it is tried to establish a collective resonance to discuss the complex process of media architecture, which has led to major changes in the discussion of social and architectural relations in the era of media. Although this thesis has considerable historical and archival focus, “Geomedia: Networked Cities and the Future of Public Space” and “The Media City” by Scott McQuire have been the pivotal source of the secondary data when discussing sociology aspect of media architecture.

2. MEDIA ARCHITECTURE AND EARLY FORMS OF MEDIA

2.1. REDEFINING CITIES BY PHOTOGRAPHY

Throughout the development of the media city and media architecture, some distinctive thresholds have transformed the relationship of the city and media technologies. In the mid-19th century, “mapping” a new urban space began to proceed with the help of the invention of technological images and photography. The regularization of Paris streets by Haussman and Marville’s photographic mapping of this regularization, exemplifies a critical shift in media practice, as the meaning of an independent image changed into a series and sets of images. Marville’s sequential photography alongside with Haussman’s Paris reconstruction enhanced the relation between media and social space. The photographic reproduction marks a new formation that can be called “territory of images”, in which new understanding and apprehension of urban knowledge through the eyes of citizens emerge. This “territory of images” is the foundation of constructing media cities and media architecture. The reformation of social life and a new perception of the city that new photography offered grew a new apprehension of cities as a land of images. Paris initiated the new relation between urban environment and technological images.

2.1.1. Architecture Photography

Architecture is among the classic styles of photography in addition to landscape and portraiture. The camera was perfect for representing the built spaces, by its ability to turn the geometric perspective of the Renaissance into a mechanical picture. In turn, architecture was an ideal subject that is Still. This is considered as a major advantage because the slow rate of early photographic emulsions required up to half an hour of exposure. Buildings do not need to be forced to stay still to get a solid image of them, Unlike imaging people. But this also meant that the urban photography was restricted to imaging empty spaces without any citizens in it, and it was the way urban photography was done before 1851 when Archer opened the way to ' instant photography. These empty urban spaces seem somehow fascinating today, and they were also strange for audiences in the 19th century as they were used to see streets with pedestrians and traffic. Samuel B. Morse - telegraphy pioneer – wrote

a letter to his brother in 1839 and mentioned his fascination about Louis Daguerre's photo taken in 1838:

Objects moving are not impressed, the Boulevard, so constantly filled with a moving throng of pedestrians and carriages, was perfectly solitary, except an individual who was having his boots brushed. [1]

This visual effect seen in that photo was an unintentional choice caused by the limitation of film's speed and also camera lenses of the time. Although "his boots and legs were well-defined, he is without body or head because these were in motion" [1], and it can be said it was a failure in capturing an image and a figure accidentally appeared in this image. Morse perceived this less deliberate incident with appreciation.

Besides the obstacles that moving pedestrians would cause when photographing streets, there were other factors that made photographers hesitate to shoot urban spaces. The most used form of architectural photography in the 1880s was frontal elevation photography. In frontal elevation photography, the images were taken from a position that was above the street level. This method facilitated the problems regarding vertical lines, as it would enable orthographic projection. Besides this, this position of photo shooting gave the viewers the chance to somehow feel dominant over the photographed scenes. However, this popularity in elevated photography demonstrates the fact that street life photography was seen differently from architectural photography and street life played almost no role when shooting architectural elements and photographs saw implementing city life in their images as an unaesthetic move. This approach was not demonstrating the effects of industrialization on society and cities. Churches, palaces and bridges without any sign of citizens in it were the main elements of the 1850s photographs and this method of photographing is known as 'tourist itinerary' photography. It is important to notice that this avoidance in photographing street life was not only because of technical limitations in the 1850s. Citizens were still not ready to conform to modern visual technology's place in their social life. The new technological photography wasn't still fully accepted as a new form of vision, and citizens became more familiar to perceive the flow of social life through the collection of images after 1850s. [2]

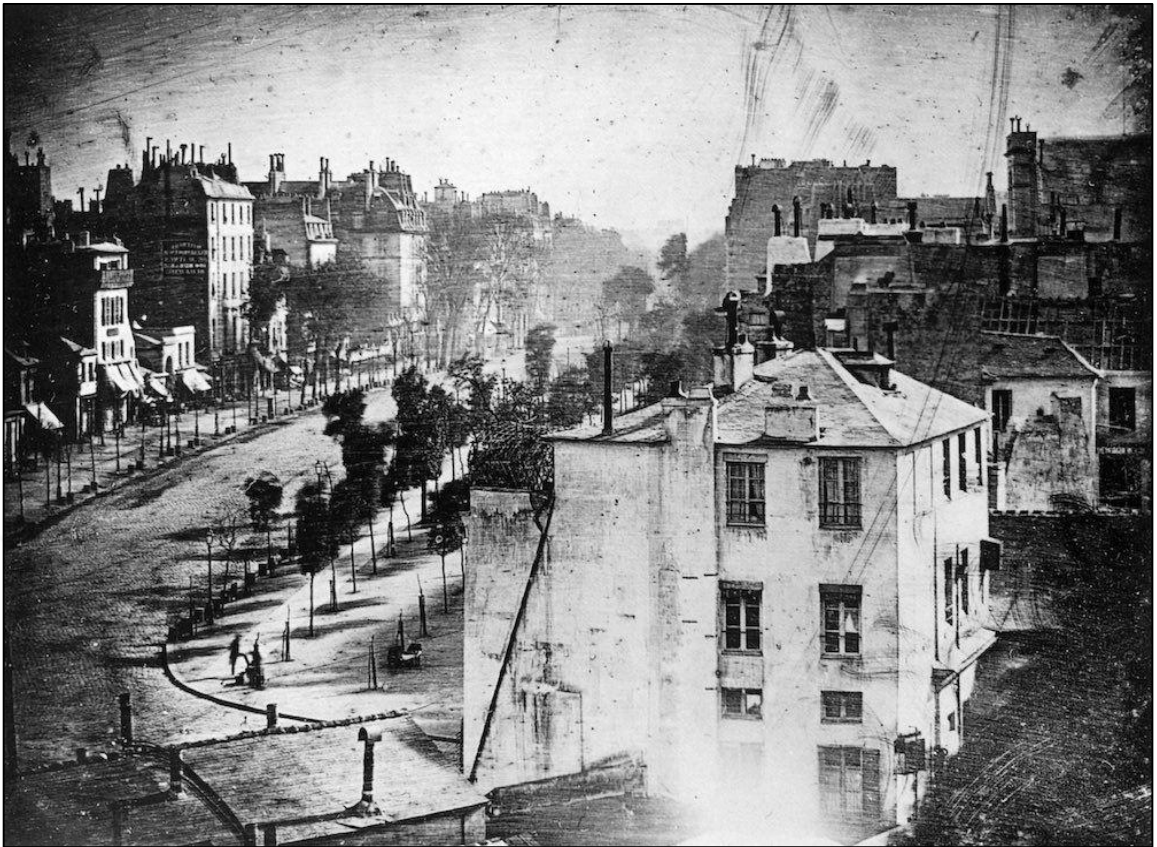


Figure 2.1. Louis Daguerre's photo taken in 1838 [3]

2.1.2. A New Sense of Cities by Photography

In the time of urban development in 1839, public was introduced to Daguerre's photographic process. Also between the years 1801 and 1851, Paris population doubled and the population of London went up three times [3]. A greater transformation of Modern life belonged both to the production of technological photos and the industrial regeneration of cities. Photographs of the city outlive the structures and urban environment they illustrate. According to Susan Sontag's [4] photography constructs the ultimate Surrealist universe. Also Walter Benjamin's [5] believes "no face is as surrealistic to the same degree as the true face of a city".

Hausmann was appointed to Modernizing Paris in 1853, sometime after a coup and Napoleon the third. The work of Charles Marville, commissioned in 1856, was one of the earliest and best-known photographic surveys of a city. Also, For the next 15 years, Marville documented the course of changes in Paris from the medieval era to becoming Modernized.

Paris reconstruction was the first attempt to change the face of the city from existing medieval appearance to a more Modernized one, and it became the model for many similar projects such as Annan in Glasgow, Bool and Dixon in London and Koppmann in Hamburg. Kenneth Frampton links Haussmann's renovation of Paris to the development of other European centers, such as Vienna's "Rindstrasse" to Burnham's 1909 grid plan to Chicago [6]. It is important to notice that Marville's attempt was significant in a way that it offered a new association between image and urban space.



Figure 2.2. Charles Marville - France, Paris, 1813/1879 [8]



Figure 2.3. Eugène Atget - France, Paris, 1898 [9]

2.1.3. Recording Cultural Memory

As it was mentioned earlier, Urban spaces' reconstruction is relatively connected to the time that photography actually descended to the streets' level. In the early 19th century, the population growth in European countries started. For example, in Paris, the population doubled in a 50 years' period of time - between 1801 and 1851 – and had a 30 percent growth in the following ten years. This rapid population growth was happening alongside with social class separation. Eve Blau and Edward Kaufman in their book, *Architecture and its image* [3] highlight this diversion by a Charles Dickens quote, as he believed divers worlds were

coexisting together and each one of them “has its own inhabitants; each is distinct from and almost unconscious of the existence of the other” [3]. The new division in urban spaces and citizens’ status in them brought up the need for a different point of view of these spaces in artists. Journalists started using a dramatic language of travel writers when talking about the urban slums and tried to present a non-fiction form of these areas. Henry Mayhew and some other photographers started presenting their images in an early anthropologists’ ways. ‘The Thirteen’ novel by Balzac is also seen as a good description of the changes that were happening in urban spaces that were formed by a different class of people. Harvey [7] explains this shift by referring to ‘The thirteen’:

The spatial rigidities that play a deterministic role in *The History of the Thirteen* become malleable in later works. The spatiality of the city is increasingly appreciated as dialectical, constructed and consequential rather than passive or merely reflective. We learn to understand the city from multiple perspectives.

As a result of this ‘multiple perspectives’, new forms of picturing the city started to emerge in the mid-19th century. The fast-changing environments and places, the crisis in city monumentality, which was as the result of capitalism, brought up the idea that the past is threatened to disappear with high speed.

This is when the importance of photography, which had the highest speed of recording and lower cost, tackled the concern of cultural memory. Governmental supported projects to record architectural heritage by photography started. For example, in France, ‘The Mission Héliographique’ in 1851 was set to document the architectural heritage of the country. This project was followed by other projects in different countries to record urban areas which were demolishing because of Modernization. In addition, in 1906, the Bibliothèque historique de la ville de Paris assigned Eugène Atget to systematically photograph the buildings of Paris [8]. The accidental visual that was captured in Louis Daguerre’s photograph in 1838, became an intentional visual effect used by Eugène Atget. Atget is specially known for his documenting the architecture of Paris before their disappearance to Modernization and is known the pioneer of architectural documentary photographer. [8]

Photography became not only a tool to record architectural aspects of a city, but also one of the first media that enabled people to see their city life and their position in it without bias.

2.2. REDEFINING CITIES BY FILMS

As technology and the art of imaging developed, modern cities in the 20th century demanded some new forms of representation and knowledge as the still images could no longer satisfy and compete with the fast-growing and complex changes in technology. Urban life had been changed drastically, a rapid time frame change that Lefebvre saw it as “shattering” of the classical city from space. With the means of film, these changes were, to some extent, presented in movies and could be better comprehended by the means of movies. In other words, films were a “representation of space,” and Film was arguably one of the most significant means for apprehending the changes in metropolitan experience. However, it is argued that cinema was not only one form of art between all other forms, but it represented a unique relation of modern cities and space-time. In other words, the relation between cinema and city has been more than just a representation of a city and space, and it can be perceived as “spaces of representation. With having these in mind, it can be argued that cinema is one of the fundamental elements of media city and media architecture formation that also eased citizen’s minds into a technological and modern space and architecture.

In the 1920s, Dziga Vertov with his movie *Cheloveks kinoapparatom* (Man with the Movie Camera, 1929) and Walther Ruttmann with *Berlin, Die Symphonie Einer Grosstadt* (1927) tried to demonstrate the experience of modern life. They were also pioneers of capturing and illustrating urban life with a new language. Vertov’s work (*Man with the Movie Camera*, 1929) is significant in presenting urban spaces through cinematic communication because he separated this visual experience from the language of theatre through some principles: producing a film without intertitles, scenario, sets and actors [9].

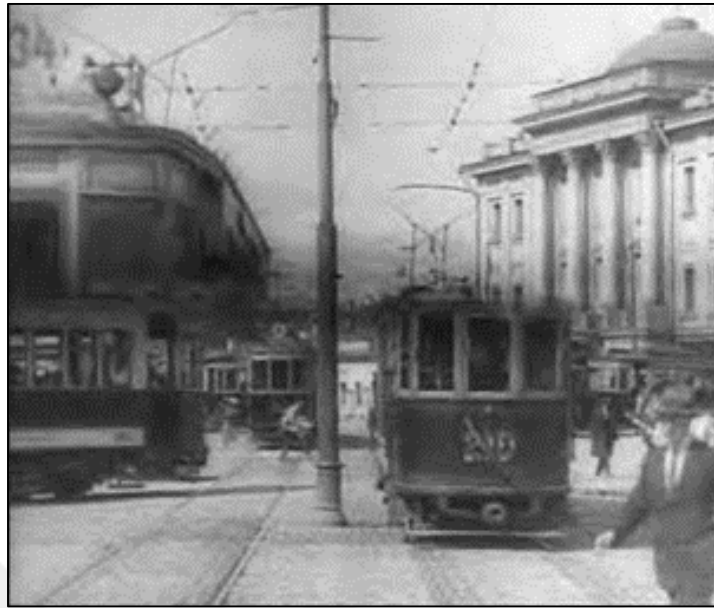


Figure 2.4. Man with the Movie Camera – Vertov, 1929 [13]

Man with the Movie Camera is not concerned with citizen's private life, but demonstrating a day of street and urban life. Vertov with the help of his wife, Elizaveta Svilova, and brother, did his best to capture street life without grabbing attention. For example, his brother, Mikhail Kaufman, dressed as a phone repairman to be as discreet as possible. This approach enabled Vertov to capture events as they were without being interrupted by people's observation [3].



Figure 2.5. Man with the Movie Camera – Vertov, 1929 [13]

Vertov film's context is when industrialization was still mainly something to achieve and visions that machines would reform social life. As in the latest scene, a fast pacing life is presented in the mechanical future. His determination was to present the contrast between the past and possible future, the existing situation as to what must exist.



Figure 2.5. Berlin, Die Symphonie Einer Grosstadt, Walther Ruttmann, 1927 [13]

2.2.1. Representation of Space and Spaces of Representation

The concepts of representation of architecture, space and cities had a fundamental change in the seventies and strong theoretical work was created. Urban sociologists such as Henri Lefebvre and architects like Robert Venturi and Denise Scott Brown, alongside literary critics such as Fredric Jameson, reconceptualized space and spatial theory in that period. By the help of their concept of space, cinema has been situated in broader spatial dialogues and new ideas about the representation of cities on screen arose.

It is important to understand that the definition of 'the representation of the city' in cinema does not present a division between the actual reality of the city and its fictional representation in film. This is because firstly, cinema as a film's medium has a material presence in cities and within its social spaces. Secondly, the images of urban spaces represented on film are amongst various representations of the city. What's more, as Rod Shields suggests, "the city itself is a representation." [10]. Urban spaces are already representational and films cannot capture them just as a pre-existing object.

Henri Lefebvre provides a valuable way to place cinema in a bigger concept, which is famously called “the production of space [11]. He discussed a new theory of space and how it affects the reproduction of a capitalist society with a series of books between 1968 and 1974 – including *The Production of Space* (1974) and *The Right to the City* (1968). Lefebvre believed that “social space is a social product”, and space can be best comprehended if it is seen as a triad that links the physical (what is perceived), mental (what is conceived), and social (what is lived) aspects of space together. This concept is developed from the introduction of “lived social space” – the third term- to question the traditional contrast between what is real (the material) and what is imagined (the mental).

Lefebvre describes his trialectic as the following:

1. Physical space which is the spatial practice, material and the daily/urban reality of space. “the spatial practice of a society secretes that society’s space; it propounds and presupposes it, in a dialectical interaction; it produces it slowly and surely as it masters and appropriates it.” [11]
2. Conceived spaces which are a “representation of space”. The space that is conceived by planners and architects and knowledge of it that enables spatial practices.
3. Lived spaces, which are perhaps the most aspect, are “spaces of representation.” “space as directly lived through its associated images and symbols” [11], the space of inhabitants, users, and artists.

The third term, although it is not a representation of space nor a dialectical form of spatial practice, connects and covers all three terms together. In other words, the third term, “spaces of representation,” includes all other types of real and imagined spaces at the same time.

The relation between cinema and city, when it is seen through Lefebvre’s spatial triad, goes past just the real space of cities and their fictional representation in films. Films can, therefore, be perceived as a medium between the city’s material environment, the architectural theory, and the spaces that are experienced socially within the city. Keeping this in mind, with the opposition to Modernism during the seventies and its resistance to functionalism and centralized perspective, cities could be perceived as a “collage” (Rowe and Koetter) or an “extensive commercial architecture and mixed media” [12]

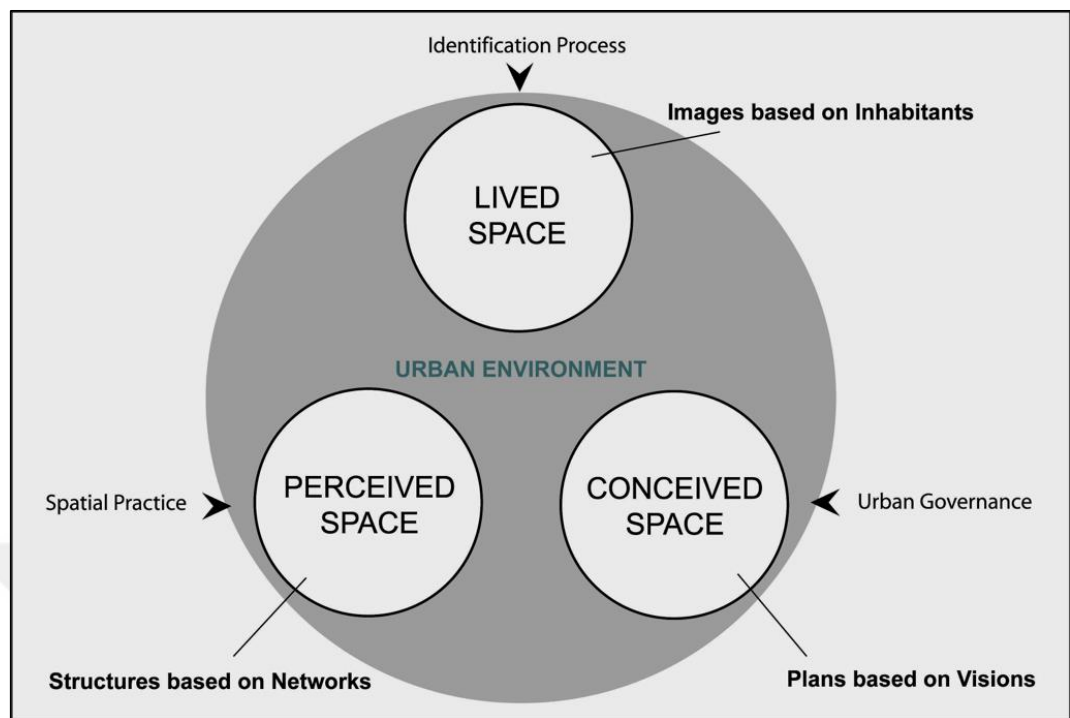


Figure 2.6. The production of urban environments based on Henri Lefebvre [17]

2.2.1.1. *Lefebvre in Films*

As it was discussed before, in the 1850s, Paris had undergone a large-scale replanning period under Hausmann's project and a new environment was built for Parisians. Over a century later, Paris saw a major architectural and economic transformation again that the whole urban districts were aimed to be redesigned and reconstructed. The 'rehabilitation' project of Paris under the supervision of De Gaulle and André Malraux in 1950s, was designed to rehabilitate the urban center and historic buildings of Paris. This rehabilitation included not only the cleaning of urban facades but also the transformation of office blocks and commercial centers from residential residences. As a consequence of this reformation, the price of lands rose dramatically and forced middle-class citizens outside, and new consumerism of elite occupied the modern flats with their domestic technologies.

This was not the first time that Parisians had faced the Modernism movement. In 1922 Le Corbusier had designed 'Voisin' plan for the very heart of ancient Paris and aimed to replace it with more 'Modern' structures. The effect that Le Corbusier's plan could have had on citizens was quite different from what actually happened in the 1950s, as from 1950 to 1960s

reformation, the project was going through with manipulating technique and demonstrating it as it was a ‘public interest’. As Jacob Paskins mentions in his book, residents were not against Modernism but they were not in favor of the insensitive way that the administration used to push away the citizens who were getting in their way. [13]

During this transformation in the 1960s, some artists and filmmakers took the lead to demonstrate how urban reformation is affecting society and also its consequences in the future. In 1962, Godard pictured the changing landscape of Paris in his movie *Le Nouveau Monde* (1962) in which an individual returns to the city and sees “people talking illogically and constantly swallowing pills”, while “names of things (had) been changed and the Eiffel Tower (has) been partially destroyed” [14]. It can be said *Le Nouveau Monde* (1962) is a portrait of “presentation of space”, to illustrate the rapid change of urbanism in the extreme in films.



Figure 2.7. *Le Nouveau Monde* (The new World), Jean-Luc Godard, 1963 [21]

However, Godard went one step further by *Alphaville* in 1965 when the whole old Paris was replaced with a new look. ‘*Alphaville*’ directed by Jean-Luc Godard in 1965, wisely presented the anxiety of citizens about Modernism and “thousands of machines for living in” [15] were created, *Alphaville* in one aspect can be seen as “space of representation”, in which citizen’s perception of their society and space is being pictured.



Figure 2.8. Alpha 60 – Alphaville, 1965 [21]

2.2.2. Forming Future within Films

As much as Alphaville is a science fiction movie, it represents the reality of his time and even the future vividly. As in our modern world, different and changed means of communication can be seen. Godard also used fixed phrases and words for communication among Alphaville's citizens. In Alphaville, "words mediate the manner of perception, and are used as replacements for any creative thoughts." [14]. Phrases like "I'm very well; thank you, not at all." [16] are replaced by meaningful communication, and it can be compared with the flow of emoji and fixed phrases in the modern technological world of the 21st century.

In regard to the movie set and landscape, Godard sets his film in a built environment instead of a false one to present his critique that "the Modern had 'arrived'" [17]. The buildings in Alphaville appear and disappear and despite familiar scenes of the Electricity Bard building and the Hotel Sofitel Paris le Scribe, they were represented in a way to demonstrate the uncanny sensation of them for Parisians. Godard tries to show how the historical sites of Paris are being changed to a new architectural model that is "accompanied by a denigration of the old, as a preference for the strikingly, futuristic new" [18]. This does not mean that Godard was against technological developments, but he was trying to show the "pain and

modernity, which for all is the glorification of the jet-pack, might still burn those left on the ground” [17].

The upcoming negative impacts of technological advancements in cities is shown by “Alpha 60” in Alphaville. Alpha 60, which is a devilish technological machine created by men, is only capable of logic but not emotion. It would drain citizen’s energy for life or would die without it. Alpha 60 forces people to think for them and takes the freedom of thinking from them by promising to provide a better place and paradise for them, “Godard's message is that we are ever dependent on machines that only experts can maintain and operate.” [14].

It can be said that Godard with his Alphaville wanted to warn people of having blind faith in technology and its consequences on citizen’s social life, how would the world look like if it is run by machine logic and just some authorities to control them, what is happening almost 60 years after Alphaville in our contemporary and technological world.

Later on, Blade Runner was released in 1982 and the plot was picturing the cityscape built in Los Angeles in the year 2019, where skyscrapers are packed and a very important structure is above all, above the pollution and the poor, just like in Metropolis. The town is overcrowded and polluted, no animals live in the town. This future may be referred to as dystopian, the contrary to a perfect utopian world; to compliment that, in the dark and in the rain, everything is carried out, so it shows itself to be a very depressing place.



Figure 2.9. Blade Runner, Ridley Scott, 1982 [25]

In 1997, it can be seen in Alex Proyas's movie *Dark City* (1997) that a man wakes up next to a brutally murdered woman in a room. He doesn't have a clear memory and doesn't remember what had happened. Even he can't recall his own name. 'Dark City' demonstrates the basic elements of noir with shabby hotels, dark streets, tough policemen, and an innocent hero being accused of murder. The plot of 'Dark City' follows most noir films when citizens are in search of their identity and memory. The never-ending conspiracy that some strangers are after them or try to kill them and no one believes them. In search of their identity, they start to discover a city's underbelly and the second style of life that is happening there.

Perhaps the best aspect of 'Dark City' is that "...it explores the logic of brute materialism – the belief that the milieu 'makes the man' – as a narrative conceit." *Dark City's* science fiction plot is enhanced by digital imaging in the movie, wherein some scenes the urban spaces bend and alter before viewers' eyes. Buildings grow out from the ground, spaces expand and contract. All the things that seem such a solid and rigid meltdown and alter and the liquid city is created.



Figure 2.10. Dark City, Alex Proyas, 1997 [26]

In movies, such as *Dark City*, alien beings create a new meaning for the city each night, changing the whole concept of the city for their own benefit. This is very similar to the changes that altered the image of cities from older industrial forms to the urban redeveloped form at the end of the 20th century. The post-industrial movement merged the diverse economy of lower Manhattan and in the 1970s it paved the path for the construction of the World Trade Centre Towers. This wave turned into a global change, and the manufacturing factories and industrial centers' infrastructure were replaced by trendy art galleries and urban gentrification. In this process, citizen's definition of identity was altered, people's lives were re-routed because of undetectable forces which were re-rendering the city just like digital images were swimming through it. These changes are fully discussed in the following chapters.

In short, as Photography in the 19th century started to change the perception of citizens of cities. "the representation of the city in cinema" and "spaces of representation" paved the path for the media city and media architecture. *Alphaville* (1965) was a pioneer movie that had a peek into a media city and showed the importance of "spaces of representation". Another major role that films have had in the formation of media city and media architecture is picturing and predicting a technological and media-based society and their dangers and consequences, such as what was pictured in *Blade Runner* and *Dark City*.

2.3. REDEFINING CITIES BY SCREENS

As photography and later on moving images and films are considered as early fundamental elements in forming media architecture, billboards, signs and surfaces are their carrier in architectural installments. In other words, if images are the contents, billboards are signs are what that makes it possible to deliver the content to users and environment. However, McLuhan argues in *Understanding Media: The Extensions of Man* [19] that the focus should be mainly on the media itself and not the message it presents. He believed different forms of media affect the society and citizen's perception, as "the medium is the message" [19]. For example, a light bulb is a medium itself without holding any content but it has the ability of redefining the perception of space by illuminating its surrounding and how people perceive that environment in the light of this lightbulb. In short, "the content of a medium is always another form of medium" [19] as he argued.

2.3.1. Decorated Shed by Robert Venturi, Denise Scott Brown and Steven Izenour

Many believe that architecture is a discipline that is founded on the insights and recordings of its earlier generation. 'Learning from Las Vegas' [12] is one of those documents that can be considered as a defining marker in the discussion of the effects of billboards on architecture and urban studies. When Venturi, Brown, and Izenour claimed in 'learning from Las Vegas' that "communication over space" [12] is the new archetype of architecture, they were referring to both the signage of Las Vegas' and also the paradigm shift in the Modernist definition of space with the help of 'sign'. Signs that with their efficiency can surpass the massiveness of building.

"Learning from Las Vegas" is a disputable attempt to bring back correspondence in architecture by signs and boards through the case study of Las Vegas city.

Venturi and the associates have distinguished Las Vegas's strip into two main archetypes of a "duck" and a "decorated shed" [12]. According to Venturi, the duck represents a similarity to modern building approaches. In other words, the duck represents a connotation of iconic forms; it is a metaphor for buildings that purely signify themselves, such as a donut shop in the form of a donut. On the other hand, the "decorated shed" has a symbolic association of

a disputing and complex meaning on the façade. Venturi perceived both forms as applicable modes and architecturally significant.

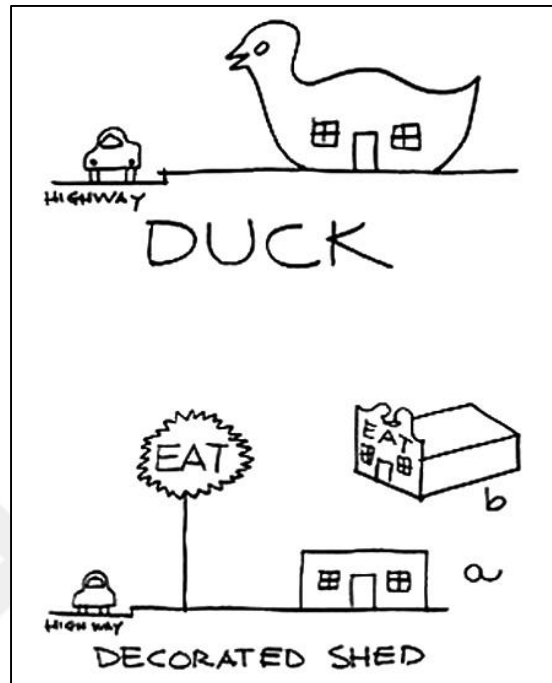


Figure 2.11. Duck vs decorated-shed by Robert Venturi [28]

However, the concept of “decorated shed” doesn’t act like a stable reference, but as one that is constantly undergoing revision. The formalism of billboards in Venturi’s point of view is the matter of communication. This communication transits from one kind of formalism into another one because it is greatly influenced by media.

‘Bill-ding-board’ for the National Football Hall of Fame designed by Venturi, Scott Brown and Associates in 1967, was one of Venturi’s proofs that the billboard can be an adequate ground for designing a decorated shed in architecture. ‘Bill-ding-board’ paved the path for the idea of billboard surfaces and their function as a huge media screen. It was also an attempt to make a balance between the efficiency of the design and the budget that was dedicated to the project, in a way to demonstrate the greatness of the institution. As Venturi says in “A Bill-Ding-Board Involves Movies, Relics, and Space”, ‘Bill-ding-board’ “big in size, but small in cubage” [20]. ‘Bill-ding-board’ design was a “logic not of representational fidelity but of efficiency” [21]

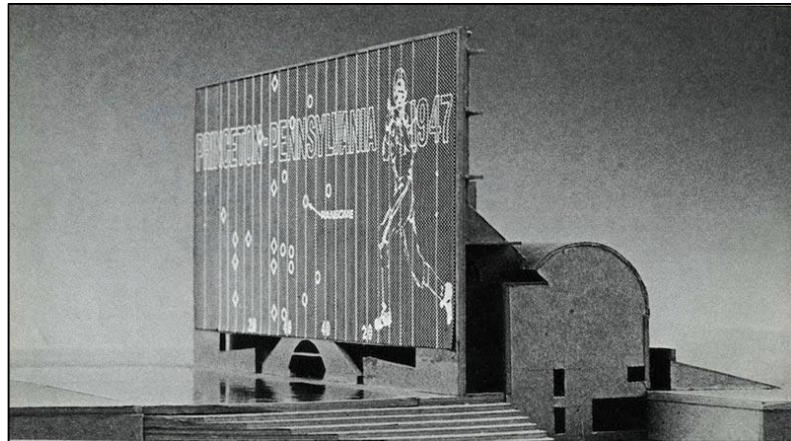


Figure 2.12. National Collegiate Football Hall of Fame, NJ, by Venturi and assoc., 1967

[31]

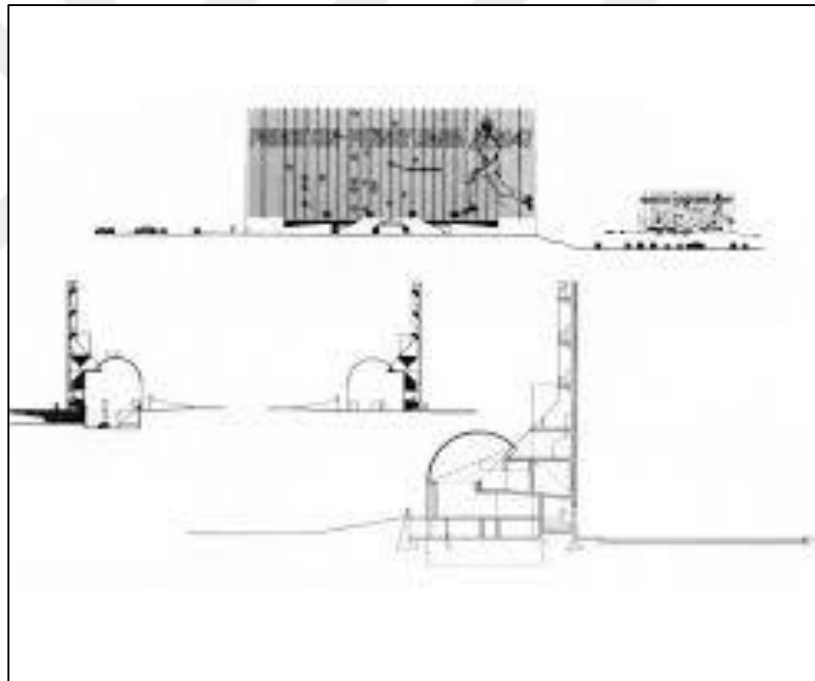


Figure 2.13. National Collegiate Football Hall of Fame, NJ, by Venturi, Scott Brown,
1967 [32]

'I am a monument' sketch of Venturi offers a *reductio ad absurdum* of the application of billboards in architecture. In many aspects, this design is a Modernist design with following the 'form follows function' aspect that securely put a billboard sign on as a part of architectural design [22]. In the time that controlling was aimed to be demolished, the billboard could be seen a reduction in control and of course, the message of 'I am a monument' is both about the architecture and also function. It can also be said that it is

similar to “Ceci n’est pas une pipe” painting by René Magritte (also known as This is Not a Pipe) , but ‘I am a monument’ designated identity by language rather than refuting the connection between an object and language.



Figure 2.14. ‘I am a monument’ by Venturi - Architecture and function



Figure 2.15. This is Not a Pipe by René Magritte [34]

The billboard is seen as a model of architectural development for Venturi. It can be said that Venturi and Scott Brown had Alison and Peter Smithson’s interpretations, as what Smithsons argued about the changes in the nature of architectural material sources and how they are moving from an industrial aspect to media forms [23], Venturi and Brown legitimated Smithson's ideas for the buildings.

In examining the usage of billboards, two main applications can be considered. Billboards as a political-cultural device or a formal device. According to the Modernism point of view, signage was superfluous and had to be minimized. As Hitchcock says: “If architecture is not

to resemble billboards, the color should be both technical and psychologically permanent.” [24]. For sure, the billboard has several characteristics of large-scale graphics, but when it is placed within the frame, it responds more to Modernist’s concept of the relationship between support and structure itself:

Of course, when billboards started to become a way for expressing architecture as a sign-based architecture, it triggered many debates and not many were in favor of Venturi’s point of view about the application of billboards in architecture.

Unlike those who believed Venturi is undermining his responsibility as an architect, some other critics such as Paul Goldberger believed that “the Venturi’s love affair with the billboard is secure enough to allow them an occasional moment of self-mockery.” [25]

As it is discussed in ‘Learning from Las Vegas’, the meaning of the ‘sign’ also can be perceived in two different ways. The first usage of a sign is “as a conventional or arbitrary mark, figure, or symbol used to indicate the thing it represents” [26]. However, signs do not function only as repetitive figures, but also “the thematic unity subsuming these various strands of thought” [26]. The second definition of signs is an artifact that functions as a notice, direction, or an advertisement. They can be displayed as a traffic sign or as a sign of a store. These signs are elements that present identity and direction. The way they function, look and act, and made greatly influence the meaning that is interpreted by observing them.

It is important to notice that, a sign cannot only be perceived as a physical object but as signage that depends on the context where it is represented. As Venturi says in his master’s thesis, “Context in Architectural Composition” [27], ‘context’ is not only about the form but is also about ideas. Venturi argues that ‘context’ is framed by three main elements of location, discipline and time. Based on these three factors the way a sign is perceived in Las Vegas or New Haven (location), if it is in architectural design or graphic design (discipline), or if it was displaced in the 1960s (time), makes a huge difference because they influence the ‘context’. The meaning of the ‘signs’ and arguments related to them are changed by the ‘context’.

In general, these signs in their contextualize environments can be categorized in three different groups, the marquee as in pop art and populism, the graphic as in graphical bias in

New Haven, the billboard as a way of expressing architectural purposes in Venturi;s definition of new forms. As he says: “the sign is more important than architecture” [12]

After Venturi’s investigation of billboards, their function and appearance have seen great changes with more technological developments. The reflections of his thoughts became a venturing stone for other advancements and developments in the field of engineering that utilized the surface of the buildings for more visual utterance.

Las Vegas picture has been though more changes with digital screens and has become a scene for rapid changing technology. As in the 1960s, the billboards with lightbulbs and their rigid and solo image were dominant, in today’s scene, the changing images and messages of screens have created a different ambient in the city. As for today, digital billboards and signs have become an inseparable part of the urban architectural face and new modes for communication and design.



Figure 2.16. Car view of strip - Las Vegas, Early 1960s [40]



Figure 2.17. Las Vegas - current situation [41]

In short, the changes and developments in different modes of media has eased the way for new perspectives in architecture. From photography and moving pictures to new definition and usage of urban screen, urban societies got more familiar with new modes of media and their perception of city has been altered by them. More recently, the internet and smart devices have had their effect on media and the way media in urban setting is perceived by citizens.

3. MEDIA ARCHITECTURE AND TECHNOLOGY

In the 1990s, by the invention of the internet, the image of the world was dramatically changed since it has never changed in such a short span of time. The emergence of the internet facilitated the pace of changes in everyday life and using dynamic images became universal. Newly increasing digital communication technology, which had become possible by the internet and its effect on media, became a concern of urban designers and architects.

Media creates an intersection between virtual and physical settings by establishing dynamic data fields. Countries begin to dynamically expand their appearance in the rapidly evolving age. The urban spaces have intensively changed and became a digital domain and social sphere by the integration of media, technology and structure. This increasing change has become a discussion in various fields such as architecture, media and technology. Public space ultimately becomes an operational region as a point of departure for the financial, common and cultural pattern. The changes in technology shaped history's static screens and became our daily life's digital infrastructure and transformed it into a dynamic media environment. The advent of laptops, data networks such as GPS, the internet and also communication platforms such as smart phones and many other improvements are a part of people's lives and bring down geographical borders.

By hybridizing architecture with the instruments of technology and media, public space has changed its expression. Buildings and structures also function as media machines as part of their living environment in which society grows into it. Urban spaces and facades transmit LED screens through digital displays and react to public space with their motifs. It is essential to examine how digitalization and technology have altered the architecture and how the media can be influenced by improvements in technology.

In this chapter, first, a summary of architectural digitalization throughout the 20th century will be discussed. It will be argued how social and spatial mobility in cities, which were the focus of Avant-garde architects, have changed its definition and face with the fast pacing growth of media and digital platforms. By the end of the chapter, also it is discussed how these technological advancements in media and communication have redefined architectural elements such as facades.

3.1. A BRIEF SUMMARY OF FIRST DIGITALIZATION APPROACHES IN ARCHITECTURE

Cities on the move were Avant-garde architects' dream through the 20th century. This movement can be analyzed in three aspects. The first aspect was building portable structures and mobile houses. As portable cottages were built in the 1830s, and prefabricated houses, as well as drive-in architecture, began in the united states in the 1920s. The second aspect was to produce multifunctional spaces as well as objects in the 1920s. The Bauhaus and de Stijl tried to develop new materials for this purpose. And the third approach was by László Moholy-Nagy, who tried to redefine the spatial environment by the use of media. In the 1960s, combining these multifunctional designs with the new media and technology caused the formation of flexible environments. This union of architecture and media affected the meaning of urban spaces in terms of technological control and access. The possibility of designing and forming user-configured spaces has become possible by networked computing. However, it has also shaped new ways of control on social interaction and urban spaces. In other words, if having new forms of the urban structure is one of the outcomes of digital networks, the improved capacity for tracking citizens' movements, their communication styles and choices, and turning them into a searchable database is for sure another obvious outcome.

There was a major shift in urban dialogue based on Antonio Sant'Elia's [28] in "Manifesto of Futurist Architecture". As the impact of industrialization became more clear in the scale of the urban infrastructures' aspect, Sant'Elia's [28] praises 'taste of the light, the practical, the ephemeral and the swift'. If 'La città nuova' was to highlight the respect to massive railway stations and shipyards, the characteristics of the new city's essentials would be 'impermanence and transience.' As Sant'Elia's [28] claimed: 'Things will endure less than us'. As this standpoint showed the enhancement in norms of capitalist productions – as well as the reduced lifespan of goods-, it has also indicated a fundamental separation in architecture and time/movement relation.



Figure 3.1. The power Station, Antonio Sant'Elia, 1914 [43]

Reyner Banham believed that Sant'Elia was the first person that introduced Modern architecture to the pattern 'of thinking in terms of circulation, not vistas'. Sanford Kwinter [29] also mentions that Sant'Elia's perception of a city is influenced by Umberto Boccioni's theories about physical spaces. Umberto Boccioni wrote a series of essays between 1910 and 1914 in regard to contemporary developments to point out the avant-garde's similarities to field theory. As a result of his claims, space and time were not treated as independent factors by field theory but inseparably merged together. Boccioni interpreted this merging into his

sculptural conception of 'plastic dynamism' where the spaces between materials and objects themselves are recreated in terms of dynamic characteristics [30] .

These lines are not defined in a traditional space which only includes point, line and plane, but is more like 'force-lines' that plot the continuousness of the world in motion. There is a similarity between Sant'Elia's 'La nuova città' and Boccioni's interpretation; Sant'Elia's lines surpass the organized role of more static elements, introducing a different meaning of time to a city. And when movements and structures are merged and cannot be separated, it is possible and somehow necessary to think of a city as an "event" as Tschumi [31] calls it. Although neither Boccioni or Sant'Elia actually used the term "event", their arguments imply a similar meshing of architecture, space and movement to what Tschumi proposed. Their perceptions about the dynamic nature of contemporary urban spaces were continued by Moholy-Nagy and Siegfried Giedion. Moholy-Nagy's experiments with kinetic art such as Light-Space-Modulator (1930) presented the same arguments as Boccioni:

The fact that kinetic sculpture exists leads to the recognition of a space condition which is not the result of the position of static volumes, but consists of visible and invisible forces, e.g. of the phenomena of motion and the forms that such motion creates The phrase 'material is energy' will have significance for architecture by emphasizing relations instead of mass. [32]

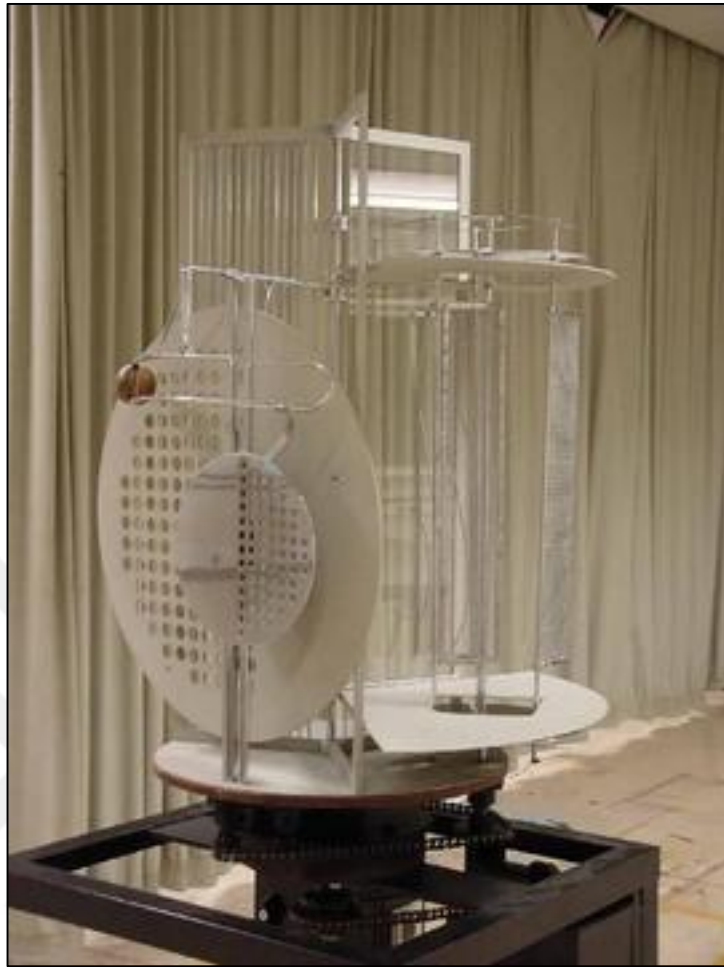


Figure 3.2. László Moholy-Nagy, Light-Space-Modulator, 1930 [48]

Also, Giedion introduced a new form of motion to publicize the theory of space-time. In *Space, Time and Architecture* [33], Giedion claims that Robert Moses' Parkway and interchanges in New York as the peak of Modernism

The idea of Giedion about the flow in modern images highlights the necessity in the separation of a stable point of view – recognized in classical geometry- and the one in the culture of mobility. Because the spatial properties of vehicles- as an inseparable matter in the modern world- are more dominant than those in Sant'Elia and Giedion, redefining urban spaces based on the mobility that is formed by screens and networks comes to light.

3.1.1. Friedman and Constant's Mobility

This trail was more cleared out in the post-war period. L'Architecture mobile (1958) manifesto by Yona Friedman can be considered as a catalyzer to a new generation of architects such as Constant and Archigram. Friedman, like many other architects of the time, was compelled by the post-war cities' growth and the incapability of Modernist orthodoxy to cope with the rapid growth in electronic communication or high-speed transportation. It is important to notice that Friedman had a different emphasis compared to the former avant-garde. The mobility Friedman imagined didn't belong to machines or constructions, but to the flexible spatial formations managed by users. To accomplish this vision, Friedman proposed 'Spatial City' which consisted of several raised levels of mobile light 'space-defining elements' laying over existing cities. Also, the spatial city was meant to be unfinished, as Friedman believed: 'The structures that form the city must be skeletons, to be filled in as desired.' [34]. GEAM (Groupe d'Etude d'Architecture Mobile) was founded by Friedman's manifesto in the late.

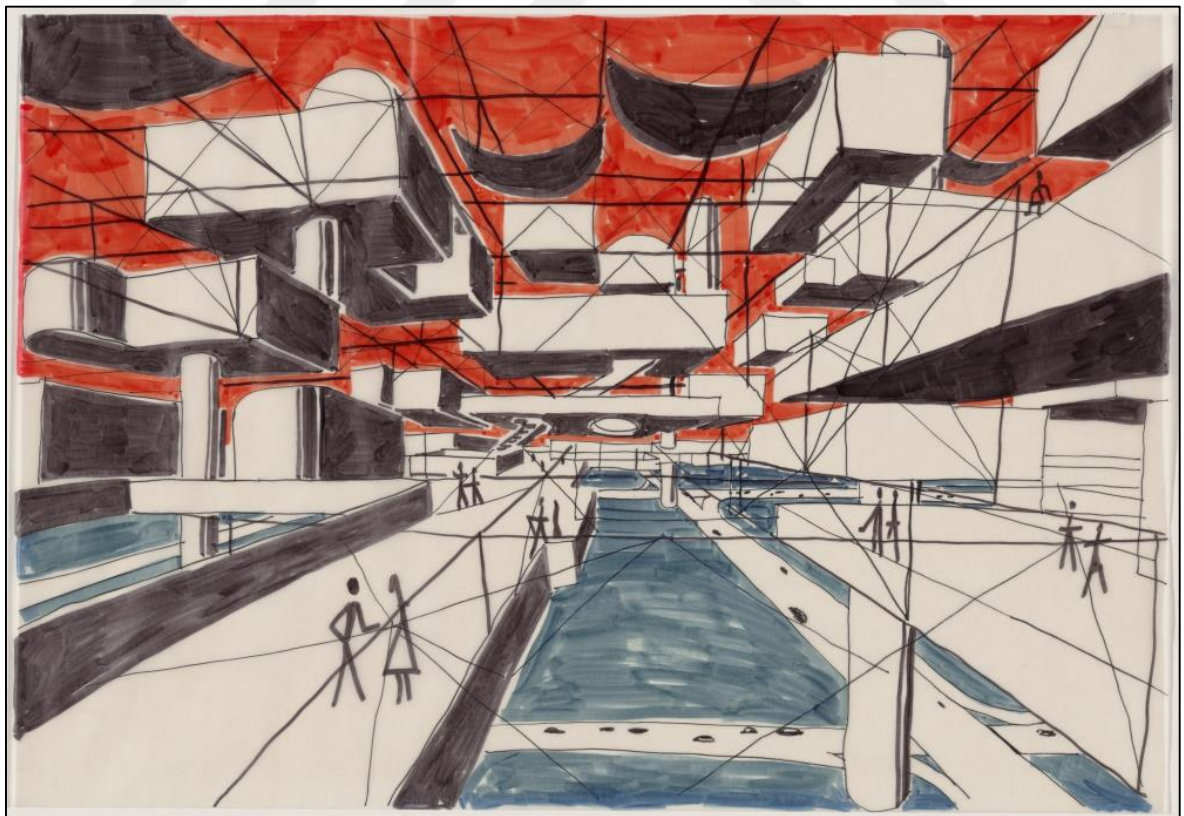


Figure 3.3. Spatial City Project (perspective), Yona Friedman, 1958-59 [38]

Friedman didn't try to reject Modernism, but what he wanted, just like Gropius and Corbusier, was to fully utilize industrial techniques in regard to mass production and prefabrication. Despite this, the end result of his vision was considerably different from those before him. From the moveable interior and exterior walls, ceilings and floors to water and power supply, all would be able to be reconfigured to create more freedom of movement for residents. In this way, residents would determine the most suitable living environments for themselves, instead of the all-knowing architects.

Constant Nieuwenhuys extended Friedman's idea of user-configured environments and nomadism in his 'New Babylon' project. Based on the idea that labor will be eliminated by technological advancement and *homo ludens* would replace *homo faber* [35].

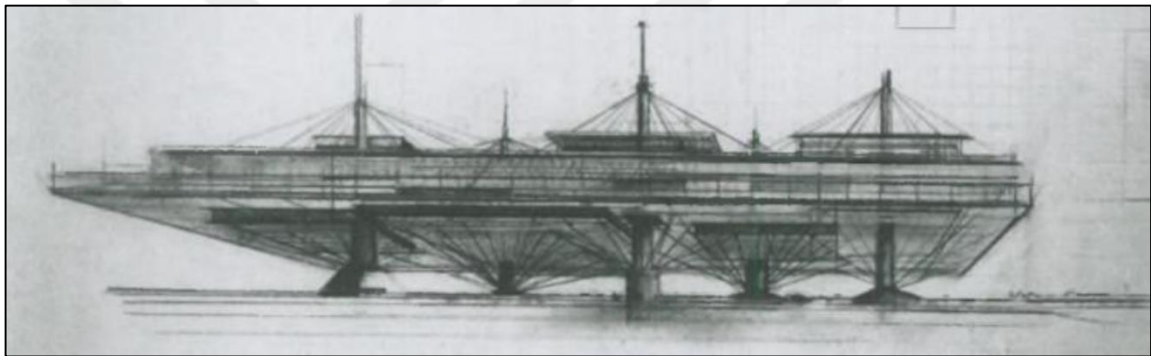


Figure 3.4. A sector sketch of New Babylon, Constant Nieuwenhuys, 1964 [39]

Constant principles of 'Unitary Urbanism', which was first espoused by Gilles Ivain in the early 1950s, demonstrate utopia as urban and technological and embracing space and time rather than Arcadian. Unlike Corbusier's idea of technological capacity to build a modern home as a machine with window-walls and in contact with nature, Constant proposal for New Babylon had no relation with nature as 'the levels are largely inaccessible to sunlight, so the interior of the city is artificially lit, ventilated and air-conditioned'

There is no attempt to effect a faithful imitation of nature, however; on the contrary, the technical facilities are deployed as powerful, ambience-creating resources in the psychogeographical game played in the social space. [36]

Technology is the fundamental element in spatial settings rather than nature and space is a 'toy rather than a tool. And as such, he wants it to be as mobile and variable as possible' [36] for *homo ludens*. Constant wanted to recreate friendliness of an old city street but with a

distortion in it. What Constant had in mind was to replace the familiarity of spaces and social identity with an avant-garde approach which unpredictable matters and spaces would be a social norm. If, like Friedman, Constant wanted to reform the city as a labyrinth, it wasn't a 'classical labyrinth' that directed travelers to a concealed center, but a 'dynamic labyrinth' without fixed coordinates [37].

Constant's perception was to be one of the endless transformation and decentralized projects. However, reforming the usual habits and perception of spaces would generate psychological confusion. As Guy Debord and Gil Wolman [38] believed that 'Life can never be too disorienting', Constant believed that this kind of disorientation is a way to free society from capitalism and bureaucracy by participating citizens in forming their urban environments. Constant's vision was never developed in details, unlike Team X and Archigram. Both Friedman's city and Constant's New Babylon could not actually be legally established, as both were supposed to be formed and built by citizens - New Babylonians- [36].

Constant's emphasis on the participation of users has a similarity to what is known as a difference between the potential of the internet to increase user production and consumer choices' media models. Instead of inflexible structures and still social relations, Constant predicted a society in which private spaces were replaced by social spaces along with moveable walls [36].

Constant's aim for people to be persistently on the move was to accommodate the means of having new experiences. However, forming the new utopia with new social and political forms failed to happen despite the technological advancements of the time. And more than a decade later, Constant was forced to admit that the New Babylon is impossible to be built because of the social situations [35].

Constant's failure highlights the limitations of mobility and disorientation in regard to radical political approaches. Some of Constant's statements were indications of cold-war psychology. 'A long sojourn in New Babylon would surely have the effect of brainwashing, erasing all custom and routine' [36]. It seemed any form of change in social roles and routines would be dismissed without any hesitation. However, for many citizens, the 'disorientation' would hold a dark implementation. Those who believed their social status was reformed because of the capitalism thought that disorientation was experienced more constant anxiety than as relief from boredom. As Koolhaas argues, what is known as 'junk

space' is that 'it promotes disorientation by any means possible' [39]. The progress is to reshape mobility as a main character of the liquid city and to displace the fixed areas and spaces as well as dislocating social hierarchy.

3.1.2. Archigram's Mobility

While Constant saw the automation as a custom and fundamental element of the New Babylon's social interactions, Archigram established the role of computer technology in redefining urbanism. Ron Herron, Dennis Crompton, David Greene, Micheal Webb and Peter Cook officially formed the Archigram group in early 1960s, although their first magazine was published in 1961. The liquidation of the static city was the fundamental element in Constant perception for social change, Archigram's ideas of networked urbanism such as Pug-in city and Computer City, also brought nomadism to encounter the Modernism of Mies, Gropius and Le Corbusier. Archigram's faith in technology was what distinguished them from their other peers.

Archigram wanted to create "a new agenda where nomadism is the dominant social force; where time, exchange and metamorphosis replace stasis; where consumption, lifestyle and transience become the program; and where the public realm is an electronic surface enclosing the globe." (Quoted in [40])

Implementing this vision required more flexible technology as this flexibility was the core element of many 'Plug-In City' projects between the years 1962 and 1964. Moreover, Cook also mentioned that: 'the central implication of the Plug-In city is its open-endedness.' [41]. It is important to note that Archigram did not depart that much from the modern design archetypes but they managed to reorient it to a more consumer-oriented model.

While the developments of aeronautics in the time influenced the artistic and visual aspects of architects and citizens, the 'plug-in city' was to facilitate selecting from a variety of network services. Different pods and capsules were to link various components together so that they would satisfy all kinds of needs.

In the second half of the 1960s, the prefabricated structures used in 'Living Pod' (1965, as well as 'Gasket Home' (1965), paved the path to a more radical dematerialized structures. These projects aimed to spread the communicational technologies such as radio and

television in the networked cities known as ‘instant cities’. The concept of ‘Instant City’ was offered in Documenta in 1972 as a symbol of communication city that combined electronic and programmatic events in the local display centers. With an essence of democratic aspects, Archigram saw communication concerning command and control and architects’ role in design was to be narrowed down in order to have a user-oriented response.

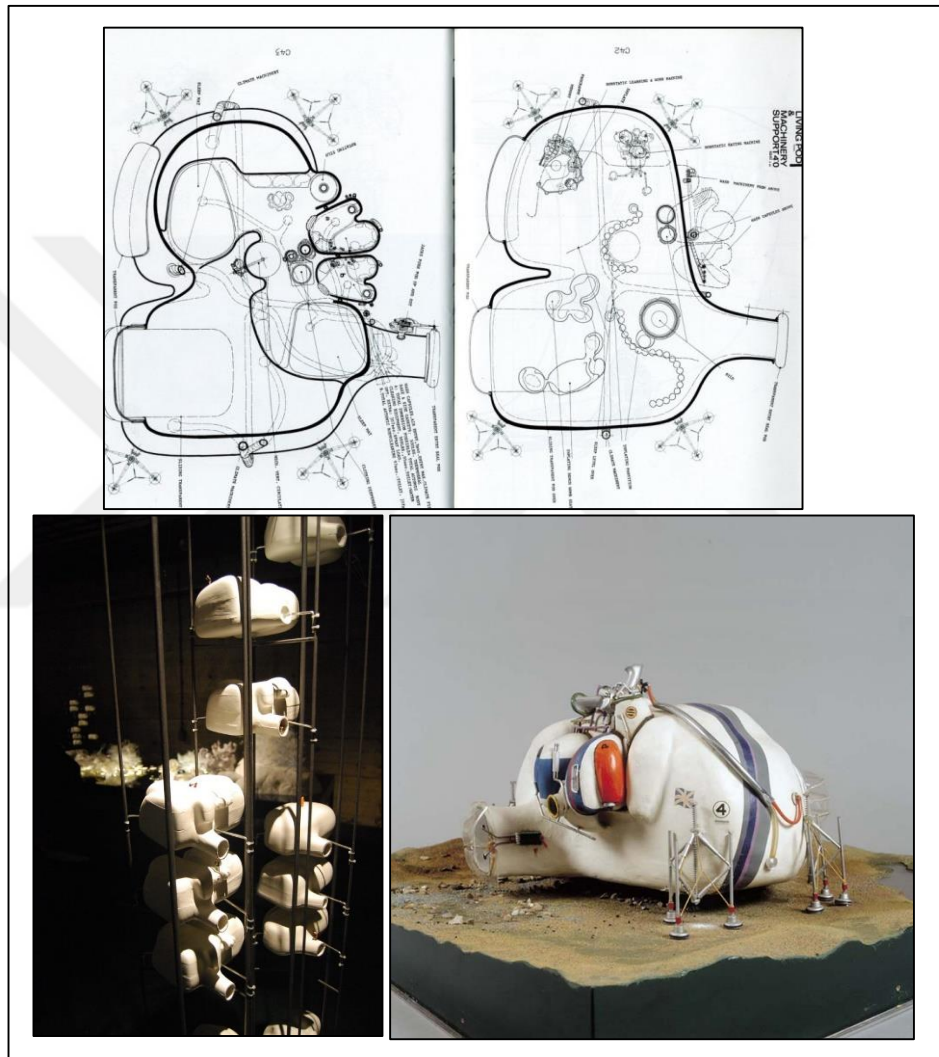


Figure 3.5. Living Pod by David Greene – Archigram, 1966 [45]

Based on Cook's claim, it seems computerization was the missing connection in achieving the 'Plug-in City'.

The Plug-in City needed the Computer-City as its shadow, otherwise it could not function. The Control-and-Choice discussion revolved around the potential of the unseen micro-switches and sensors, but more than this: these devices would need the intelligence of a computed relay of information so that they came into your service at the moment when you needed them. [41]

In Archigram's vision of the city, a city is not controlled by some power from the above but by users within it that can reconfigure and control different aspects of it by their own will. Also according to Archigram's, the spatial sense as it used to be defined in older architecture – regarding the scale of a room to a city- would lose its fixed outlines. As it was claimed by Cook: 'Our rooms expand indefinitely. Our walls dissolve into impermeable mists or into the imagery of stories and fables and dreams' [40]. Perhaps it can be said that the main aim of Archigram was to eliminate the gap between desire and satisfaction. 'If only we could get to an architecture that really responded to human wish as it occurred, then we would be getting somewhere' [41].

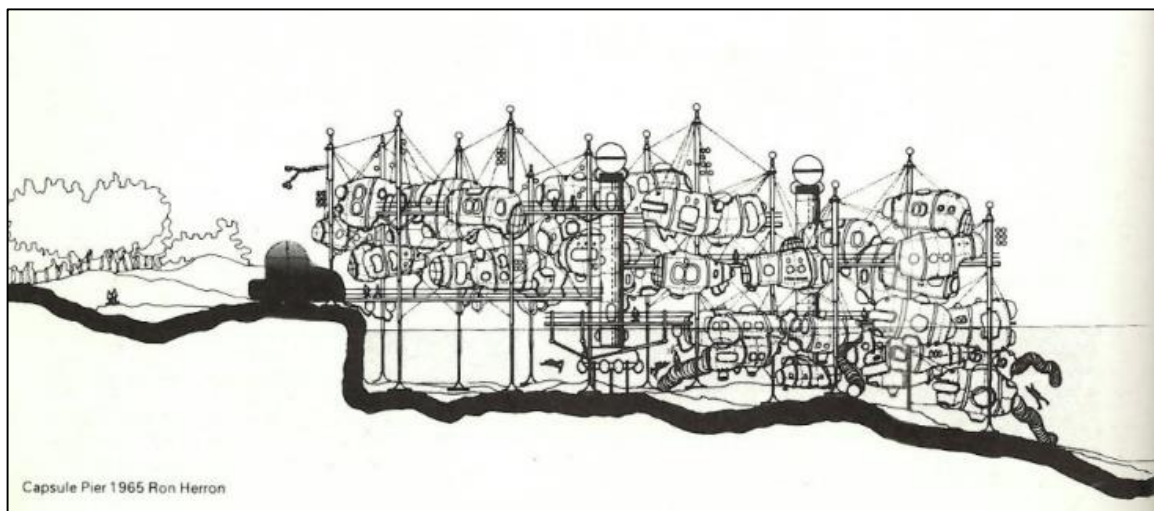


Figure 3.6. Gasket House, Archigram, 1965 [45]

With the emergence of VR –virtual reality- in the 1980s, it can be claimed that Archigram's vision in this respect was adapted in the cyberspace.

Culture's computerization has extended the urban spaces' regulation into a governable form and also it has replaced people by numbers as Kittler [42] suggests it as modern media's primary effect.

To sum up, the transformation between the 19th century the 20th century as a cybernetic one has greatly changed the information and matter's relation. Digitalization has transformed camera images into information streams that are very controlling and controlled. The 'liquid city' that was generated as a result of the mobility in the contemporary social relationships does not solemnly indicate a new form of social freedom but reflects the control mechanisms.

3.2. THE IMPLEMENTATION OF DIGITALIZATION IN ARCHITECTURE

Archigram's visions and designs were more theoretical. However, a practical approach for computer design was launched at Institute of Technology-MIT. The 'Architecture Machine' was first proposed by Negroponte in the mid-1960s. The purpose of designing this machine was to help human architects in their design. However, Negroponte hoped for days that machines would function as a form of associates rather than just slaves. Because of this belief, Negroponte refused to let this machine to be used in the designing process in order to reduce to cost of design. He also did not agree to redesign architectural projects in a way that they adapted to those times computer technology. Negroponte believed that the only way out of social problems that were caused by modern architecture was to benefit from computerized intelligence, in contrast to Ellul [43] .

In 1971, Renzo Piano and Richard Rogers proposed the concept for Centre George Pompidou in Paris as the initiation of early attempts to implement dynamic pictures in building environment. The idea was to project imagery on big screens that stretch over steel frames on the façade of the building. However, the removal of large screens was done for financial purposes and technical problems. The Sony Company presented the second attempt successfully to deploy big panels in the urban area in 1985. All the stadiums in the USA were mounted 40 m wide and 25 m high large screen screens. The same installment took place in most locations in New York City, Times Square and Shibuya Crossing in Tokyo. Computer-assisted design (CAD) had also been improved over time and helped to shift the urban spaces from industry to data. The changing technology advances lead to the

digitization of buildings by transitioning from conventional static displays to dynamic media façades.

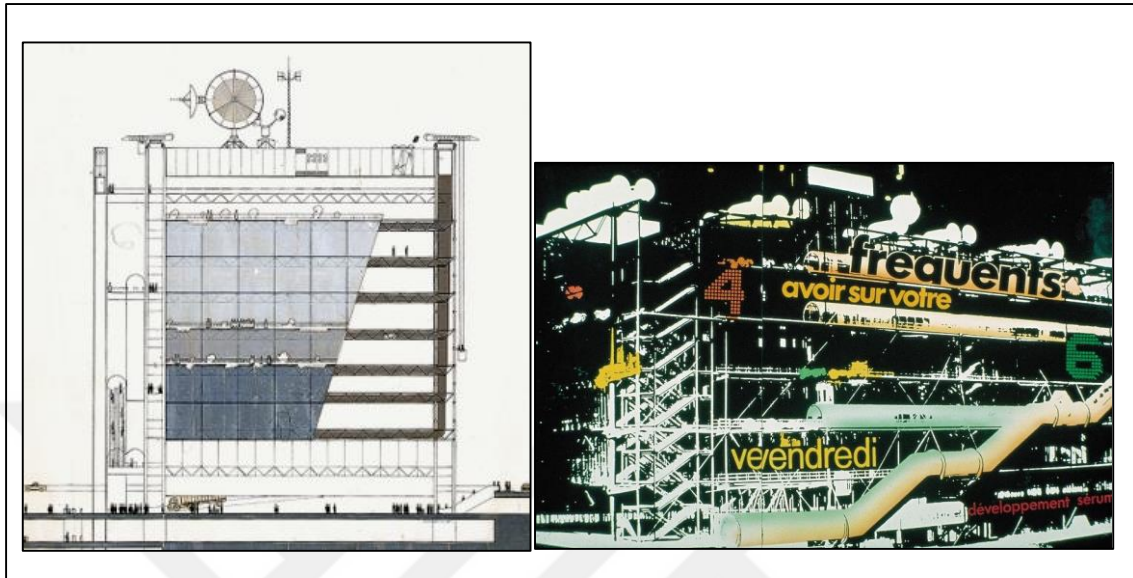


Figure 3.7. Centre George Pompidou by Renzo Piano and Richard Rogers, 1971-1977 [47]

However, when CAD systems by Sutherland's SketchPad in 1963 demonstrated its advantages in producing sections and perspectives, Negroponte's main concern was CAD systems' lack of ability to evolve or have a dialogue and he showed very little interest in the capacity of computers to generate new visual forms [44].

As computers' technology became more advanced, its usage became more widespread and had a shift from only being used in large scale uses such as administration applications to more common computing applications and visualizations. Digital designs in architecture became essential during the 1980s and virtual architecture became increasingly associated with freeform and imagery. Perhaps the Guggenheim Museum Bilbao of Frank Gehry was a sign of this shift. In Frank Gehry's project, computer technology was utilized as a technique to master architectural aspects and not for communicational purposes. On one side Frank Gehry wasn't that much in favor of the computer [45].

But on the other side, he believed that computers could be a good solution for designing complex shapes and curves: Gehry benefited from technology and computer in the regard that it gave architects more control, unlike Friedman, whose main concern was to shift the power to the users or even Negroponte, who saw computers as a coworker. The computer

helped architects to visualize their ideas and facilitated it for constructors to follow and perceive the architect's visions more clearly.

Gehry's perception of digital architecture is very similar to George Lucas. George Lucas is known as one of the first supporters of the digital camera. Because as for Gehry, the interesting part about digital technology for Lucas is the new form of freedom and control that technology provides for creators and designers [46].

Guggenheim Museum has an obvious difference in terms of using technology to what Archigram proposed as a 'Computer City', and it raised Michael Webb concerns as to be believed that the magnificence of fluidity had been lessened to formal concerns:

Whereas Archigram tried to make what is essentially an inert object, a building, into something fluid, the formal evolution of a contemporary building such as the Guggenheim at Bilbao is the result of the fluid process arrested to create an inert object. [41]

The transposition of social relations into the flexibility of architectural forms is a concern that Mosco [47] calls the 'digital sublime'. Overcoming limitations, especially in regards to matter, became one of the major themes in the 1980s in the form of 'cyberspace' and 'virtual reality'. Virtual reality, first introduced by Jaron Lanier, was seen as a new form of reality but without any limitations. Lanier argued:

However real the physical world is the virtual world is exactly as real and achieves the same status, but at the same time it also has this infinity of possibility. [48]

In the same manner, Michael Benedikt perceived cyberspace as if ancient dreams becoming a reality and overcoming the limitations [49].

Also, Marcos Novak had the same dream. Novak claimed that the fascinating factor about cyberspace 'is the promise of control over the world by the power of the will. In other words, it is the ancient dream of magic that finally nears awakening into some kind of reality' [50]

Novak's proposal about cyberspace in response to architecture had a clear similarity to those of Sant'Elia, Friedman and Constant in regard to user customization and disorientation. 'A liquid architecture in cyberspace is clearly a dematerialized architecture.' [50]. Novak sees architecture capable of a rapid transformation with the help of cyberspace.

He further says: "Liquid architecture makes liquid cities, cities that change at the shift of a value, where visitors with different backgrounds see different landmarks, where

neighborhoods vary with ideas held in common, and evolve as the ideas mature or dissolve.” [50]. This perception of the liquid city, which indicates the flexibility of data space into social experiences, brings out some concerns about the function of common spaces with different people and different backgrounds mingling in it or the ability of citizens to interact with strangers when physical encounters are reduced.

To sum up, Friedman, Constant, Archigram and Negroponte’s work offers a valuable setting for reconsidering the capacity of different media platforms in creating an atmosphere in contemporary public space. Their shared stress on user-configured space brings the concept of “a city as a lively process” to contemporary architects and urban designers' minds. A city, which as much as it contains architectural structures and built forms, involves unpredictable and complex human interactions. As it will be discussed in the next subchapter, by the emergence of LEDs and other media forms, new tools were offered to architects to meet the Avant-Garde's perception.

3.2.1. The Emergence of Digital Facades and Screens

Technological innovations and media and visual arts enhancement have been causing a shift in the direction of contemporary architecture, alongside with capitalism's globalization and its dominance. Urban spaces introduce fresh media-integrated skins, including buildings' internal skins, and society that is the primary consumer of public space has acquired a fresh way of interacting by media-integrated technology. Channeling technological developments form the centuries-long construction façade formation. In the constructed setting, the transition from the industrial era to the data era developed the built environment with technological changes, and as a result adjustment became necessary. [51]

Also, facades of the buildings have seen a major shift in their role by keeping their former structural features and becoming a communication tool. They are the border between inside and outside, representing the customs of the building and shaping the context in which the building is located. Since the 1920s, the use of artificial lighting has triggered a major alteration in façade communication purpose. Lightful publicity panels provide an atmosphere for street lovers to enjoy. Oscar Nitzchke designed a concept of "Maison de la Publicité" in (1934-36–Paris) in the 1930s, which was the initial effort to include media in the building. On the façade, neon texts are implemented, and panels are placed on a particular

steel mesh. The objective of this proposition was to render the structure more rentable through consumerism.

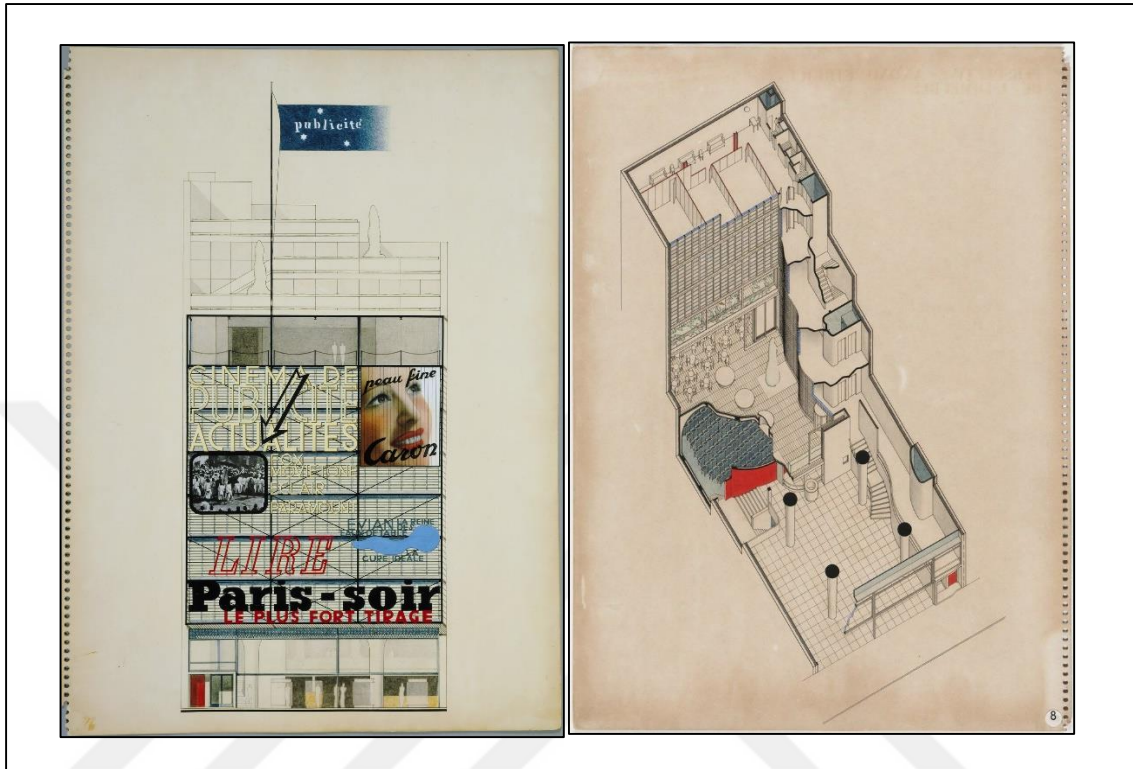


Figure 3.8. Oscar Nitschke - Maison de la Publicité Project, Paris, France, 1934-36 [55]

After Nitschke's neon façade, large screens started to appear more commonly in the mid-70s. The Spectacolor Board on the New York Times building in 1976 was one of the first large screens. The Spectacolor Board was more of a programmable electronic sign which used krypton incandescent bulbs to create monicolor graphics. What was significant about The Spectacolor Board was its capacity to show different content. In other words, it was one of the first attempts to use a sign as a broadcast medium. This board was an inspiration for many artists such as Jenny Holzer who displayed her text-based 'Truisms' works on the Times Square screen in 1982.



Figure 3.9. Jenny Holzer, *Truisms*, 1977-79 [55]

Another noteworthy threshold in urban screen technology was Sony's JumboTron and Mitsubishi's Diamond Vision in the mid-80s. A grid of small Cathode Ray Tube (CRT) was used in this large-screen instead of incandescent light bulbs, which were previously used in large screens. The JumboTron was first exhibited outdoor near Tokyo at Expo 85 in 1985. This kind of screen was very costly to buy and maintain. However, its capability to show full color videos paved the path for its implementation at premium sporting venues and also central city locations. And finally, in 1986, in Tokyo's famous Shibuya crossing, the first urban large screen was raised.



Figure 3.10. The Sony JumboTron World's Fair, 1985 [55]

Later on in 2003, realities:united architecture studio founded by Jan and Tim Edler, benefited from over 900 fluorescent tubes to transform Peter Cook and Colin Fournier's Kunsthaus Graz's facade into an interactive media façade. This interactive media façade, called BIX Light and Media Façade, makes programming the façade as a computer monitor possible. Its 900 m² light installation, which only consists of circular fluorescent lamp and not LED technology, facilitates broadcasting projections and messages into the urban space. It can be said that BIX facilitated the realization of media façade into architecture and urban spaces.

By using an economical system and not high image resolution, BIX allowed the integration of large media façade into architectural scale. This approach also enables the easier maintenance of the façade and frees it from frequent software update. Unlike many other media façades that cover the existing structure and the initial usage of the building becomes

unclear, BIX is a part and in practice the carrier of architectural concept of Cook's design. Consequently, BIX, instead of being another coated media screen, can be an example of the usage of media façade that helps with the understanding of static architecture and changeable surfaces integration. By its unique properties BIX entered into the permanent Architecture and Design Collection of the Museum of Modern Art (MoMA) in New York in 2011 [52].



Figure 3.11. BIX Light and Media Façade by Jan and Tim Edler, Austria Graz, 2003 [56]



Figure 3.12. BIX Light Prototype by Realities:United [56]

The development of light-emitting diode as a format to show videos in the late 1990s was the other major threshold in urban screens advancements. Although LED screens are still considered to be relatively costly, they are more adaptable for daylight display and more adaptable to integrate into architectural structures. Many streetscapes, such as Manhattan's Times Square with its Disney's Times Square Studios (1999) and Nasdaq's MarketSite (2000), are now dominated by LED screens. Nasdaq's MarketSite, which is installed in the Four Times Square, is a patented curved display that utilizes over 19 million LEDs, and all LEDs have their exclusive electric feed.



Figure 3.13. Nasdaq's MarketSite, Times Square, New York [56]

Media facades, also, have been underpinned by LED technology. The German-based company, Ag4 mediatecture, has developed a new media façade product that enables the

whole façade of the buildings to be clad with digital screens. The unique factor of Ag4 mediatecture's product is that the surface of the building is relatively transparent to the residents when looking outside. This eruption of LED screens has pushed architects to design new architectural roles that Paul Virilio describes as 'media buildings,' the constructions that their primary function is to provide information and not habitation. [53]



Figure 3.14. The Times Square Studios Limited built by Disney for ABC on Broadway [57]

As well as lightening the façade of buildings, some architects such as Mihail Vinogradov and Viktor Kramarenko benefited from LED technology in their architectural designs as early as 1989.

As the winner for the new building of Belarus National Library contest, Mihail Vinogradov and Viktor Kramarenko designed a glowing geometric shape which is sheathed with blue-tinted glass so that it would represent an illuminating diamond. The glass coated façade and also around 4500 LED light source beneath it, enabled architects to achieve their goal to represent the new library building as a floating gem that would shine not only during the day, but also at night time. GVA Lighting Inc. implemented the lighting system and applied

a software to control the lightening which enables designers to schedule and modify the lights in order to have more personalized performances. Although it took over 13 years to launch its construction and be finalized in 2007, the construction has fulfilled its architects initial aim to get benefit of lightening in meeting its users cultural and informational needs.



Figure 3.15. National Library of Republic of Belarus - Designed by Ihail Vinogradov and Viktor Kramarenko in 1989, day view [57]



Figure 3.16. National Library of Republic of Belarus - Designed by Mihail Vinogradov and Viktor Kramarenko in 1989, night view [57]

To sum up, installation of public screens is expanding globally and the capacity for connecting screens in public spaces in various cities is growing. In 2005 “live 8” synchronized concerts in ten different venues around the world. Every day more and more examples of media events are linking people together. These links are becoming available on an everyday basis and enable public participation. Large screens are able to contribute to contemporary space-making activities, including cross-border connections by endorsing new modes of interaction in public spaces. This is the new terrain for cosmopolitan interactions that relate to a transnational public sphere. the next chapter, the influence that these media have on citizen’s sense of space and sociality will be discussed.

4. MEDIA ARCHITECTURE AND SOCIALITY

The extraordinary fast pace of technological development paves the path for the human's imagination and desire to continuously overtake the technology. It is known that technological advancements have gone through exponential growth, which lasted several decades. As stated in the first publication, in *Wired* in 1993, Fredric E. Davis commented:

(H)ad automobile technology advanced at a similar pace over the last 20 years, your car would travel at 500,000 miles an hour, get a million miles to the gallon, and only costs a measly 1000 dollars. [54]

Still, in the age that everything has this fast pace, many were still impatient and frustrated that things are not moving faster. While people are waiting for adequate technology to catch up with their imagination and expectation, they notice that technological advancements are already there and in their service. For example, when in the mid-1980s and early 1990s, Virtual Reality showed up, anyone who could get their hands on a set of EyePhones or VR systems soon discovered that the experience they see is different from what was expected in movies such as *The Lawnmower Man* (1992). While there were clearly the commercial agendas at stake at that stage, the technological yearning or longing was obvious. The necessity of understanding this yearning as part of a driving force behind the philosophy of development is undeniable. The limits of the human, which have characterized the belief in development, have seen themselves immersed in these latest manifestations in technological innovation, reaching to the highest mode of "techno-culture".

The fantasies of perfection have found a promising place in the world of media and connectivity, as they are the principal characteristics of modern technological developments. Because of the capacity of media and communication in reconfiguring spatial and temporal variables for interpretation and experience; the ability of 'seeing,' 'hearing' and even 'acting from a distance' has been altered from how it was known as natural and immutable parameters of existence in the past. Through the various generations of media, from telegraph to the internet, the ability to cross space and compress time has endeavored the fascination of the modern imagination. It has also reformed the social relations in the contemporary era [55].

One of the major characteristics of modernity is changes in the way of life, in which spatial experiences are opened to events taking place in other spaces, whereas how life was primarily limited to a place. Similar to the way in the late 19th century that new steam-powered vehicles facilitated crossing space in a more rapid and constant way and led to an expansion in international trading, in the 21st century, “..the increased capacity of new media technologies to generate ‘real-time’ action-at-a-distance has underpinned the post-industrial phase of globalization characterized by the heightened penetration of transnational economic and cultural exchanges into the ‘local’ interstices of everyday life.” [2]. Lash argues that there is a general shift to ‘technological form of life’ [56] which is reinforced by new communication forms and the human and machine new interfaces.

While these developments in technology and media redefine the spatiotemporal structures of people’s experience, the cultural response to these developments often has some backward and forwards. Creation of myths and attributions to the gods, on the one hand, and physical coordinates and unimaginable ends on the other, have led to an uncertain response to technological transformations. The longing for technological advancements is connected to the cultural production, which McQuire calls it “the technological unconscious”: “ ...the technological unconscious – a theme cogently explored in modern art and literature, perhaps most notably in the modern genre of science fiction.”. [2]

After World War II the definition of cyborg aroused.¹ Donna Haraway, who is a well-known scholar in the world of science and technological studies, defined the term cyborg to emphasize on the reformation of identity in the fast pacing computerized societies in ‘Cyborg Manifesto’ [57]. “By the late twentieth century, our time, a mythic time, we are all chimeras, theorized and fabricated hybrids of machine and organism; in short, we are cyborgs.” [57]. Also later on, massive funds were allocated to researches on DNA of human bodies and biotechnology which led to a different understanding of living bodies and their function similar to computational systems. As Walter Gilbert said: “...the day when one can pull a CD out of one’s pocket and say; Here’s a human being; it’s me” [58]. And by this, a new concept of personal media appears; the person as media. Technological developments took place over 200 years, and industrialized machines are being enhanced by informational

¹ The cyborg is neither a man nor a computer, as such concepts have historically been described, but depends rather on their fusion as informative and communicative *systems* to produce a hybrid entity.

machines, known as media. So "life" is no longer a matter of organic systems, but of technical innovations. [56]

To sum up, media architecture is formed in the contemporary city as media become more mobile and extensive. The media architecture intends to highlight the way citizens' experience space and interact in contemporary social life through a mixture of architectural structures, social practices and media feedback. A new way of bonding and social experience within media architectural cities have emerged with 'real-time' media, or as Lefebvre's put it a "cognition and affect to space" [11]. Media architecture, with its alteration in the customary definition of absence and presence, generates new possibilities for act-at-a-distance. In other words, it reforms the contemporary social life with what is known by Scott Lash as 'sociality at-a-distance' [56]

4.1. REINTERPRETING RELATIONAL SPACE

Although the primary definition of 'relational space' is the relationship between objects and people that cannot exist if the physical matter is removed, in the present era of growing eminence of digital networks, different aspects of spatial paradigm arise. Two different trajectories emerge from relational space. The first factor relates to the social context wherein social ties are not formed or embraced by default, but must be actively developed in the absence of a "pre-allocated reference group" [59]. This idea is not novel and is, as it were, the essential aspect of modernization like capitalism, which has changed the older social and collective identity forms. However, the changes in the matters which were formerly considered intimate, familiar or private are rather new. The second aspect is related to changes in social relations in Spatio-temporal dimensions. Face to face relation is continuously punctuated by a different form of interactions that technological systems and communication media have provided.

4.1.1. Redefining Public and Private Space

In 1997, Bill Gates built his million-dollar house which was the use of computer technology merging from architecture. From climate control and electronic security to the hot tub controlled by the entrance of the owner's car, the most notable aspect of Bill Gates' home

would be its walls. Floor to ceiling and 360-degree panorama video screens considered as interior walls could be programmed based on guest's wishes from the host personal art collection which is the world's largest private collection. The duration of each displayed image was based on the guest's attention span, and with the help of the electronic security PINs, no same picture would be repeated.



Figure 4.1. Bill Gates' bedroom of the future [63]

The magnificence of these walls drew the attention of many commentators such as William Mitchell who is known for leading the integration of architecture and computing, 'digital architecture':

The interior wall panels are not what they seem. They turn out to be huge, flat video screens. In response, they simulate the surfaces of standard architectural materials but activated they become electronic windows opening onto anything at all. [60]

Also, Francois Penz and Maureen Thomas [61] envisioned such prospects:

What Bill Gates has in his domestic environment today, we will all be able to have in our homes the day after tomorrow, or the day after that. Our digital windows will be able to provide a screen version of the world offering anywhere, anytime, any reality (...).

The Gate's house is a metaphor to demonstrate the effect and influence of digital media in forming public and private space in contemporary cities. An individual's home transformation is closely bonded to a municipal scaling – By restoring urban environments

on a global scale, with the aid of digital networks that have expanded globally-. The paths of economic and political power, and the conditions of cultural relations, are being reformed by these digital branches. As domestic, local, urban, regional or national transitions have once been considered to be different, nowadays, they seem irreducibly overlapping each other. The media flows go along with the reformation of the space on a local scale, including family micro-policy.

A wide range of media forms can be found in the home itself now. Many of these, which used to be only a one way regional or national broadcast are shifting to interactive global networks. As it is mentioned in *Publicity and Privacy: Modern Architecture as Mass Media*, *Beatriz Colomina* notes that: ‘The house is now a media center, a reality that will forever transform our understanding of both public and private.’ [62], so it can be perceived if in the scale of the home, the boundaries of global media have become more permeable, so has it in a nation-state. As a result, contemporary cultural existence is increasingly less established by the ‘imagined community,’ which were formerly determined by the particular boundaries of each country, but more represented and understood through the craters of the satellites and also the motions of the online technologies. In addition, media interfaces are now a global element in shaping contemporary cities’ public spaces. Such tools and components are placed in a range of places and types, such as big public displays, information kiosks and automated traffic control systems. These devices along with the advancements of mobile media, have narrowed the line between the public and private spaces. For example, placing a call used to be limited to space and from a certain location. However, the normal way of greeting in today’s world call is “where are you?”. In this age of internet, regional and personalized media, person and technology, have been combined and merged.

4.1.2. Redefining Geographical Relations

The Gate’s house and its wall-screens is an example of how technological innovations and media outlets are revolutionizing architecture, together with the characteristics of social life on their domain. The image of cities and the way of citizens perceives themselves in it is changing. As the purpose of a wall as only an architectural element has been altered, so have the public spaces and the private space at home. Considering this situation, which has effects on the characteristic of the interior subjectivity of modern identity and also on the collective

interaction in public spaces, a retreat from the theoretical standards of media representation is needed. To explain, the sole role of media has been providing representations of the world outside. However, the understanding of the media that it is not separate from the real world – and not only representing it- is essential. While the concerns about ‘how’ the world is formed and constructed through media are vital, it is equally important to notice that the media cannot be separated or be seen different from the social and cultural formations. the media’s role in the production of the contemporary experience and society needs to be recognized, as McLuhan predicted back in the 1960s, the press destroyed the sense of space and time [19]. This point became clearer as the media technologies went beyond fixed sites and locations, neither home nor urban spaces can be without the media gadgets which facilitate the speed and reforming the definition of social interactions in their territory.

As an architect, when designing a ‘home’, different factors that only form a physical structure are considered, such as cultural belongings and existential shelter, and it is vital to hold a balance between physical and the psychical without just forcing to merge them together. To explain, the special changes in contemporary architecture has a sense in which the physical access to a different part of a structure or space is defined, such as the entrance of a building or the passages between rooms, these senses are delicately connected to formation of new thought and to the experience of spaces that influence the social ties of people and the understanding of structural systems. The crisis of ‘Grand Narratives,’ described as the fundamental condition of postModernism by Lyotard[64], may somehow explain the boundaries and dimensions of this aspect. The concerns about the lines between ‘inside’ and ‘outside’, coordinates of the near and the far, consequences of not holding ‘here’ and ‘there’ apart and letting them collapse into one another, utilize an impact in the way that architecture and spaces-whether in a post-industrialized area or in dramatically scattered populations- were defined and a contemporary worldwide-state has been formed. The former geographical concerns, such as Where the home is, have transformed into What the meaning of home is. The contemporary urban forms and architecture do not correspond to what was once known as the city anymore. Urban spaces and architecture are accommodating the dominance of technological mobility. The meaning of belonging to a place and coordinate has changed and it no longer corresponds to a particular location but a particular sense of the situation.

In conclusion, although some forms of connections and relations in society might last throughout time, and even pose a sort of relative permanence, the overall definition is a subject to a rapid realignment. Space, which is defined with the distance in geographical aspects and also a dividing line in social boundaries, gets a new sense of instability and impermanence with technology and media architecture. Different forms of social relations, citizens with each other and citizen's perceptions of their architectural structures, can be redefined by simple acts of switching off a network or coming across an installation of an interface. In other words, Media architecture provides a critical form by emerging relation space with a cultural dominance. It provides new types of social interaction that go beyond territorial relationship constraints. The freedom that media architecture gives its users by removing physical limitations, although not exactly as avant-garde architects had in mind, but closest to it so far.

4.1.3. Uncanny Relations

In the famous essay "The Uncanny" [63], Freud introduced the word uncanny. In German literature, the direct definition of *unheimlich* is often translated as 'uncanny' in English; however, it renders the word 'unfamiliar'. Based on Freud's point of view, the feeling of uncanny is not based on what is unfamiliar or strange; rather, it is when a familiar or known matter is made to a strange form. Uncanniness is a changed domesticity and when a familiar form shows up in an unfamiliar form. In other words, when matters that used to be familiar to observers, present themselves in unknown or unfamiliar forms, uncanny experience takes place. Later on, Freud argues that the sensation of uncanny is what was supposed to remain hidden, being brought to light and are perceived by observers. Therefore, uncanny is the sensation of secrecy, and inappropriate publicity.

As in Freud's debate, he connects experience of uncertainty to the uncanny. As in numerous examples he provides, Freud tries to illustrate different forms and reasons behind these uncanny sensations; one example is that the sensation of uncertainty is because of the doubt that an animate object is really alive, or an entity is actually inanimate. Another one is related to a paradox in the *Doppelgänger* – Freud relates this matter with his personal experience when he did not recognize his reflection in the mirror and linked this experience to the theory that this experience happened because he did not like what he saw-. The third and somehow

the most relevant example is the concerns when the distinction between reality and imagination is altered. According to Vidler [64] , although Freud had his theory in the context of Romantic literature, his categories are suited for the exploration of the ways that contemporary media technologies redefine the role of bodies and spaces in the 21st century.

As it was mentioned about Gate's house, the solid and usual usage and definition of the walls were replaced with the radiance of the electronic screens. By looking through these windows-walls, the observer is freed from their bodily limitations. The world is seen from where the observer is not at or has never been at. No matter how the scene or the visuals are familiar to the user, it provokes the uncanny sensation. One of Freud's main references was 'quasi-mythical figure' used as a technique on children to persuade them to fall asleep. quasi-mythical is a figure in Hoffmann story "The Sandman":

Also in this evaluation, experiencing the uncanny is related to 'to the idea of being robbed of one's eyes' by Freud. As in our modern world, the terror of 'being robbed of one's eyes' is very much similar to the preoccupied modern consciousness after the invention of the camera. While technological images introduced transparency to perceive the reason and truth with a photographic presentation, it also presented a threat that this technological photography will replace the matters that were supposed to be only screened.

As it was discussed in the second chapter, the tie between referent and image was created as early as the 1880s, when the first public images were made that were published on postcards and in newspapers. These unique cameras and visuals of their time took over visual appearances and transformed them into new contexts. However, the inability of modern signs and images to *secure* meaning was brought into question. The scientific perception, which praised photography as an impartial fact in the mid - nineteenth century, was overshadowed by the great promise of Kracauer [65] named as the " blizzard of modern images". The rising doubt that media form a screen block between the real and fake was replacing the faith in the potential of images and technology to bringing people closer to reality. Since then, this tension has been moved between new forms of image technology, from photography, cinema and VR. However, in the new era of digital imaging, this uncertainty about the media images has been magnified. When Michael Jackson transformed into a panther in front of the eyes of audiences, or when Sam Neil runs away from the dinosaurs in Jurassic Park (1993), and since realistic moving images that people did not

know existed were seen, the bond between technological images, reality and embodied perception has been redefined and is subject to a new existence.

The applicability of equipment's such as telephones, televisions and computers in the middle of household spaces; brings out the concerns about physical boundaries of private spaces and residences as Virilio says: 'The technology question is inseparable from the question of *where* technology occurs.' [66]. As these boundaries were previously defined by the material bodies, access to spaces and residences depends on simply activating an electrical circuit. The boundary and dynamic of public and private spaces is continuously altered by the nonstop connection to vast on-line information. One result of this is reflective of the de-territorialization of private spaces, as what is experienced and seen within a space is not limited by physical boundaries. At the same time, because of the same reasons, public spaces undergo changes. This is because the embodied presence is longer needed in 'action-at-a-distance' phenomena. The connection between place and understanding, familiar and alien, self and stranger have been transformed by modern urbanism and modern media. The unclear boundaries between human and technological perception has brought up the need to redefine the meaning of spaces.

Living in a space-time surrounded by media technology, changes people's sensation about space and parameters in it, wondering about the limitation of the body and the abilities of embodied perception. As it was mentioned before as a crisis of boundaries, redefines the body as a premier element for human experiences. The concept of an incident as a single occurrence is updated with real time network media. In this regard, many definitions, like distance and locality, as well as exterior and interior spaces, have reshaped their relevance. This conversion in relations between boundaries, sites and spaces has brought up a new contemporary experience which can be called 'technological uncanny.'

In the 19th century, this uncanny sensation of spaces was connected to dark and secret spaces. As Le Corbusier tried to overcome it by designing flat-roofed residences, windows and terraces open to light and air. It was believed exposing hidden matters and bringing in the light to repressed areas have a healing and soothing effect. However, just the opposite of this, technological uncanny is overexposing the space. As Virilio [53] says: 'This overexposure attracts our attention to the extent that it offers a world without antipodes and without hidden aspects, a world in which opacity is but a momentary interlude.' It is argued that the new road to technical openness and even social transparency have different effects

that are different from the original aim of them. As Peter Weibel mentions in ‘Media narcissism, theatricality and the internalized observer’: ‘The more the state attempts to make its citizens become transparent people and the community a transparent community, the more insecurity is created.’, as the visibility of matters are no longer linked to security. Yet, it is important to understand that technological media is not inevitable and not yet total. Knowing the cultural and social experiences and effects formed by media technology is helpful and essential when the current drive to ‘real-time’ networks are so strong.

4.2. APPROACHES TO NEW FORMS OF INTERACTION BY MEDIA ARCHITECTURE

After The Urban Screen project, that was started in Amsterdam in 2005 with the conference ‘Discovering the Potential of Outdoor Screens for Urban Society’ [67], the new potential of urban screens has been explored. Up until the ‘Discovering the Potential of Outdoor Screens for Urban Society’ conference, urban screens were mainly used to influence customers’ behavior by advertising. Since then, the function of urban screens has been expanded to revitalize public space and produce engagement and interaction.

Although The Urban Screens projects are an institutional acknowledgment of architectural and artistic involvements in public spaces through urban screens, as it has been mentioned in the previous chapter, there has been a range of art based billboards from the 1980s, such as Jenny Holzer’s installation in Times Square (1982) and Krystof Wodieszko’s politically motivated The Homeless Projection (1986).



Figure 4.2. The Homeless Projection by Krzysztof Wodiczko, 1986 [71]

As it has been argued, based on Scott McQuire's point of view, “relational space”, which has shown positive attributes, such as steady dimensions and appearances (and, of course, stable social definitions), is viewed as shifting, variable and dependent. Relational space can be specified only by the temporary location held by each subject in relation to various others, which implies that relational space is not easily consolidated because each subject belongs to several matrixes or networks overlapping and interpenetrating. [68]. This interpretation influences the idea of how space is shared to establish collective experience and how individuals’ form of interaction with the urban space is affected. In order to examine these new forms of interaction, three different types of artworks and architectural projects will be discussed, one that engages individuals’ bodies to interact with the public space, another form that textual information overlays public space with, and finally building that use adaptive surface to interact with citizens.

4.2.1. Interaction by Body with Lozano-Hemmer's Installations

In this regard, Lozano-Hemmer's project is more than screening videos on urban screens, but to create social relations. Since 1994, the term "relational architecture" has been used by Lozano-Hemmer to describe his architectural work. This term defines the relation between the architecture and the visitor or performer who encounters the work. In the large installation, Lozano-Hemmer tries to interfere with the link between architecture and human behavior.

The Relational Architecture series by Rafael Lozano-Hemmer combines the virtual and the real in what has been termed 'blended,' 'hybrid' or 'augmented' reality. Although much of the early developments in virtual reality focused on making the body invisible (with one notable exception being Myron W. Krueger's work), more modern digital or augmented reality attempts to involve the human body in a vivid multi-sensory and immersive world.

In contrary to Merleau-Ponty, the body and the environment are equally exploitive: it is the body's noncognitive roles that bring us world awareness and orientation, and eventually, make the world comprehensible. The body's perceptual capacities cause our acts and thus the possibility to identify ourselves with respect to the world. The value of active physical behavior in relation to virtual environments was recognized by Myron Krueger as early as the 1980s, 'responsive environment, in which a computer perceives the actions of those who enter and respond intelligently through complex visual and auditory displays' [69]. Krueger's aim was to test the conventional bond between a work of art and its viewer. According to Krueger, a modern concept of art arises from the feedback created by an artistically encapsulated environment if an artist operates at a meta-level and its audiences actively participate.

These theoretical conceptions of the audience's relation with themselves and the world by the intervention of interactive technology were further expanded by David Rokeby. Based on Rokeby, interactive technology is a medium that becomes a mirror of one's actions and allows communication with the self: 'a technology is interactive to the degree that it reflects the consequences of our actions or decisions back to us' [70]. He also emphasizes the role of the medium's reaction in shaping the interpretations that arise from engagement with an artistic set - up: 'to the degree that the technology reflects ourselves back recognizably, it provides us with

a self-image, a sense of self. To the degree that the technology transforms our image in the act of reflection, it provides us with a sense of the relation between this self and the experienced world'. [70]

The other point of view that describes the 'transforming mirror' type of engagement can be found in Lozano-Hemmer's public space ventures. This type of technology - mediated impressionist interaction explains the way interactive artworks in urban spaces may cause alterations in the way individuals see themselves in relation to public space and others.

By placing the body in the core position of interface with Lozano-Hemmer's relational architecture arts, the participant discovers different interactions with people in a particular state of consciousness and self-awareness. At the same time, the individuals body becomes the medium for the 'actualization of public space with "alien" memory', attracting attention to a recollection that 'does not belong'. [71]

4.2.1.1. Body Movies

The relational architecture piece *Body Movies* by Lozano-Hemmer was first exhibited in 2001 in Rotterdam and has had nine other exhibitions around the world since. *Body movies* exhibition involves projectors, which are located on two stands in front of the façade of a construction to display more than 1000 portraits, previously captured on different streets in various countries. However, the portraits are fully worn out by bright light that comes from lamp sources placed on the ground level of the façade. When participants walk around the installation, their shadows are projected, and the portraits become visible inside their border. Participants are able to embody a portrait when they circulate around the installation and change the size of their shadow. A tracking system monitors the position of the shadows, as soon as the shadows reveal all of the portraits on the facade, the computer replaces the projection with a new portraits [72].



Figure 4.3. Rafael Lozano-Hemmer, *Body Movies*, 2001 [76]

Both collective interaction and individual performance were offered by this Relational Architecture piece. People could interact by being present in the same and also they could interact with the people's projected shadows, who were in a physical approximately, or with the projected portraits of people from other locations.

The familiar projection of an individual on the presented facade raises the mirror concept. The participant's actions are projected on the facade in a visual approach, not as an exact echo but as huge converted shadows. According to Rokeby, the expressive content of an artistic installation is exactly seen in this altered reflection; it is the alteration between the motion of the interactor and their changed replication. The influence, which functions by the Body Movies interface, is under Rokeby's transforming mirror class and is the first stage of Hansen's idea of disembodiment [73]. The shadow is described as a 'tele-absence' interface by Lozano-Hemmer, and its part is more complicated and that disembodiment is only a precondition for the another stage, which is embodiment. He clarifies the role of the shadows as: 'the shadow was not an avatar, an agent, nor an alias of the participant's body, it was remote absence, the exclusion of the body, effected through the body-double, the cut-out, the not-transmitted, the shadow' [74]. Free from the physique and individuality, the silhouettes unlocks to the possibility of taking on another individuality and becoming 'a site of telematics activity' [74]. As a result, the silhouette does not only suggest disembodiment, but it also forms the possibility of re-embodiment by co-creating a portrait.

The transformative mirror model of communication by involvement of brings up the opportunity to rediscover associations of different people. It invites participants to re-think their relationship with the world. The alteration happens in the bodily demonstration of the self, which is because of the break between the contributor's movements and the projection of their acts. It creates an environment of augmented consciousness of participant's body relative to others. Hypothetically, this facilitates the circumstances for enhancing a person's consciousness of themselves in relation to others in public environment in an engaging aspect, as it can be in a community. One of the most important aspects of Body Movies Lozano-Hemmer is 'people meeting and sharing an experience ... coming together ... coming together in the flesh' [74]. Lozano-Hemmer accomplishes this by evoking a condition where the person is willing to get closer to others. Hansen perceives this openness shaped by disembodiment, which is enabled by an informational environment, as a chance

for a profounder sense of community. Based on Merleau-Ponty's embodiment, Hansen describes the body image as 'a predominantly visual representation of the body' [73]:

Lozano-Hemmer's project forcefully demonstrates that embodiment today can only be conceived as collective individuation, as individuation that requires certain disembodiment of embodied individuals. The reason for this is simple: Because human embodiment no longer coincides with the boundaries of the human body, disembodiment of the body forms the condition of possibility for a collective (re)embodiment through technics [73].

The public space in *Body Movies* is free from depersonalization because of the inmost custom of human communion: a collective genesis which, in this case, it has become possible by a technological medium.

4.2.1.2. *Pulse Park*

The collective genesis presented in the *Body Movies* is also represented in *Pulse Park*, another Lozano-Hemmer's piece, which was first presented in Madison Square Park in 2008. *Pulse Park* was a matrix of beams that grazed the field of Madison Square in an oval shape. The matrix of light beams was produced by two sensors, similar to a piece of gym machinery for evaluating the participants' heart rate, and then reflects it as beams. The interactive aspect was restricted as the participant's pulse reading was the only input and lacked the chance of feedback with an output. However, the installation shaped an area of intimacy inside a public environment by presenting the human body's primary functions in an artistic way and in harmony with other bodies. It can be said that *Pulse Park* created complete disembodiment of an individual by preserving the heartbeat, the main life support system. This physical beat was presented by light beams and generated an urban scale biometrics. *Pulse Park* creates a more delicate aesthetic, symbolic and abstract picturing of collective genesis, unlike *Body Movies* that engages individuals more physically.



Figure 4.4. Rafael Lozano-Hemmer, Pulse Park, 2008 [78]



Figure 4.5. Rafael Lozano-Hemmer, Pulse Park, 2008 [78]

Lozano-Hemmer's works bring up the possibility to arouse consciousness with respect to public spaces and reshape people's relations with durable effects. As Nicolas Bourriaud describes, 'the role of artworks is no longer to form imaginary and utopian realities, but to actually be ways of living and models of action within the existing real' [75]. This altered visualization allows people to change their perception of themselves in public urban spaces. In addition, Lozano-Hemmer believes that the actual purpose and inspiration behind media architecture in the relational aspect is to modify peoples' existing behavior and create unpredicted and emergent behavior. Based on Lozano_Hemmer, these new behaviors can be achieved by forming buildings and urban contexts where participants are able to relate to their environment in new uncanny ways or as he puts it "in alien ways" [76]. These Media architecture installations target to change the loneliness of the body with the help of technology. The characteristic of this body isolation is identified by Richard Sennett as followed:

Individual bodies moving through urban space gradually became detached from the space in which they moved, and from the people the space contained. As space became devalued through motion, individuals gradually lost a sense of sharing a fate with others; individuals create something like ghettos in their own bodily experience. [77]

Artists construct new values for public spaces with the help of technological tools and people's contribution, which could possibly pave the path for altering the forms of collective behavior.

4.2.2. Interaction with Public Displays through Social Media

The second type of media architecture installations opposes privatizing public spaces. In this type of installations, textual information is inscribed on digital screens in urban spaces. While augmented reality and human body involvement relate media architecture and citizen's relation with urban spaces in the discussed first category, the second category enhances the usage of social media in public spaces. CitySpeak which was first installed in London in 2006 by Jason Edward Lewis, Storyboard by Stefhann Caddick in 2005 and HelloWorld, which was presented in four locations during the 2003 UN summit by Johannes Gees, allow individuals to send text messages through their smart phones to a digital screen in public spaces.

Smartphones have made significant changes to people's experience and behavior and their participation in public spaces. Although Richard Sennett describes the public behavior in the 20th century as depersonalized and different from an intimate expression that is seen in private, as it was discussed at the beginning of this chapter, technology and smartphone have changed the formerly clear distinction between private and public. According to Patrice Flichy, technology and smartphones have transformed people's association with these settings by permitting consumers to occupy public space by 'transporting. their private sphere with them' [78]. As a result, although smartphones may create an illusion of intimacy and closeness for their users, they can actually be interpreted as a form of privatizing public spaces and causing a more accentuated uncanny and alienated feeling in urban spaces.



Figure 4.6. CitySpeak by Jason Edward Lewis, 2006 [82]

An opposite effect is aimed by integrating mobile technology into media architecture and breaking what is known as the ‘mobile bubble’. This has been tried in media architecture installations by shifting the recipient from an acquaintance individual to an open group of accidental people, and giving a chance to a passerby to become a witness to personal and intimate communication. The privacy bubble that smartphones have created can symbolically be broken by visualizing private communication on large scale city screens. A possibility to read a message that is not addressed to the reader challenges the idea that the real receiver of the message is surrounded by a privacy bubble when reading their message, and others have to respect that. According to Sennett, in early modern times, in order to sustain a public culture and public relations, people played manners and social rules. However, in the late 20th century, these practices have lost their positive meaning in regard to social interactions. The public view about playacting has been transformed into

‘obstructions to intimate expression’ by depersonalizing public spaces [79]. These media architecture installations go past playacted social interactions and challenge the alienated experiences in public spaces by showing intimate communication. For example, Blinkenlights Love Letters (2001) was first installed in Berlin as an interactive art installation. It lets people to send intimate messages and videos, and these messages are displayed on an urban screen [80]. In CitySpeak installation, the project challenges the idea of treating public spaces as non-space by people when they are using their smartphones. By a fixed screen to establish a sense of the location, CitySpeak gives a chance to highlight site-specific features and merge text messages with real-time location-based information, like weather conditions and news headlines. Cityspeak motivates communication through common interest topics and forms a sense of community close to what can be seen on online forums that are developed around specific topics.



Figure 4.7. Blinkenlights Love Letters, 2001 [84]

From the three mentioned projects that annotate the public space with text, CitySpeak is more conceptually and visually refined. The project permits personalizing the message’s

visual display based on an input method, whereas the other projects exhibit the texts in an unchanging mode on diverse platforms, such as facades and shop windows, with the help of laser lights. Messages are displayed in three phases in Cityspeak. The latest messages are showed in the front in big fonts so that the viewer identifies their input, while older messages are exhibited in the background in a non-stop movement from upward and right to left. The shift from a front to a back message happens with the help of a filter, a 'pixel eater', which is located in the screen's lower-right corner. The text is pulled into the filter in the shape of a vortex. The message gets crumbled into pixels in a disordered way, and after that, it is recollected and re-exhibited in the background in a smaller font. The filter symbolizes the ephemerality of these message as wanted, opposite to the dominance of advertising screens in some urban spaces. If the definition of public space is a promising democracy that belongs to no one specific, Cityspeak highlights this perception that challenges the public display context's privacy with making it available for public participation and engagement in context making. It is important to be noted that these projects are different from previous text-based screens, such as Jenny Holzer's screens, while she aimed to alter citizen's belief and perfection with a conceptual model. However, these installations are interactive and unique because they allow citizens to participate and interact through shared input and shape an engaging public space.

4.2.3. Examples of Adaptive Surfaces

4.2.3.1. Tower of Winds by Toyo Ito & Associates

One of the greatly innovative architectural projects in terms of using light and interactive façade for transforming an existing façade is the tower of Winds by Toyo Ito and Associates designed as early as 1986. The project brought Toyo Ito the Edwin Guth Memorial Award of Excellence from America's Illumination Engineering Society in 1987 which demonstrate the project's significant value in urban context.

The concrete tower was initially built in the 1960s as a water reservoir and ten different designs were proposed during its redesigning process. Ito's design was significant and chosen as it had the ability to transform an unknown structure to a landmark by simply using light for its dominant characteristic.

The existing construction was covered by reflective plates and inserted into an aluminum cylinder. As the result of this design, there was not a major change in the initial structure and lights were placed in between the panel and the surface of the tower. A couple of computers were used for modifying the intensity and direction of light sources which contain 1300 lamps, 30 flood lights and 12 neon rings. The lights' color change according to the natural light, weather situation, the speed of wind and amount of noise. This approach enabled the building to interact with its surrounding. The Tower of Winds was one of the very first designs that benefited from light not only to use light as its known functional property, but to embrace its potential to express light as an integral part of architectural design.



Figure 4.8. Tower of Winds by Toyo Ito - Japan 1986 - night view [84]



Figure 4.9. Tower of Winds by Toyo Ito - Japan 1986 - day view [84]

4.2.3.2. *Dia Lights - Urban Canvas*

The Confederation of Danish Industry (DI) headquarter which is located in one of the busiest neighborhoods in Copenhagen was rebuilt in 2013. A collaboration between Kollision, Martin Professional and Transform resulted in designing a new media façade by the help of LED structure. The motion of the lights and their related plugins can be monitored and also controlled at DI. The implemented plugins enable DI to control the speed, color and also direction of more than 80000 installed LED lights which result into various possibility of expressions through light.

Another feature than this design holds is allowing passersby to interact with the façade of the building using their smartphone. By-passers can instantly see the painting that is drawn on the screen of their smartphone on the 4000 m² façade of the building. During the ‘Culture Night 2013’ in Copenhagen’s central Town Hall square, around 2500 citizens interacted with the façade and formed different paintings on the façade.

As cities are being the territory of lights and images, the glowing lights fail to grasp citizen’s attention as they have become an everyday visual norm. Instead of designing a mesh of illuminating light for the façade of the building which people could not relate to, Urban Canvas tried to lure citizens into its design and help them to interact with each other and also

yet another seemingly new designed façade. As the result, the project won the designers the Media Architecture Biennale award in 2014.

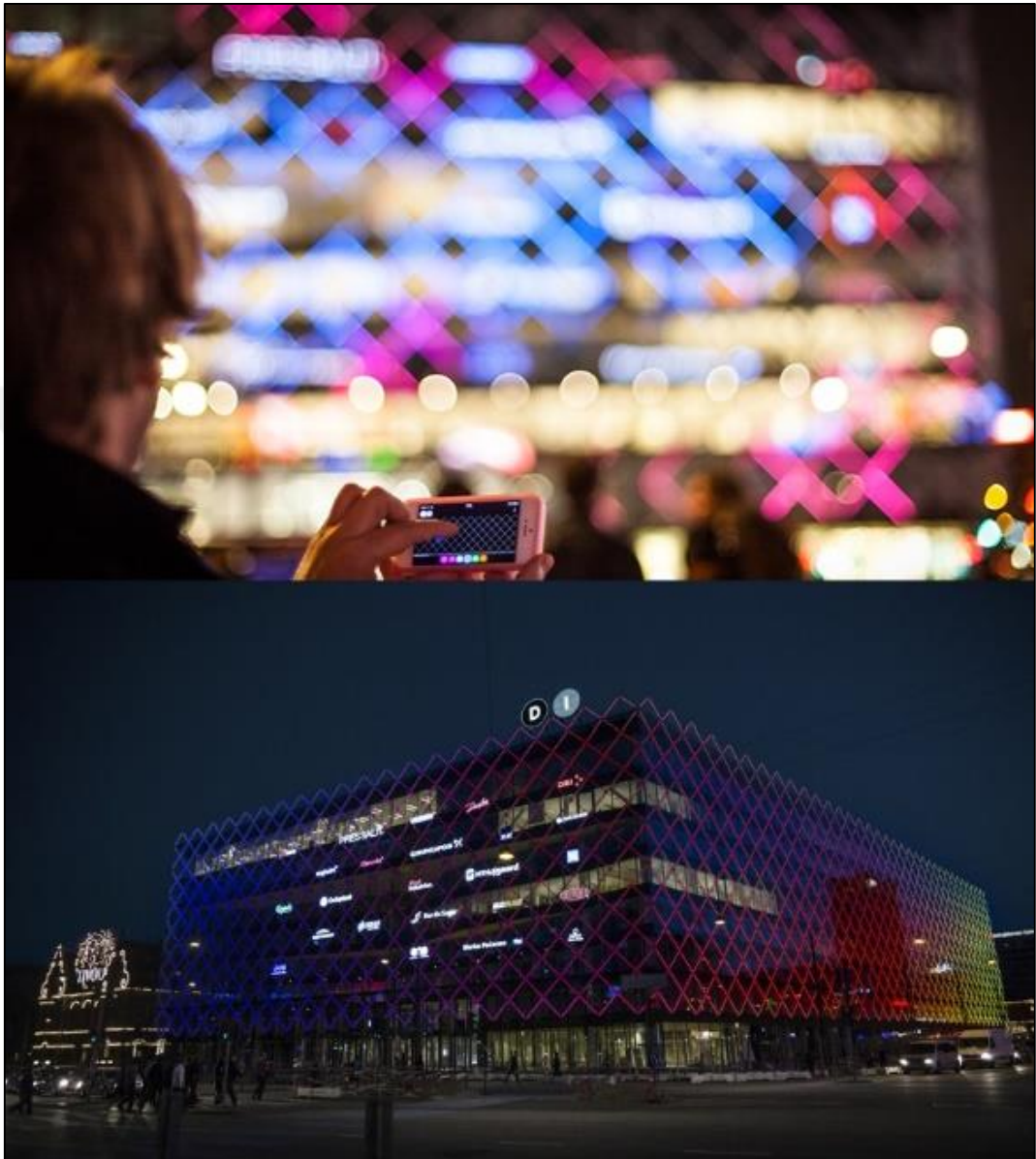


Figure 4.10. Urban Canvas – Copenhagen, 2013 [84]

4.2.3.3. Galleria Centercity by UNStudio

The design of a 66,000 m² department store in Cheonan, South Korea by UNStudio in 2010, is an attempt to respond to the social function of south east Asians as department stores are no longer solely function as commercial spaces but as spaces for social and cultural exchange points for users.

In the design of Galleria Centercity's exterior design, a double skin glass façade which contains an outer shell and inner skin. Both of which present linear modeling. These layered profiles create a *trompe l'oeil* effect that is to perceived differently while changing the viewpoint. The trompe l'oeil effect approach enabled the architects to create an illusion of a scale less structure as from outside view, the number of floors cannot be determined.

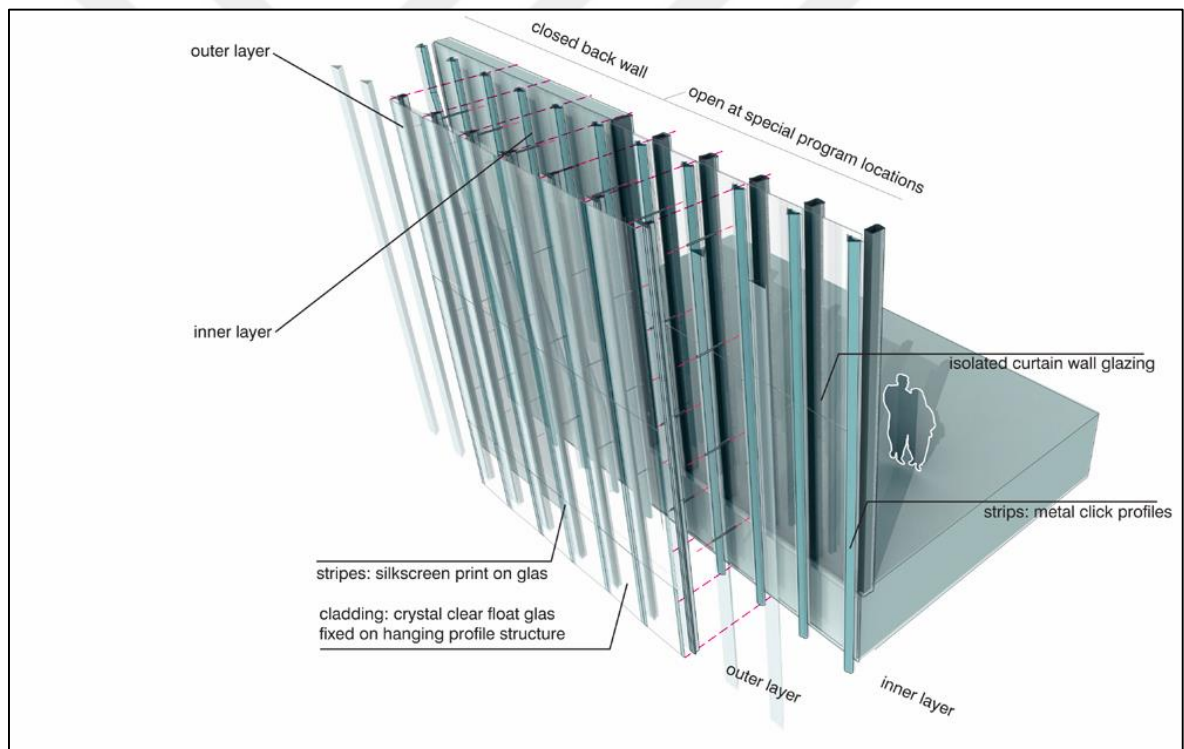


Figure 4.11. Galleria Centercity's Facade's double skin details [84]

The trompe l'oeil effect and lightening ensure the constant change in the appearance of the façade. Also, the two layered façade enfolds the building with various strategic openings into the inner layer that not only let the day light penetrates into the interior, but also prevents a direct sunlight penetration to the inside.

This media facade is the largest illuminated surface and the approach for the building design involves the creation an optical illusion. In day time, the structure has a monochrome

reflective exterior, whereas at night, illuminated lights are used to create waves of light across the illuminated facade. Perhaps Galleria Centercity is one of the few examples that can be said the daytime visual aspect of the building has also been considered in its design. While there are many structures that lightening, screens and media façade have been applied into their design, the functionality of these elements during day time remains unclear. This is because, the main focus has been on illuminating property of lights which cannot function in the same manner with daylight.



Figure 4.12. Galleria Centercity by UNStudio, South Korea, 2010, night view [84]



Figure 4.13. Galleria Centercity by UNStudio, South Korea, 2010, day view [84]

To sum up, Lozano-Hemmer has been designing media architecture installation to highlight the relation between the citizens/participants that they encounter since 1994. In his installations, Lozano-Hemmer intervenes the structure of citizens' relationships with their urban spaces by designing spaces and buildings that present a different context with the help of audiovisual tools. In Body Movies project, Lozano-Hemmer opposes the passive use of urban screens in public spaces, and he achieves this by creating social relations through his installments. The shadows of bodies in Body Movies function as a disembodied version of the physical person, linked to the body but not exactly of it. Lozano-Hemmer invites individuals to rethink their bodies, architecture, and the urban experience they have. Considering these projects, an architectonic space changes to a space of relation or in another words, relational space. The relation of space, which in the technological era undergoes a rapid change, is defined by a temporary position of people and participants. New definitions and perception of geographical belongings and also new meanings for what was known as private and public arise from this concept. Considering these alterations and definitions, the

role of artists become more significant and powerful. It is because the role of an architect in the media architecture is beyond projecting and screening videos on urban screens or designing an eye-catching and glittering façade but motivating citizens to interact actively with their environment and participate in some form of social interaction. Media architecture has the potential to transform the understanding of cities by providing a different visual layer of data and information, and media architects have the responsibility to guide citizen's engagements and their enhanced interaction by their designs.



5. CONCLUSION

In this century that media and fast-developing technology have become a fundamental aspect of people's social life, media architecture has integrated media's affordance with architectural structures to enable the modern social life's spatial experience. As the face of cities has undergone major changes by a variety of media-based visuals and installations, from the abundant large urban screens to illuminated facades, the nature of citizens' relation with their urban environments has been effected as well. As new spatial urban forms are being created through media and the 'relational space' has become the main experience of urban life.

The major changes in the perception of cities started with the development of photography in the 19th century. Capturing images of cities by cameras altered citizen's view of their urban spaces, as they hadn't had a chance to see their urban environments with the only emphasis on the architectural and urban structures. Later on, by combining and montaging these single-shot pictures, films were produced, and by the help of groundbreaking films, the early stones of the media architectural city was founded. As these films demonstrated the significance of cities as spaces of representation.

Changing a city, a lively process through media is not a recent approach among architects. The combination of architecture and media had been a long persuasion of some Avant-Garde's architects, such as Archigram. However, when LEDs and other technological developments in media and social media emerged, a chance to design urban spaces close to avant-garde architects' vision was provided for contemporary architects. In response to these media and technological developments, the number of public screens has increased day by day. This progress facilitates the usage of media events through public screens to connect people together. In other words, media-based installations in urban spaces bring up the potential of new space-making activities free from geographical borders.

Another aspect of media architecture, besides breaking geographical boundaries of social interactions, is possibilities for a different form of the relationships among citizens and also a changed form of interaction between citizens and their urban spaces. Architects and artists invite citizens to reevaluate their ideas about themselves, their urban spaces and above all

their role and interactions of themselves with their environment with their media architectural works.

As the pacing of developments in regard to media and architecture seems unstoppable, and media and social media platforms have become an inseparable part of contemporary life, It is important to study these changes that arise because of the alterations. The coronavirus disease outbreak, as much as it is unfortunate, has shown the importance of networked media and the necessity to find different approaches towards it. As citizen's whole urban space and social experience have been limited to their former known private home space, it is architects' challenge to establish new modes of interaction with architectural structures for people while they do not have a material and physical contact with them.

This thesis aimed to examine the emergence of new social spaces that the combination of developed media technology and architecture elements has formed. Contemporary forms of interactions have been created to correspond to the new social spaces that have changed people's perception of their urban spaces. However, the limitations and critics about the usage of Media Architecture in the living spaces requires further investigation. Concerns about citizen's privacy when getting inputs from citizens' participations in the media driven installations and constructions, light pollution caused by massive light displays are issues that need more investigation to be tackled. Other relevant concern can be the inconsistency between the durability of architectural material and the rapid change of technological standards. The situation of media architectural elements that are not integrated into constructions' initial designs, such as digital display walls, after some years of their installation and when technology has changed fundamentally, needs more exploration.

Furthermore, up until now, the majority of Media Architectural projects were solely based on light and its installation over existing construction. Only a few minority of the architectural projects get into a wider scope of human, tactile and environmental limits. Experiments as forms of art installations show the *possibility* of the true potential of Media Architecture, but the fully appreciated and developed designs are yet to be *implemented* and the question that how theses attempts can fully be recognized in practice needs further investigation. For Media Architecture to positively be implemented, the sense that a perceiver has while in contact with a media architectural construction and feel as a part of space herself, as opposed to having a physical present in front of an exhibited picture, should be fully understood. That is, to study various elements of dynamic spatial experience

individually and also as a combined system. The challenge for media architects would be to trigger tactile experiments in a more meaningful and orderly method, and not just temporary installations and artistic experiments or even illuminating images and lights over the built environment. It is only then it can be said an architect's design has the effect on addressing the situation.

On the more promising aspect, as it can be seen in the constructed museums and exhibitions that benefited from Media Architecture to facilities human relations with the space, one can say the potential of this practice is being more recognized. Also, Bauhaus University as a pioneering university that has aimed to unite art and technology since 1919, has launched a program dedicated to Media Architecture. As it is read from the vision of the program, it is foreseen that architecture can once again offer a unity between art and technology in the form of Media Architecture, which can be beyond potential and speculation, and is directed to reformulate and re-conceptualize space in the era that social life is experienced in a global medialization.

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