# AERIAL VIEW AND ITS ROLE IN SPATIAL TRANSFORMATION: THE CASE OF ISTANBUL

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# ABSTRACT

AERIAL VIEW AND ITS ROLE IN SPATIAL TRANSFORMATION: THE CASE OF ISTANBUL

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What is intended to be explored in this research is the historical course within which the transformation of aerial view has influenced the observation, documentation and realization of the built environment. As the central discussion of this study suggests, the course of architectural perception is interdependent with the advent of transportation technology. Aerial view, from the earliest days on, has been a subject of imaginative thinking until human-flight was rendered a possible mode of transportation by the course of technological advent. The last two centuries proved substantially significant for the mechanization of air travel, while the nature of such notions as speed, scale and perspective have gained additional dimensions in the process. The course of transformation has eventually induced a drastic shift in the perception of the built environment, upon which a unique set of imagery was created regarding the notion of flight. Today, as technological progress maintains its advance, the interaction remains no different. This thesis aims to explore this intricate relation between transportation, surveillance and architecture within the context of aerial vision. Regarding the modes in which the city has been aerially surveyed to date, the transformative impact of the celestial perspective on the

documentation, realization and transformation of the built environment will be documented within a historical course. The discussion will be further grounded on the case of Istanbul, and the influence aerial view holds upon its spatial domain. The historical course of the view from above as well as the actors involved in the process, in that regard, will be investigated within the case of Istanbul, and prospective connections will be explored in relation to the theoretical framework.

Keywords: aerial view, spatial perception, airborne drawings, aerial photography, satellite imagery, virtual globe, Istanbul, urban transformation, decision-maker’s aerial gaze.

# ÖZ

HAVADAN GÖRÜNÜM VE KENTİN DÖNÜŞÜMÜNDEKİ ETKİSİ: İSTANBUL ÜZERİNE BİR İNCELEME

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Bu çalışmada havadan görünümün tarihsel süreç içerisinde geçirdiği dönüşümün, yapılı çevrenin gözlemlenmesinde, belgelenmesinde ve algılanmasında yarattığı etkiler araştırılmıştır. Öncelikli olarak bu çalışmanın temelinde mimari algının, ulaşım teknolojisindeki gelişmelerle bağlantılı olduğu kabul edilmiştir. Havadan görünüm, ilk zamanlardan başlayarak, hava seyahati teknolojisinin mümkün kılındığı zamanlara kadar hayalperest düşüncenin bir öznesi olmuştur. Özellikle son iki yüzyıl havayolu ulaşımının makineleşmesi açısından çok önemlidir; bu süreçte hız, ölçek ve perspektif gibi kavramlar farklı boyutlar kazanmıştır. Uçma kavramı sayesinde elde edilen bir dizi imge ile dönüşümün izlediği rota, yapılı çevrenin algılanmasında dramatik değişimlere yol açmıştır. Bugün ise teknolojik gelişmeler sürerken, bu bağlamsal ilişki farklılık göstermemektedir. Bu tez ulaşım, gözlem ve mimarlık arasındaki karmaşık ilişkiyi havadan görünüm bağlamı içinde araştırmayı amaçlamıştır. Kentin bugüne kadarki havadan araştırılma yöntemleri de göz önünde bulundurularak, gökyüzünden bakışın dönüştürücü etkileri, kentsel çevrenin algılanması ve disipliner yorumlanması ile ilişkili olarak belgelenmiştir. Sonrasında bu tartışma İstanbul incelemesi üzerinden sürdürülmüş ve havadan görünümün mekan üzerindeki etkisi incelenmiştir. Bu amaçla, çağlar boyunca Istanbul'un

havadan nasıl belgelendiği ve yorumlandığı araştırılmış ve bu sürecin etkin aktörleri İstanbul örneği üzerinden incelenmiştir. İstanbul incelemesi özelinde, kuşbakışı görünümün kent bağlamındaki anlamı, teorik çerçeveyle ilişki içinde ele alınmıştır.

Anahtar Kelimeler: havadan görünüm, mekansal algı, kuşbakışı çizim, hava fotoğrafçılığı, uydu görüntüleri, sanal yerküre, İstanbul, kentsel dönüşüm, karar merciinin havadan bakışı.

To My Parents

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## TABLE OF CONTENTS

ABSTRACT ..... v

ÖZ ..... vii

ACKNOWLEDGEMENTS ..... x

TABLE OF CONTENTS ..... xi

LIST OF FIGURES ..... xv

CHAPTERS

1. INTRODUCTION ..... 1

2. THREE STAGES OF AERIAL VISION ..... 7

2.1 Bird's-eye View: Early Illustrations ..... 10

2.2 Camera Becomes Airborne: Advent of Aerial Photography ..... 16

2.2.1 Balloons, Kites, Rockets, Pigeons ..... 16

2.2.2 Airplanes ..... 21

2.3 Outer Space: Satellite Technology ..... 27

3. AVIATION TECHNOLOGY AND AERIAL PHOTOGRAPHY ..... 33

3.1 A Radical Viewpoint ..... 33

3.1.1 Aesthetics of Abstraction: Formation of a New Language ..... 33

3.1.2 Avant-garde Interpretations on the Notion of Flight ..... 38

3.1.3 Influence on Pop-culture: Heroic Icons ..... 42

3.1.4 Negative Aspects: Fear of Airplanes and Bunkers ..... 46

3.2 Instrumentalization on Architecture and Urban Planning ..... 49

3.2.1 Rebuilding the World from Above ..... 49

3.2.2 Architect as the Future Hero ..... 56

3.2.3 Influence on Urban Theories: Visionary Projects ..... 66

3.3 Normalization of Aerial View: Loss of Enthusiasm ..... 70

3.3.1 Geographical Information Programs Today ..... 71

3.3.2 Aerial Imagery in Contemporary Design Practice ..... 73

4. AERIAL VIEW AS A TOOL OF SPATIAL DOCUMENTATION AND TRANSFORMATION: THE CASE OF ISTANBUL ..... 79

4.1 Tool of Documentation: Historical Depictions of Istanbul ..... 82

4.2 Tool of Spatial Transformation: Twentieth Century Operations ..... 91

4.2.1 Actors of Urban Transformation ..... 91

4.2.1.1 Planner's Gaze: Early Twentieth Century ..... 92

4.2.1.2 Politician's Gaze: Urban Planning and Authority .... 107

4.2.1.3 Entrepreneur's Gaze ..... 131

4.3 Tool of Survaillance: Alternative Interpretations ..... 139

5. CONCLUSION ..... 150

5.1 Contemporary Aspects: Design Practice ..... 153

BIBLIOGRAPHY ..... 156

## LIST OF FIGURES

FIGURES

Figure 2.1 Three Stages of Aerial View ..... 9

Figure 2.2 Colored Illustration of Çatalhöyük Map ..... 12

Figure 2.3 Imola Map, Leonardo da Vinci ..... 14

Figure 2.4 Nadar Élevant la Photographie à la Hauteur de l'Art ..... 19

Figure 2.5 Photograph of Boston, Massachusetts Taken From a Balloon ..... 19

Figure 2.6 Pigeons with Cameras ..... 21

Figure 2.7 Photograph Taken by a Pigeon ..... 21

Figure 2.8 Military Aerial Observer/Photographer During World War I ..... 23

Figure 2.9 Vertical Aerial Photograph of Trenches ..... 23

Figure 3.1 Robert Delaunay, Red Eiffel Tower ..... 40

Figure 3.2 Cubist Cityscape, Lyubov Sergeyevna ..... 40

Figure 3.3 Aerial Bombardment, Tullio Crali ..... 42

Figure 3.4 Diving on a City, Tullio Crali ..... 42

Figure 3.5 Superman Issue Cover ..... 44

Figure 3.6 Flash Gordon Issue Cover ..... 44

Figure 3.7 Flying Man, Cover of Amazing Stories ..... 44

Figure 3.8 The Futurama Model ..... 59

Figure 3.9 Bel Geddes Futurama Photomontage ..... 59

Figure 3.10 Shell Advertisement of "The City of Tomorrow" ..... 60

Figure 3.11 Bel Geddes, Chess Player ..... 61

Figure 3.12 Le Corbusier's Hand over the Ville Contemporaine ..... 61

Figure 3.13 Rio de Janeiro Sketches, Le Corbusier ..... 64

Figure 3.14 Empire State Building and Zeppelin ..... 67

Figure 3.15 Frank Lloyd Wright in front of His Mile-High Tower Design ..... 67

Figure 3.16 Buckminster Fuller Stamp ..... 68

Figure 3.17 Cloud Nine, Illustration by Buckminster Fuller ..... 68

Figure 3.18 Plans and Illustrations of Broadacre City ..... 69

Figure 3.19 "Cities of Tomorrow," Back Cover of Amazing Stories ..... 70

Figure 3.20 Google Earth Model vs Reality ..... 72

Figure 3.21 Ed Fairburn, Cartography Portrait, Map of Cambridge. ..... 77

Figure 3.22 Clement Valla, Postcards from Google Earth ..... 77

Figure 3.23 Armelle Caron, Unmapping the City: Map of Istanbul ..... 77

Figure 4.1 Engraving by Georg Braun and Frans Hogenberg ..... 84

Figure 4.2 Engraving by MatthausMerian ..... 84

Figure 4.3 Engraving of Istanbul included in Melling's work ..... 85

Figure 4.4 Istanbul miniature by Matrakçı Nasuh 1533 ..... 86

Figure 4.5 View from circumsion celebrations, Surname by Levi ..... 87

Figure 4.6 Plan of the Istanbul painting in Barker's Panorama Exhibition ..... 88

Figure 4.7 Visitors in Robert Barker's Panorama Building viewing Istanbul ..... 88

Figure 4.8 Henry Barker'a panorama painting of Istanbul ..... 89

Figure 4.9 The first aerial photograph of Istanbul ..... 91

Figure 4.10 Joseph Antoine Bouvard, Hippodrome Square ..... 95

Figure 4.11 Joseph Antoine Bouvard, Sultan Bayezid Square ..... 96

Figure 4.12 Joseph Antoine Bouvard, New Bridge of Galata..... 98

Figure 4.13 Turn-of-the-century view of the Galata Tower ..... 98

Figure 4.14 Prost, Presenting Istanbul Development Plan..... 100

Figure 4.15 Binbirdirek Cistern Square. Houses to be demolished. ..... 101

Figure 4.16 Project for a New Fatih Square. Axonometric drawing. Henri Prost ... 102

Figure 4.17 Land survey over Istanbul ..... 103

Figure 4.18 Land survey over Istanbul ..... 104

Figure 4.19 Prost, Gazing Over a Plan with Turkish Officers ..... 106

Figure 4.20 The Archeological Park ..... 106

Figure 4.21 Aerial photographs of Taksim Gezi Park area..... 106

Figure 4.22 Menders inspecting a project proposal ..... 112

Figure 4.23 A Eminönü after the road-enlargement operations..... 113

Figure 4.24 Demolitions executed in the west of Eminönü ..... 114

Figure 4.25 Aerial view of Vatan, Millet and Ordu st. and Atatürk Boulevard..... 114

Figure 4.26 An aerial view of Vatan Boulevard under construction ..... 115

Figure 4.27 Mussolini with a pickaxe ..... 116

Figure 4.28 Aerial Shootings, Istanbul from the Air Movie ..... 120

Figure 4.29 Istanbul from the Air Movie ..... 120

Figure 4.30 Dalan Flying over Istanbul, Nokta Magazine ..... 121

Figure 4.31 Mayor Topbaş and Prime Minister Erdoğan in Metropolitan Office ... 124

Figure 4.32 Geddes in the Making of Futurama ..... 124

Figure 4.33 Urban Transformation Project for Kartal, Press Conference..... 126

Figure 4.34 Mayor Topbaş before satellite images ..... 126

Figure 4.35 PM Erdoğan's Hand over Urban Transformation Areas ..... 128

Figure 4.36 Le Corbusier's Hand over Ville Contemporaine ..... 128

Figure 4.37 PM Erdoğan is Inspecting Ongoing Projects ..... 128

Figure 4.38 Ongoing Projects on the Satellite Image..... 128

Figure 4.39 PM Davutoğlu Inspecting the Third Bridge Construction..... 130

Figure 4.40 Erdoğan in Silicon Valley..... 130

Figure 4.41 Sapphire Shopping Mall, along the Büyükdere District ..... 132

Figure 4.42 Kiler Group CEO on top of Sapphire ..... 132

Figure 4.43 Dumankaya Advertisement from within an airplane..... 134

Figure 4.44 Images from Havadan Emlak Website ..... 136

Figure 4.45 Ali Ağaoğlu and His Private Helicopter ..... 137

Figure 4.46 Ali Ağaoğlu Flies with a Real Estate Specialist ..... 137

Figure 4.47 Ağaoğlu Monitoring Construction Areas from His Office ..... 138

Figure 4.48 Istanbul image taken by Oğuz Meriç ..... 141

Figure 4.49 Oğuz Meriç photographing Istanbul from helicopter ..... 142

Figure 4.50 Istanbul image taken by Oğuz Meriç ..... 142

Figure 4.51 Paintings by Devrim Erbil. ..... 143

Figure 4.52 Paintings by Devrim Erbil. ..... 144

Figure 4.53 Paintings by Murat İrtem ..... 144

Figure 4.54 Paintings by Murat İrtem. ..... 145

Figure 4.55 Collages by Seydi Murat Koç. ..... 145

Figure 4.56 Aerial photographs captured from helicopter by Anadolu Agency ..... 147

Figure 4.57 A comparison of Istanbul's aerial images fifty years apart ..... 148

Figure 4.58 Ferdi Yılmaz and his published book, Kutsal Şehir Istanbul. ..... 149

# CHAPTER 1

## INTRODUCTION

> "Not only does the built environment change all the time, but, through technological mediation, so too do its perceptual contexts, coordinates and constraints."[1]

Our apprehension of a building, as Marshall McLuhan states, is substantially identified by the means we see it—or in other words, "the medium is the message."[2] What we see is hardly ever detached from the way of seeing, and the media through which we recognize architecture stretch along a wide span of channels. Experiencing of the built environment today inhabits rather unnatural and all-the-more isolated extents dominated by vehicles and screens. "We habitually observe the world through technological frames,"[3] Mitchell Schwarzer states, and mediation thereupon proves a keyword central to this argument: from the windshield of a marching automobile, or through a small TV screen on the kitchen counter, or gazing down from the tiny openings of a Boeing 777, the screen-mediated instances of spatial observation vary in vast extents. Along with the technological progression emerges the contemporary medium of frames through which the built environment is recorded, grasped and surveyed. Screens of vehicles and media become increasingly crucial agents in the experience of the built environment, as their assets gradually keep articulating onto our everyday habits within the span of technological advance—a case largely studied in Schwarzer's work *Zoomscape*.

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[1] Mitchell Schwarzer, *Zoomscape: Architecture in Motion and Media.* (New York: Princeton Architectural Press, 2008) 16.
[2] Marshall McLuhan, *Understanding Media.* (Cambridge: the MIT Press, 1994) 7.
[3] Schwarzer, op.cit., 18.

In devising the term *zoomscape*, Schwarzer refers to the modern case where on-site architectural encounters are increasingly replaced for mediated or virtual ones through diverse frames of technology exercised by the viewers. *Zoomscape*, in that regard, probes the modes in which the understanding of architecture has been recast by the industrial developments of transportation and camera. The statement originates from the myriad ways of architectural experience emerged within the technological span of the last two centuries—setting out on the mechanics of railways and photography in mid 1800s, followed by motorcars and cinematics, and later on, air travel and television. On account of the mechanization of transportation and camera, as Schwarzer thereupon implies, "we have become used to seeing architecture through abrupt shifts of viewpoint and via unexpected juxtapositions."[4] Traveling in exceeding speeds beyond any humane capacity inevitably induces drastic shifts within the voyager's frame of vision, while cameras dart in and out of sight independent of the context or the scale, creating perceptual fissures in the space-time sequence. Although these perceptual instances do not substitute for the physicality of spatial interaction, they generate a certain measure of deviation in architectural experience and gradually, perception flattens:

> "Time spent with buildings diminishes. Seen in motion, houses and whole cities roll, break apart, and recombine. Seen in succession, images superimpose upon one another and buildings are evaluated less by their weight and presence than by their fluctuating outlines. Seen within frames, architecture is experienced graphic and pictorial."[5]

Anne Friedberg's texts on the *flâneur's* gaze similarly probes the course of mechanization that accounts for the contemporary ground of traveling in the world – trains, automobiles, planes– and explores the perceptual rapture it inclines in the apprehension of the concepts as distance and time, reshaping "the nature of memory and experience." [6] Her study of the "virtual gaze," in a similar manner, explores the influence of the camera on the viewer's perception— a stance that parallels with

[4] Ibid.
[5] Ibid.
[6] Anne Friedberg, **"**Urban Mobility and Cinematic Visuality: the Screens of Los Angeles-Endless Cinema or Private Telematic," *Journal of Visual Culture* 1 (August 2002) 183-187.

Schwarzer's argument regarding motion, media and their recasting of the individual experience.[7] Taking a similar stance, in his reasoning of spatial perception, McLuhan underscores the cognitive shift prompted by the changing nature of travel and motion, and how radically have our preceding experiences been reshaped by the later modes of transportation:

> "For the "message" of any medium or technology is the change of scale or pace or pattern that it introduces into human affairs. The railway did not introduce movement or transportation or wheel or road into human society, but it accelerated and enlarged the scale of previous human functions, creating totally new kinds of cities and new kinds of work and leisure."[8]

The course of industrial revolution had staged rapid developments in transportation technologies and further acceleration of human motion. A most dramatic shift was induced by the twentieth century invention of the airplane, and hence the view captured from the extraordinary altitude it assumed. By the end of the century, however, the human-machine integrity was ruptured to a fair extent on account of the digital age—a shift typified by the economical predominance of information technologies over traditional industry. As Jeffrey Sempler notes in 1998, "We are entering a new competitive age in which the basis of competition is being fundamentally altered through the introduction of advanced information technologies and public communication infrastructures, such as the Internet… this new period is referred to as the Information Age."[9] Contemporary channels of communication have generated a global network through which a vast span of visuals has been publicized for the viewers to share and consume freely. The experiencing of the built environment, in that sense, especially after the emergence of satellite information technologies, has been subjected to a significant course of transformation within the contemporary tools of the information age.

The focus of this study is derived from the discussion of motion in relation to spatial perception. As long as there emerges new means of looking at the world, our

[7] Ibid.
[8] McLuhan, op.cit., 7-8.
[9] Jeffrey Sampler, "Redefining Industry Structure for the Information Age," *Strategic Management Journal* 19.4 (April 1998) 343-344.

perception of the built space keeps transforming in between the widening extents of the *zoomscape*, while the spatial domain is constantly redefined within the confounds of today's visually dominated culture. It is a constant interaction that will sustain its progress as far as the technological advancements allow. For the framework of this thesis, architectural space will be investigated as subjected to the context of aerial view and will be explored within spatial, cultural and social spheres.

There remain several reasons in framing the discussion within the domain of aerial view. To begin with, air travel is a form of transportation that most dramatically transcends the bounds of human extents, challenging it both in altitude and speed. It not only holds physical superiority over the remaining means of transportation, but as well bears connotations of metaphorical value. In scope of the discussion that grounds upon the relation of motion and architecture, aerial view is believed to constitute an interesting course of research in further investigation of these intricate relationships. In other words, the perceptual shift induced by the advent of powered human-flight is considered to reveal a meaningful outline for interpreting the influence of motion on spatial understanding. For hundreds of years the view from above has primarily been exercised on the axis of imaginative depictions and panoramas, and continued to circulate afterwards with the advance of aviation technology and airborne camera. Thereby, for a long period of time before commercial airline flights were made available as means of public transport, the course of aerial perception had evolved over the circulation of images—a case that renders the tools of drawing and photography particularly crucial for the construction of this thesis. Still today, despite the evermore common operation of airline services that renders standard the experience of flying for public, aerial perception mostly eventuates over the circulation of a wide range of visual material through diverse channels of media, both static and kinetic. The entwined formulation of motion and media, in that sense, proves an integral method for the conveyance of an accurate discussion.

Aerial view today holds a unique course of transformation. The recentness of the issue, particularly regarding the developments achieved in the sphere of information technologies, necessitates further academic input on the field and the construction of a theoretical framework. Within the scope of this thesis, a historical outline will be

documented and social connections will be explored. The first part of the study, in that regard, will be setting out on a historical assessment of aerial view—largely specifying on its influence in spatial perception, design practices and the actors involved, while social aspects of the issue will be emphasized within the overriding discussions. The second part will prosper upon a case study which is believed to constitute a platform where diverse aspects of aerial view—both spatial and symbolic—could be questioned in light of the previous discussions. To be able maintain a perpetual framework for an accurate analysis of the issue, the case study will be grounded upon the exploration of the preceding discourse within the history of Istanbul—a city that has been extensively documented throughout the manifold courses of its past.

In the formulation of the theoretical outline, there remains substantial emphasis on the significance of aerial perspective and the elevated gaze that surveys the ground below, while the stress on spatial understanding is as well evident throughout. For the construction of a meaningful framework, the case study will attempt to sustain a continuous consideration of the viewing subject—namely the actors that are involved in the act of looking down, and those who make use of -or interfere with- this particular perspective.

Within the scope of the study, the historical course of aerial view will be investigated over the case of Istanbul, with a particular emphasis on the actors involved. Regarding this outline, it is of an academic interest to be able to explore the extents in which aerial view had marked the face of the built environment. How influential was the perspective in physically shaping the public realm? How much has it contributed in the realization of the built environment? Is it an effective medium of urban transformation, or merely an effective tool of documentation that opens up a novel understanding of the world—and to what extents and purposes it is being exploited, if it not effectively utilized for transformative principles?

In the effort to draw accurate answers to the questions posed, throughout the study, aerial view will be considered within the course of its development, which proves rather drastic as followed within the last two centuries. The medium is continuously improving and shifting, and it is of utmost significance to be able to attain a clear

understanding of its line of progress, and more importantly, the prospective effects it will be holding in the observation, documentation and realization of the built environment.

# CHAPTER 2

## THREE STAGES OF AERIAL VISION

> "To what erotics of knowledge does the ecstasy of reading such a cosmos belong? Having taken a voluptuous pleasure in it, I wonder what is the source of this pleasure of 'seeing the whole,' of looking down on, totalizing the most immoderate of human texts."[10]

Long before flying had become a means of transport for humanity, aerial view has stirred the minds of those fascinated with the vastness of this celestial perspective. A stance far beyond the limitation of the earthbound eye, aerial view not only hold a position of curiosity and allure in imaginative terms, but it was long correlated with mythical or religious figures of miraculous power. Depicted from points of high altitude, the early imaginative illustrations of various settlements have revealed a unique glimpse of how man might have perceived the earth if he had wings. Thus and so, for centuries aerial perspective not only signified a humane fantasy beyond the corporal extents, but it inherently held connotations of deity and heavens, associating it with such notions as omniscience and authority.

It was not until the age of mechanization that the imaginative illustrations and panoramic depictions were ousted by the actual instances of the world captured from above. Following the course of industrial revolution, the concurrence of aircraft and camera had marked a significant leap in the documentation of aerial view and by the turn of the nineteenth century, the coupling of these two technologies had already generated a whole lot of images captured from the air. The centuries-long

[10] Michel de Certeau, *The Practice of Everyday Life*. trans. Steven Rendall (Berkeley: University of California Press, 1984) 157.

imaginative act was abruptly replaced with an actual human eye that could now independently fly through the air, unfolding a brand new perspective of the everyday environment for millions of others to see. Striking and impressive at first, the content of these early instances were extensively multiplied and circulated through various media over the course of years, and by the end of the two world wars, human flight and aerial photography had outreached the point where they were once considered exceptional. Hardly any room had been left for assumption in visualizing of the earth from above as the technologies of aviation and camera grew further intertwined during the two world wars—radically unveiling an extensive span of visuals for the consumption and spectacle of the public.

Today, the act of looking down yet proceeds along another phase. During the last two decades, aerial images have attained a brand new perceptual dimension following the advent of satellite technologies and the boost of internet use. Geographical information programs and virtual 3D globes today serve as quick-access tools for millions of internet users from all around the world, while the images captured within this media continue to circulate in an extensive span of channels.[11]

Throughout the historical course of the view-from-above, the ever-changing aspects of the issue have perpetually marked significant shifts in the perceptual character of this longstanding act—engendering the development of new concepts regarding the experience of looking down. Today, the current phase remains to be defined by the 21st century advancements which have contemporarily reworked the understanding and utilization of aerial view. The recentness of the issue, however, renders the sequel of this latest phase quite uncertain, and an academic output infeasible. Owing to the novelty of this last phase, the academic discourse on this ongoing process today remains inadequate. Being able to structure this course within a historical continuum requires the reevaluation of the current framework in light of the latest instances, along with the articulation of the contemporary findings with the existing research. David Gilbert, in his article "The three ages of aerial vision," underscores

[11] David Gilbert, "The Three Ages of Aerial Vision: London's Aerial Iconography from Wenceslus Hollar to Google Earth," *The London Journal* 35.3 (November 2010) 289.

the priority of an academic input on the issue, and hence the formation of a "longer historical perspective."[12]

Gilbert classifies the transformation of aerial vision in three stages, the continuum of which lines as the imaginary, the photographic, and lastly, the interactive.[13] As the first of these three phases, the imaginary covers the pre-industrial attempts in which the city was often depicted from imaginary points of elevation or actual places of high altitude. The second phase connotes to the early twentieth century vision from the airplane, and lastly, the interactive accounts for the recent satellite information technologies where the image holds a dynamic dimension.[14] The process is concisely introduced in the following discussion.

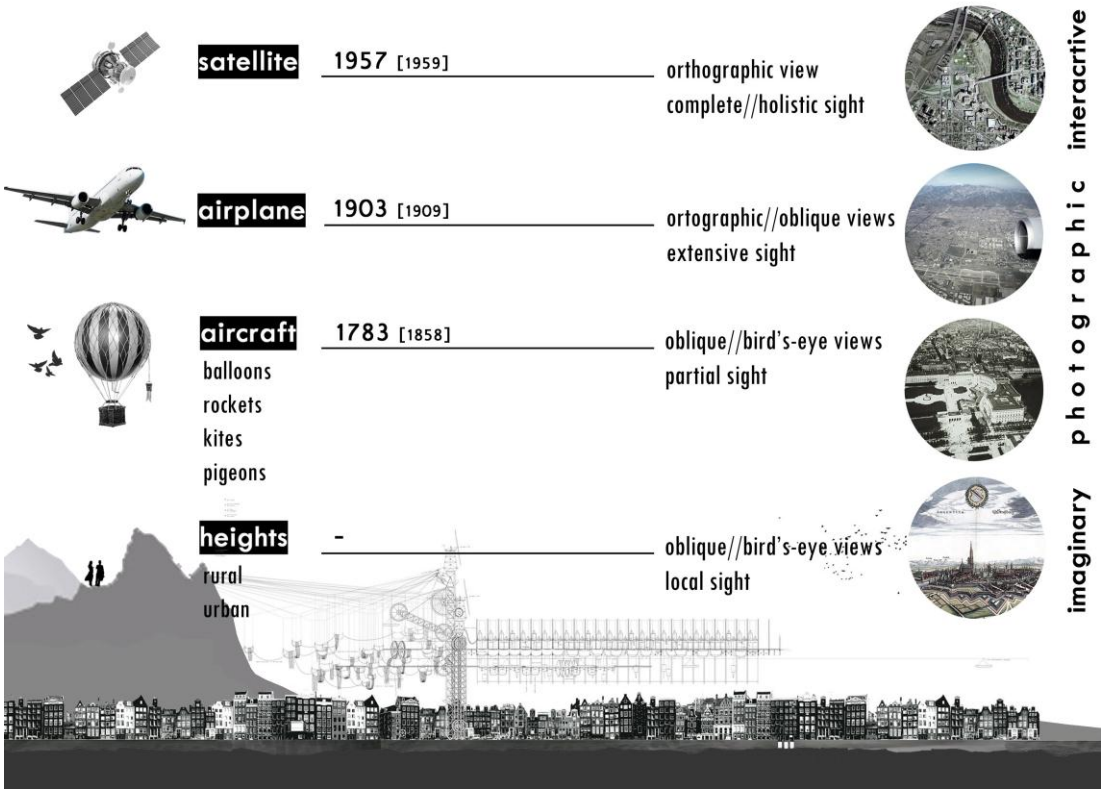


**Figure 2.1** Three stages and the historical course of aerial view. Image prepared by the author.

[12] Ibid., 290.
[13] Ibid.
[14] Ibid.

## 2.1 **Bird's-eye view: Early Illustrations**

> "Earthbound humans are unable to embrace more than a tiny part of the planetary surface. But in their imagination they can grasp the whole of the earth, as a surface or a solid body, to locate it within infinities of space and to communicate and share images of it."[15]

From their earliest days on, humans are intrinsically endowed with the intelligence "to view the world from above," as Denis Cosgrove and Wiilliam L. Fox suggest.[16] Earlier physical interactions of the handling and apprehension of objects signify a getting-to-know exercise that nurtures the infant's three-dimensional mastery over "the micro-environment—things that are smaller than the body—and, with time, the macro-environment."[17] Grasping of the smaller bodies, as the tactile aspects of the act suggest, contributes to the volumetric realization of objects that come in a plenitude of forms and scales, procuring the mind to correlate within different contexts by the co-designation of the eye, the body and the brain. The span of this earlier perceptual competence is gradually fostered in time as one's spatial experience stretches along larger frameworks—or the macro-environment:

> "We transfer that early ability to feel an object in our hands to seeing from different angles the room in which we sit, the house in which we live, our neighborhood and eventually anywhere we go and even places we merely glimpse in a picture or conjure out of listening, reading or imagining. This capacity to picture places might be called the 'geographical imagination', and it finds its most immediate graphic expression in maps, plans and architectural drawings."[18]

Long before the advent of aviation technology, airborne vision has stirred the minds of those fascinated with the idea of "an eye that did not yet exist."[19] Granted by the privileged extents of the all-seeing eye, the celestial perspective naturally bears a

[15] Denis Cosgrove, *Apollo's Eye: A Cartographic Genealogy of the Earth in the Western Imagination.* (Baltimore: Johns Hopkins University Press, 2003) ix.
[16] Denis Cosgrove, William L. Fox, *Photography and Flight,* (London: Reaktion Books, 2010) 10.
[17] Ibid.
[18] Ibid.
[19] Martyn Barber, Helen Wickstead, "'One Immense Black Spot': Aerial Views of London 1784-1918," *The London Journal*, 35.3 (November 2010) 238.

plenitude of connotations within—amongst which the remark of divinity has evermore hold a significant stance. Aerial perspective, in that sense, has long been correlated with the notions of deity and power, or as the more prominent coining of the term 'God's-Eye' view suggests, with the omnipresent vision of gods.[20] The view from above holds a variety of extensions, Cosgrove and Fox thereupon remark. First and foremost, the vast portrait that unveils before the ascended eye and the stance of eminence it bears breed "a sense of mastery" that is commonly associated with the assets of authority and power. Likewise, the view from above unfolds a substantial - at times vital- lot of information regarding the macro-environment by which the subject positions oneself within a greater framework. The efficacy of such information is naturally optimized by the extents of aerial photography, yet still, long before the human flight was ever rendered possible, aerial view has sustained valuable aspects of the cognitive intelligence of looking down—authorizing its subject to "plan ahead, to place ourselves in the larger context of the world and map out a course in both space and time."[21]

As stated before, aerial vision has occupied the minds of those fascinated with the vastness of this celestial perspective. It was not until two centuries ago that photography had become a means of airborne survey, but the historical extents of aerial view reaches further back. The oldest aerial depiction of a landscape, as been uncovered so far, resides in the late Neolithic village of Çatalhöyük in Turkey.

Dating back to 6200 BCE, Çatalhöyük map remains the oldest aerial illustration of a settlement known to man.[22] Long before the invention of any tool regarding flight, and in the absence of any surrounding topography that would constitute an elevated stance for the surveillance of the settlement from above, the inhabitants of Çatalhöyük have managed to visualize their premises from an imaginary altitude in the air.[23] The three-meter long mural is entitled both the first cartographic drawing and the first landscape depiction for the diverse features it sustains of the vertical and oblique viewpoints. A perpendicular scheme of the village remains readable in the

[20] Cosgrove, Fox, op.cit, 8.
[21] Ibid., 11-12.
[22] Turkish General Command of Mapping, "Oldest Map in History." Retrieved from <http://www.hgk.msb.gov.tr/ustbanner/turk/eneskiharita.htm> (June 8th, 2014).
[23] Cosgrove, Fox, op.cit, 12.

form of an approximate plan, revealing information on both the interior and exterior patterns forging the overall layout of the settlement. In the background are emphasized the two volcanoes that concurrently constitute a natural threat and an essential fraction of the town's economical income regarding the obsidian trade. "The town is depicted in its geographical and economic context," Cosgrove and Fox thereupon remark, "as surely as if a contemporary geographer were sketching it or an aerial photographer snapping it."[24]

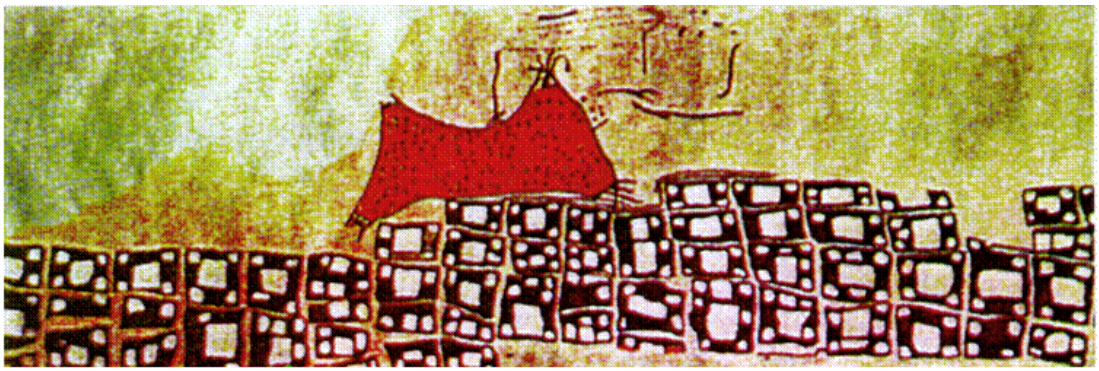

**Figure 2.2** Colored illustration of Çatalhöyük Map.[25] Original preserved in the Museum of Anatolian Civilizations, Ankara.

Cosgrove and Fox further draw references to other instances of "ancient rock art" from various geographies around the world: "…in the paintings of Aboriginal people in Australia, for example, and in early Mughal, Chinese, Persian and Egyptian art."[26] The content of the early God's eye view inscriptions prosper upon the limning of sacred grounds or the places of authority -as in temples, palaces, noble gardens or the royal tombs- proving the everlasting association of aerial view and divinity perpetually significant.

"Aerial views exist in Western art from well before Filippo Brunelleschi's demonstration of linear perspective," Cosgrove and Fox remark.[27] The fourteenth century bird's-eye depictions came in a variety of forms and subject-matters—map-

[24] Ibid.
[25] Turkish General Command of Mapping, op.cit.
[26] Cosgrove, Fox, op.cit, 12.
[27] Ibid.

like woodcuts of major towns, frescoes decorating palace interiors, aerial-oblique illustrations of historical scenes or at times, vertical depictions of cities under the influence of different regimes. Through the course of years, the invented scenery of the landscape art was gradually ousted by the more accurate references of actual topographies, while the application of perspectival effects served to procure a set of realistic lighting conditions peculiar to aerial view, as in the case of 'relief shading' or several other contouring techniques. A more significant shift, in turn, was induced by the later transformations regarding social and cultural practices. By the mid-fifteenth century, the ever-more materialistic and profit-based grounds of the European market demanded a most precise visualization of the world from above. "Changing conceptions of space and place in medieval and Renaissance art," Martyn Barber and Helen Wickstead thereupon state, "led to an interest in depicting landscapes and places from an imaginary, raised vantage point."[28] By the mid-sixteenth century, the view-from-above has principally assumed the more prominent template of city panoramas in the effort of capturing the whole, enhancing the propagation of a network through which a detailed lot of visual information was circulated:

> "Traders particularly needed to know how things looked. There was a growing requirement for correct depictions of the surface of the earth. This graphic endeavor was intended to be descriptive rather than narrative, a world described rather than a world imagined as a stage for action, and more often, a world that is owned: there was a powerful economic stimulus to this mode of depiction."[29]

The vast circulation of aerial images proved significant for reasons beyond the sole purpose of trading. Though Cosgrove and Fox underscore the principle incentive of aerial depiction as the "civic pride and the fierce competition for high visibility among European centers of trade," their fabrication as well served a plenitude of other purposes amongst which resided those regarding education, aesthetics,

[28] Barber, Wickstead, op.cit, 238.
[29] John Bold, "Bird's-eye Views: from Hollar to the London Eye," *The London Journal* 35.3 (November 2010) 226.

decoration and spectacle.[30] For aerial views unveiled a most unusual scenery beyond the earthbound humane grasp, they were prominently granted with much enthusiasm and a degree of spatial consciousness: "[T]hey allow people to *place* themselves, to conceive of the larger environment in which they live, offering a satisfying sense of experiencing a familiar place from an unfamiliar and all-encompassing perspective."[31] The popularity of the bird's-eye views and early panoramas were partially dependent on the rate in which the cities expanded for the difficulties faced regarding the total recognition of the urban form was growing ever more evident. The extensive portrayal of the cityscape rendered it an intelligible entity of control, a commodity of graspable size. Amongst the most advanced instances of aerial view were the earlier bird's-eye illustrations, models and plans of cities principally utilized for military and defense purposes, by which Leonardo da Vinci's Imola map constituted a significant precedent.[32]

**Figure 2.3** Imola map, Leonardo da Vinci.[33]

By the mid-sixteenth century, the early aerial depictions of major settlements and towns were already extensively recognized and vastly circulated especially after the

[30] Cosgrove, Fox, op.cit, 20.
[31] Ibid.
[32] Ibid.
[33] Mark Meynell, "Leonardo da Vinci's Map of Imola." Retrieved from <http://markmeynell.wordpress.com/2010/04/12/leonardo-da-vincis-map-of-imola/> (June 4th, 2014).

emergence of lithography in 1796, characterizing a substantial transformation in visual practices.[34] Surveying the ground from imaginary stances of elevation or actual places of high altitude, these early illustrations revealed a unique glimpse of how man might have perceived the earth if he had wings, as has been stated before. Still, these images relatively proved earthbound despite the efforts of imitating an eye independently suspended in the air.[35] Both the scaling and orientation of the depicted scenery bore the recognizable character of a downward gaze rendered from an exalted land, but not directly from the air. Accuracy was as well a secondary aspect dethroned by the more prominent purpose of spectacle, an issue fairly commercialized and patented by Robert Barker in 1787.[36] The cylindrical panorama building -presenting its visitors with detailed renderings of the cityscape or pastoral scenes from the countryside- swiftly grew popular following its first appearance in England and soon enough, the formulation of the panoramic display was prospered in ways regarding the experience of this spectacle—as in moving panoramas, cycloramas, dioramas and the like.[37]

> "The panorama and its variations emerged alongside ballooning, and several artists claimed that their panoramas were based on real flight. Correspondence between the panorama and the balloon seems evident from the fact that much balloon imagery produced before the widespread use of cameras focused on the panoramic view—the 360° degree view experienced by the balloonists. Airborne artists were particularly concerned with the spectacle of vision offered by altitude, a spectacle that found willing audiences across a variety of media."[38]

Regarding the "total vision" molded by the panoramic spectacle, Davide Deriu remarks:

> "This paradigm […] was central to the development of modern tourist cultures based on the practice of sightseeing. Between the

[34] Barber, Wickstead, op.cit., 239.
[35] Beaumont Newhall, *The Airborne Camera: the World from the Air and Outer Space*. (New York: Hastings House, 1969) 11.
[36] Barber, Wickstead, op.cit., 239.
[37] Ibid.
[38] Ibid.

> late eighteenth and the early nineteenth century, illustrated travelogues contributed to disseminating a popular imagery of exotic lands and peoples, which were recorded by artists during their picturesque voyages."[39]

Preceding the onset of photography, the scope of aerial imagery has substantially dwelled upon the 360° degree panoramic view that correlated with the actual experiencing of balloon flight. The soaring view from the balloon, however, differed in nature regarding the subject positioning and the span of altitude—detaching the voyager from the earthbound premises while unveiling a most unfamiliar portrayal for the aeronaut to contemplate upon. The onset of balloon flight, in that fashion, has surmounted the earthbound character of the earlier aerial renderings and not long after the advent of photography, camera has found a stance in this most recent platform of ascension.

## 2.2 Camera Becomes Airborne: Advent of Aerial Photography

### 2.2.1 Balloons, Kites, Rockets, Pigeons

> "Photography was invented and perfected during the nineteenth century, a time when balloon flight became increasingly widespread and powered flight was first being attempted. The co-evolution of photography and flight would produce a dominant way of seeing and picturing the modern world of the twentieth and twenty-first centuries. The two histories are thus inextricable, and cannot be separated from questions of spatial cognition and representation that reach back much further than the inventive nineteenth century."[40]

Late eighteenth century progress of balloon technology, as stated before, rendered the journey of human-flight exercisable, and "the very notion of a bird's-eye view was redefined by the early developments of aerial photography."[41] The issue, by

[39] Davide Deriu, "The Ascent of the Modern Planeur: Aerial Images and Urban Imaginary in the 1920s," in Christianand Emden, Catherine Keen and , David Midgley, eds., *Imagining the city. Vol. 1, The Art of Urban Living* (Oxford: Peter Lang, 2006) 192.
[40] Cosgrove, Fox, op.cit, 8.
[41] Deriu, op.cit., 195.

nature, bore a plenitude of aspects particularly regarding representative, military and informative extents. The view from the balloon, first and foremost, urged a critical shift in visual practices: the nineteenth century city panorama as a new form of aerial vision and spectacle, often translated into images or rhetorics by the few who were granted the privilege of flight.[42] Military action and aerial survey as well proved critical regarding the utilization of the view-from-above, the early instances of which was pioneered by the French army in 1794. Operating over the battlefield in hot-air balloons, the squad *aérostiers* was forged for the task of providing real-time information by the concurrent assessment and sketching of the ground.[43] An efficient warfare strategy, the reconnaissance of the land from above was likewise exploited by countries other than France and was soon rendered widespread across Europe. However, it wasn't until mid-nineteenth century that camera was actually airborne. In 1839, the French artist Louis Daguerre advertised his discovery of the first publicly-recognized photographic inscription—an instrument soon to be considered potentially beneficial for further procurement of airborne-information. Within a decade after Daguerre's invention was publicized, the conjecture became a commonplace means of observation by the Engineer Corps of the French Army for the precise outlining of the earth through aerial photographs.[44] A numerous lot of survey methods and mapping techniques were exercised in the followings decades, but the first to acquire a successful outcome and file a patent on the issue was a French photographer, caricaturist, journalist and novelist—with a unique passion for flight.[45]

Gaspard-Félix Tournachon, also known as Nadar, managed to capture the first aerial photograph during a balloon flight over the suburbs of Paris in December 1858 following numerous unsuccessful attempts that cost his part both a large extent of financial resource and two years of professional life. For countless times failure has been faced in the process, "[b]ut 262 feet [approximately 80 meters] over the valley of Bievre, in 1858, aerial photography was born."[46] Yet, it took almost thirty years until fruitful results were attained in this domain, and another thirty until these

[42] Barber, Wickstead, op.cit., 239.
[43] Cosgrove, Fox, op.cit, 23.
[44] Ibid., 24.
[45] Newhall, op.cit., 19.
[46] Ibid., 21.

visuals were extensively publicized.[47] The earliest aerial image remaining from Nadar's collection has come to be the one captured over Paris in 1866 for the first photograph taken from the balloon has not survived to date. Although his former works distinguished artistically, Nadar's formulation of the issue hold rather technical and financial aspects in his constant endeavor of rendering the process useful for aerial mapping, and his constant advertisement of the project all along. Five years after capturing the first aerial photograph, the public statement Nadar made regarding the ascension of his colossal balloon Le Géant was a compendious projection of his motivation on the issue: "we are not about to amuse ourselves in making portraits in the air. The balloon will be employed in various works of aerostatic photography […] the results of which will be so valuable for all planispheric cadastral, strategical, and other surveys."[48] His personal rhetoric of the experience, however, as well proves notable:

> "The impression of being able to gauge more accurately the relative proportions of things from an elevated viewpoint made him feel a sense of higher 'Truth'... 'Beneath us,' Nadar wrote, 'the earth unfolds into an enormous unbounded carpet, without beginning orend.' This cinematic metaphor was to become a recurrent trope in the air-travel literature of the 1920s, by which time the western cultures of representation were in full thrall to the spectacle of motion pictures."[49]

Other earlier images from around the same interval as well remains today, a famous instance of which was photographed over Boston from the balloon *Queen of the Air* in 1860 by the artist James Wallace Black. The negative copy of the photograph today resides in the American Museum of Photography in Philadelphia. Further progress has been subsequently accomplished in the following years regarding the technical difficulties faced in the process and the enhancement of unmanned-balloon photography which proved particularly beneficial for aerial-mapping.

[47] Barber, Wickstead, op.cit., 255.
[48] Ibid., 245.
[49] Deriu, op.cit., 195.


**Figure 2.4** [left] *Nadar Élevant la Photographie à la Hauteur de l'Art*, May 25, 1862. Lithograph on newsprint.
**Figure 2.5** [right] *Photograph of Boston, Massachusetts taken from a balloon in 1860* by James Wallace Black.

"It was not until the 1880s that aerial photographers began to achieve something approaching regular success, largely because of advances in camera and plate technology."[50] Owing to the enhanced means of visual production, airborne images were evermore publicly remarked by the late 19th century, while the span of their utilization had by far outreached the context of military defense. Employed within several other research fields as geography, archeology and agriculture, aerial information had increasingly been exercised in the studies that required accurate documentation and measurement of the earth's surface from above. Social attributes of the process, on the other hand, were rather correlated with the reception of the issue by a vast audience. Before the camera was airborne, the peculiar journey of the balloonist was often rhetorically expressed by the very few who were granted the privilege of air travel— a genre of the title aeronautical literature.[51] Prior to the vast fabrication of aerial photography, the public take on the notion of flight dwelled substantially upon the imagery phrased by the ones fortunate enough to have witnessed this unusual perspective—the narrative of which mostly thrived upon the

[50] Barber, Wickstead, op.cit., 245-6.
[51] Ibid., 243.

keywords as “calm,” “tranquility,” “God’s order,” “angel’s view,” “overreaching the chaos,” “underlying harmony,” and not so often as “disguising the true face,” “deceptive,” “disappointing.”[52] The extensive circulation of the airborne images, however, has engendered a perceptual deviation of the novel perspective: “After cameras, something about the completeness of this vision was fragmented.”[53] Aerial illustrations published in books and magazines grew ever more accessible than before, and the balloonist’s view was partially exposed upon a far wider crowd.

Alongside of balloon technology, other media were as well employed for the same process. Kite design has advanced to great extents by the end of 19th century, which eventually led to the discovery of the airplane in the following decades.[54] Initial attempts were launched by the English meteorologist E. D. Archibald in 1882, and later by the Frenchman Arthur Batut, who managed to capture his first airborne image using a kite he has built in 1889.[55] Batut’s operations proved particularly successful in capturing low-oblique views from above, amongst which the most distinguished remains the one taken right after the 1906 San Francisco earthquake.[56] Unveiling the “dramatic perspective of the scale of devastation wrought on the city,” the image was soon internationally publicized redounding Batut a sum of $15000 in total—a most unusual count for the time being. Rocket photography was as well subjected to investigation amongst German military forces and was issued a patent in 1891, while pigeons were as well rendered useful in the process by the operation of miniature cameras embedded onto their chests, the patent of which was hold by the German pharmacist and pigeon enthusiast, Julius Neubronner. All noted attempts except for the rocket photography, however, were eventually overthrown by the advent of airplane technology in early twentieth century.

[52] Ibid., 244.
[53] Ibid., 244.
[54] Newhall, op.cit., 41.
[55] Professional Aerial Photographers Association, “History of Aerial Photography: Aerial Photography from Airplanes.” Retrieved from <http://www.papainternational.org/history.asp> (January 18th, 2013)
[56] Cosgrove, Fox, op.cit., 28.

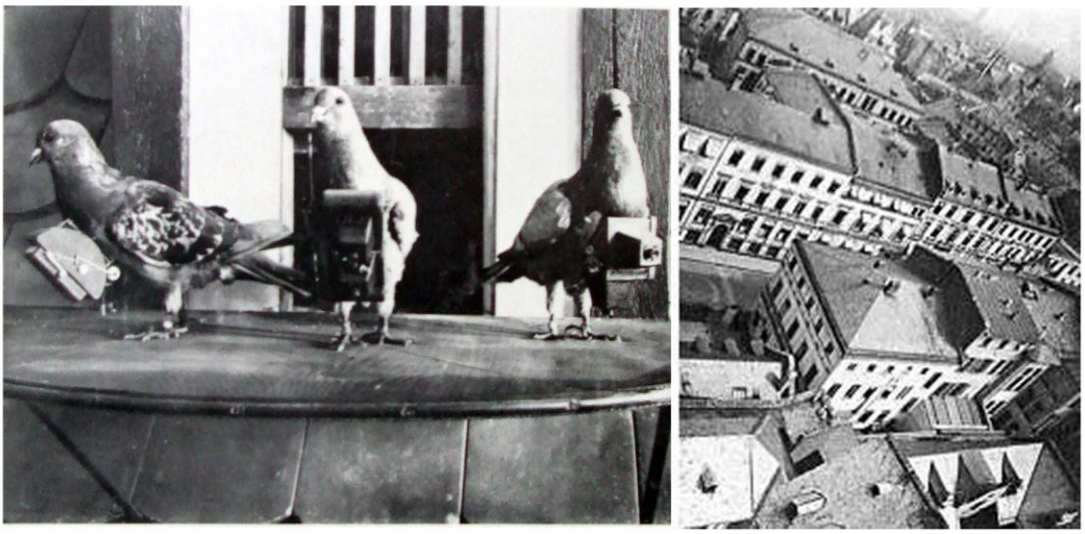

**Figure 2.6** [left] Pigeons with cameras, about 1908.
**Figure 2.7** [right] Photograph taken by a pigeon, about 1908.[57]

### 2.2.2 Airplanes

> "The early history of air photography, like that of most other nineteenth century technologies, does not have a simple lineage. Its techniques were explored, and the experiments by which it evolved took place, simultaneously and competitively in different countries and among different individuals not always in contact with one another."[58]

Early twentieth century technology made available a brand new perspective of the earth from the airplane. Airplanes as accurately flown, location-free, "relatively steady" and "speed constant" camera platforms soon proved superior to any former medium of aerial image-making.[59] Two distinct practices of aviation and photography were thus merged into the discipline of aerial photography, and never before was the urban form revealed in such an accurate and comprehensive manner.

> "A new range of representational forms was enabled by the advent of the airborne camera and the industrial (re)production of photographs. Following the momentous development of air reconnaissance during the

[57] Newhall, op.cit., 41.
[58] Cosgrove, Fox, op.cit, 26.
[59] Ibid., 49.

> First World War, aerial photography was applied to a broad range of civil and commercial purposes."[60]

As the one proper constant of this progress, military interest has evermore constituted a substantial impetus regarding the development of aerial photography. "Portraiture dominated early photography as a terrestrial medium;" as Cosgrove and Fox thereupon state, "war has dominated photography in flight."[61] Although early twentieth century has staged the advent of the first heavier-than-air craft as procured by the Wright brothers in 1903, the rendering of the airplane as a feasible platform of photography was attained some ten years later.[62] The destructive potential inherent in the operation of the airplane was not instantly distinguished—for the medium wasn't considered reliable regarding the management of the loads exerted by bombs or any crew of a required amount.[63] The aptitude of the airplane as a surveillance platform, on the contrary, was instantly apprehended. Following the first instance taken from an airplane in 1909, photographic reconnaissance has been extensively utilized during the two World Wars for the preparation of battle maps, comprehensive field recording, acquisition of intelligence, infra-red detection and other complementary defensive purposes. [64] As early as 1911, experimentations on aerial photo-shooting were being carried out by certain individuals in the United States military forces, while the French Army had already been flying over Africa, right above the Moroccan crisis. In 1913 during an international congress of photography, Captain Cesaro Tardivo of the Italian army introduced a set of aerial images captured by airplane cameras over Bengasi, Libya, and not long after the operation of the camera within the machines of aviation, "the antiaircraft guns of World War I were desperately trying to bring down hostile camera-carrying aircraft. Photography has become vital to victory."[65]

> "The strategic advantages thus offered were to be rapidly realized in the great European conflict that opened in 1914. By this time the technologies of film speeds and camera shutters had been rapidly

[60] Deriu, op.cit., 196.
[61] Cosgrove, Fox, op.cit, 49.
[62] Newhall, op.cit., 49.
[63] Ibid., 51.
[64] Professional Aerial Photographers Association, op. cit.
[65] Newhall, op.cit.

> advanced by commercial companies such as Eastman Kodak, whose dry film technique and handheld Brownie had revolutionized popular photography."

From the first year on, aerial reconnaissance has rendered possible the recording of the hostile marching and their resources at intervals of days, or of hours even—significantly contributing to the tracking of trench routes and relevant adaptation of military strategy.[66] The operation of the airborne cameras forced each party to continually conceal the extents of their troops, vehicles and martial supplies upon the risk of real-time aerial surveillance, and not long after, "the exchange between air and ground expanded to a game of hide-and seek".[67] The aftermath of the WWI unveiled a more accurate estimate of the course: British alone declared to have taken 6,500,000 photographs in the last year of the war, while American airplanes stated to have issued 1,300,000 in five months. By the end of the war, "[c]ameras, airplanes, processing equipment, and the specialized skill of photo interpretation was brought to a new height," and aerial reconnaissance was officially founded.[68]

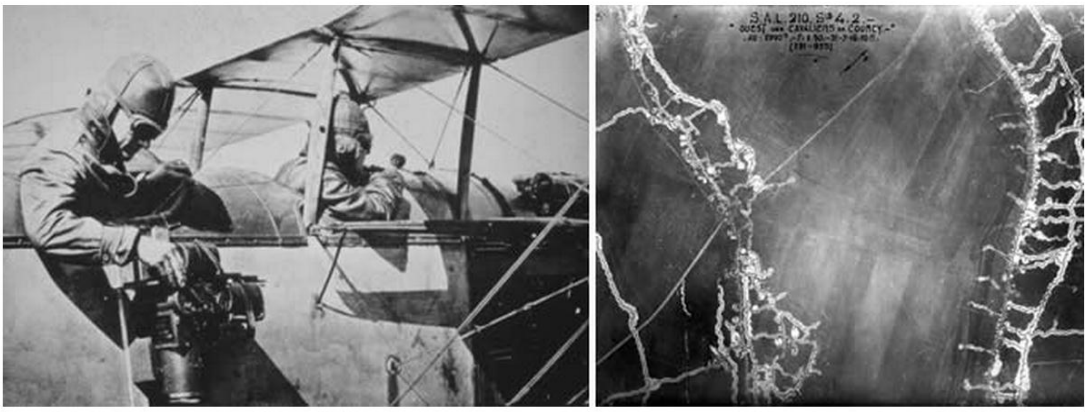

**Figure 2.8** [left] Military aerial observer/photographer during World War I.
**Figure 2.9** [right] Vertical aerial photograph of trenches in 1916.[69]

The interwar period staged further advancements over the co-progression of photography and aviation. "The ending of World War I injected a surplus of pilots and planes into civil aviation… At the same time, cameras were becoming easier to

[66] Ibid., 54.
[67] Cosgrove, Fox, op.cit, 35.
[68] Newhall, op.cit., 55.
[69] Ibid.

operate for ordinary people."[70] Commercial airline traffic was officially launched as early as 1918—almost two decades after the portable, low-cost Brownie was introduced by the Eastman Kodak Company and shortly, Kodak cameras grew fairly popular amongst airline passengers willing to record the enchanting portrait below. The early 19th century instances captured from the air necessitated the processing of large wet glass plates in the quavering basket of the balloon, taking no less than 20 minutes of exposure. By the onset of twentieth century, it took a second-long snapshot from the airplane.

"The 1920s and '30s witnessed the rapid development and expansion of aerial activity of all types."[71] Range of the distance traveled and altitude achieved were of primary concerns within the post-war advancements -particularly regarding the operation of commercial airlines- while other significant motives included the recording of the WWI aftermath and further exploration of the earth within a plentitude of other fields as geography, erosion studies, agricultural evaluation, land use practices, archeological findings, documentation and planning purposes—namely the fields predicating a fair extent of their substance upon the content of aerial information. Not long after, undertaking of the aerial reconnaissance was granted a global measure, and "[e]ven the most distant corners of the planet were becoming accessible to the aerial eye."[72] Motivations beyond the scientific employment of airborne images were rather correlated with commercial affairs, as noted above, and not long after the declaration of peacetime, a post-war aerial photography market was commenced upon a number of common demands:

> "A number of former pilots lent their expertise to developing commercial enterprises in order to answer the demand for aerial photography. These businesses offered large-format images for sale, counting on the continuing fascination that we have for seeing our homes, neighborhoods, offices or properties from the unique perspective of the air. Air photos were increasingly sold for

[70] Cosgrove, Fox, op.cit, 42-43.
[71] Ibid.
[72] Ibid.

> advertising, real estate development and tax assessment purposes."[73]

Amongst the most noted corporations of air photography were the Aerofilms based in the UK, founded by Wills and Claude Graeme-White in 1919, and Fairchild Aerial Surveys based in New York, founded by Sherman Fairchild in 1920. The extents of the firms' operations were commercially motivated but rather diverse in content. Fairchild's preliminary initiatives, for instance, involved the aerial recording of breaking events to be offered to journalistic use, while the year following the company's establishment, Fairchild was asked to work on the first aerial photo mosaic of the Manhattan skyline from above. Military, agricultural and documentary uses of aerial information were likewise being commonly operated, while similar initiatives had shortly began to appear in locations other than Europe, such as Latin America and European overseas occupancies, "where air photography greatly assisted colonial surveys."[74]

"The decade leading up to World War II saw significant advances in both photography and flight."[75] Prominence of aerial recording was at once noted by the parties involved in the approaching war, and the execution of the process was managed ever more methodically now that the issue had been extensively developed over the last few decades. Reconnaissance of the hostile land was given head-start upon the existing conflicts -especially over the German territory- while the military training on aerial surveillance grew ever more common amongst most armed forces. In the course of the warfare, aerial information uncovered by the reconnaissance units were assessed on daily basis, while purposes beyond military action have as well contributed to the recording of the ground from above—journalism and public briefing mostly. In either case, "[image] interpretation became highly specialized:

> "First Phase Interpretation was a swift, immediate examination of the photo coverage to determine if the pictures revealed evidence of the enemy's activities of such importance that Headquarters should be notified at once…Second Phase Interpretation was a

[73] Ibid., 45-46.
[74] Ibid., 51.
[75] Ibid., 53.

> routine, day-by-day study… Third Phase Interpretation was an exhaustive, re-examination of the photographs by specialists."[76]

The twentieth century crisis have stimulated an intensive technological progress in the profession of air photography. By the end of the 'airman's war,' aerial surveillance had not merely been cultivated to vast extents, but as well legated an extensive pool of information to be utilized for peacetime research. Post-war planning and cartography were amongst the most studied practices in light of air reconnaissance, and the aesthetics inherent in aerial images were publicly celebrated. The information attained from above has particularly bred the destruction of a sheer number of cities in the course of warfare—now they were to be utilized for the peacetime reconstruction of the very wreck. Further post-war applications of aerial photography included the operation of daily survey, tracing of the human activity on earth, low-altitude patrolling and television survey, and the documentation of environmental crisis. Nonetheless, the most notable leap has been accomplished in the business of commercial flight, particularly in Germany: "The transfer of wartime technology from defeated Germany was as significant for aircraft development as for rocketry."[77]

"Military interests continued to be significant in the history of aerial vision after World War II, particularly in the development of remote sensing from the 1950s."[78] The war has ended on the battlefield, but the enduring rivalry of the parties in conflict—namely the Eastern and the Western Blocs—had led to further stress on both political and military basis for over forty years. "The two decades following the end of World War II saw the decolonization of European empires across much of the world, and the Cold War contest for global supremacy between the USA and the USSR."[79] Post-war conflicts of the mid-twentieth century have engendered further progressions in the fields of aviation and surveillance. Sputnik, world's first space satellite, was launched by the Soviet Armed Forces in 1957, an accomplishment that has critically marked the course of military intelligence, scientific research and

[76] Newhall, op.cit., 60.
[77] Cosgrove, Fox, op.cit., 59.
[78] Gilbert, op.cit., 295.
[79] Ibid., 66.

politics in the coming years.[80] "It was immediately obvious that, in time, the size of satellites would grow as rocket launchers became more powerful, opening a new era in aerial photography."[81] Amongst the most notable applications of satellite photography were such domains as meteorology studies, cartography, espionage and military reconnaissance, and most importantly, infrared surveillance, which contributed to the exploration of the earth's habitat in tremendous extents. Infrared technology had assisted further study on a plenitude of departments as environmental disasters, pollution, ecology, plant pathology, oceanography, archeology and naturally, accurate measurement and documentation of the earth for the use of cartography—"findings to improve life on earth".[82]

### 2.3 Outer Space: Satellite Technology

Satellite technology had featured the onset of a new age in aerial photography. Over the course of the past fifty years, the formerly curious perspective has grown all the more familiar upon the vast circulation of aerial imagery. The act of looking down, however, proceeds along a novel phase within the past decade—a phase typified by the advent of satellite technology and the streaming of digital media.

The idea of gathering aerial images -both by satellites and air cameras- for the purpose of digital data collection, analysis and management was first put forward by the geographer Roger Tomlinson in the year 1968 in his paper "A Geographic Information System for Regional Planning,"[83] as Tomlinson is today acknowledged as the "father of GIS."[84] GIS –geographical information systems- were first realized by Keyhole, Inc., founded in 2001, a pioneering software development company sponsored by CIA, specializing in geospatial data visualization applications; and later was acquired by Google in 2004. Today, the execution of systematic ground survey continues to be carried out for over half a century—by a number of governmental

[80] Newhall, op.cit., 113.
[81] Grover Heiman, *Aerial Photography: The Story of Aerial Mapping and Reconnaissance.* (London: The Macmillan Company, 1972) 134.
[82] Ibid., 163-167.
[83] David Rhind, "Roger Frank Tomlinson OC," *The Geographical Journal* 180.3 (September 2014) 291–292.
[84] Ibid.

agencies of scientific and aeronautical research. The public outbreak of the interactive virtual globe, however, dates only as far as the previous decade:

> "As computers moved out of government laboratories and military facilities and into homes and private offices, mapping software companies added programs available to civilians. Keyhole, Inc. […] developed a geospatial application that used digital remote sensing data called Earth Viewer. In 2004 Google bought the company and the following year launched what is now the most widespread aerial viewing mechanism currently available, Google Earth**."**[85]

By the end of the two world wars, aerial photography had already outreached a number of its former connotations—the view from above was no longer greeted with the same public enthusiasm it initially aroused, and the peculiarity inherent in the phenomenon of flight was deflated to a significant extent following the post-war years. In this course regarded as the "normalization period", as David Gilbert states, the vast familiarity with airborne images had brought along a sense of banality—a course soon to be surmounted by the onset of geographical information programs.[86] The virtual globe that was made available for civilians, in that sense, has granted access to a dynamic interaction medium through which aerial vision was experienced, uncovering brand new channels for realizing the extents of the built environment. Geographical information programs and virtual 3D globes today serve as quick-access tools for millions of internet users worldwide, as previously stated, and during the previous decade, aerial perspective has attained a brand new perceptual measure following the advent of satellite technologies and the digital medium.

"These Google Earth images are just the start of a revolution in the ways that cities are visualized, in which dynamic new aerial views will play a key role."[87] The contemporary operation of the view from above not only renders feasible an omnidirectional journey upon of the earth's surface at extensively varying altitudes,

[85] Cosgrove, Fox, op.cit., 77.
[86] Gilbert, op.cit., 295.
[87] Ibid., 289.

but as well enables the virtual flyer to dive into neighborhoods and roam about streets. Looking down, in that sense, is no longer a passive act restricted to the frame of vision, but rather an experience that embodies a certain degree of independency. "Google Earth offers the viewer the conceit of flying over the earth at altitudes ranging from outer space (nearly 16,000 miles) down to less than 100 feet."[88] The visuals constituting the facet of the 3D globe comprise of a variety of photographs either captured from the space satellites or of aerial images with greater detail taken from lower-altitudes.

As stated earlier, David Gilbert argues that today we stand on the verge of a third era in the course of airborne vision. Of the first two phases of aerial view, former was characterized by imaginative representations of cities that almost entirely grounded on detailed observation of the surroundings, while the latter was typified by the vast reproduction of aerial images through a plenitude of channels, as previously discussed. The third advancing phase, Gilbert thereupon states, "is characterized by digitization but also by kinetic perspective."[89] Regarding the course of the earlier bird's-eye visualization and the twentieth century mode of air travel, the conceptualization of a mobile gaze over the city wasn't a novel idea. However, the early 21st century progress of the geographical information software had generated a "distinctive gaze over the city, where the important distinction between vertical and oblique perspectives […] is superseded by a view that zooms in and out, swoops and soars, and switches rapidly from intricate details to vast panoramas,"—a case that is extendedly studied in Schwarzer's *Zoomscape* regarding the correlation of the mobile gaze with the perceptual transformation of the built environment, as discussed earlier. The context of the contemporary case, however, stretches beyond Schwarzer's interpretation of motion and media by the mode in which "virtual technologies make the gaze far more active and exploratory."[90]

The view from above holds connotations of deity and heavens, as stated previously, and the stance it bears is usually correlated with such notions as power and authority:

[88] Cosgrove, Fox, op.cit., 77.
[89] Gilbert, op.cit., 293.
[90] Ibid.

"a totalizing and objectifying gaze… [t]he gaze of the powerful."[91] The privileged perspective is granted a certain measure of omnipotence over the grounds it stands and looks down upon, by means of which the beholder claims the world below. Cosgrove, in his work *Apollo's Eye*, names this totalitarian view as the Apollonian gaze:

> "The idea of seeing the globe seems also to induce desires of ordering and controlling the object of vision… Today, the globe continues to sustain richly varied and powerful imaginative associations. Globalization—economic, geopolitical, technological, and cultural—is widely regarded as a distinguishing feature of life at the second millennium, actualizing the Apollonian view across a networked, virtual surface."[92]

Up to this day remains an extensively diversified and strong visual framework associated with the notion of the globe. A distinctive phenomenon of the last centuries, the course of globalization brings about the Apollonian gaze on the grounds of economical, geopolitical, scientific and cultural assets, as quoted above. In other words, as Cosgrove puts, "[a] cultural history of imagining, seeing, and representing the globe—Apollo's eye—stitches elements of a historically deep geographical imagination to practices of globalization."[93] Given the recent extents of the view from above—virtual experiencing of the Earth's 3D facet as an interconnected, totalitarian entity—the discussion of the globe proves ever more pertinent regarding the context of aerial vision. Today, aerial view is no longer exercised within the restrained frame of the airborne camera, but rather operates as a network through which the globe is visualized and experienced as an integrated whole.

Similarly, for a group of researchers, as Gilbert notes, "Google Earth represents the ultimate development of masterful, disciplining surveillance from above," particularly for the mode in which it draws a certain distance between the observing

[91] Ibid. 295.
[92] Cosgrove, op.cit., 3-5.
[93] Ibid., 3.

subject and the observed object.[94] The gaze is thus rendered subjective for the rupture that occurs in the process of surveillance—as the God's eye naturally attains a certain degree of omniscience and imperial say over the view below. The supremacy over the image being observed, as Gilbert further articulates, implies a "neo-Foucauldian reading" of the Earth from above, a case respectively associated with the planning profession for over decades. The case, however, has also been described as the **"**reversal of Bentham's Panopticon."[95] Despite the common conjunction of Apollo's Eye with the global image, some recent researches suggest contrariwise. As Gilbert quotes from Paul Kingsbury and John Paul Jones, "Google Earth has far outstripped the intentions of its initial developers. It has been used for art, as the basis for new forms of social interaction, and tellingly, as a kind of 'reversal of Bentham's Panopticon', where it is the 'prisoners' who are constantly observing."[96]

Given the recent developments, Gilbert's stress on the lack of a comprehensive academic research is also notable. Throughout the historical course of the view-from-above, the ever-changing aspects of the issue have perpetually marked significant shifts in the perceptual character of this longstanding act—engendering the development of new concepts regarding the experience of looking down. Today, the current phase remains to be defined by the twenty-first century advancements which have contemporarily reworked the understanding and utilization of aerial view. However, the recentness of the issue renders the sequel of this latest phase quite uncertain, and an academic output infeasible. David Gilbert, in his article "The three ages of aerial vision," underscores the priority of an academic input on the issue, and hence the formation of a "longer historical perspective."[97] Being able to structure this course within a historical continuum, in that manner, requires the reevaluation of the current framework in light of the latest instances, along with the articulation of the contemporary findings with the existing research.

[94] Gilbert, op.cit., 295.
[95] Ibid., 295.
[96] Ibid., 297-98
[97] Ibid., 290.

# CHAPTER 3

# AVIATION TECHNOLOGY AND AERIAL PHOTOGRAPHY

*The airplane has unveiled for us the true face of the Earth.*
—Antoine de Saint-Exupéry, *Wind, Sand and Stars*

## 3.1 A Radical Viewpoint

> "Broader view, foreshortened distance, widening frames of perception: thus the aerial understanding of the world contributed to the creation of a new space of vision. It enabled a new artistic and conceptual reading of the urban environment."[98]

### 3.1.1 Aesthetics of abstraction: formation of a new language

For over a century now, the airplane uncovers the world below for what it genuinely stands: "One of the things that aerial photography does remarkably well is to reveal and even create pattern at varying scales on the earth's surface."[99] By vast enthusiasm, the view from above has met a fair lot of audience long before flight was rendered a civilian mode of travel, and so far as the operation of aerial images justify, Cosgrove and Fox suggest, aerial photography might even prove a "more significant novelty than fight itself."[100]

> "The average time that a person stands in front of a painting in an art museum, even a famous work, is a matter of

[98] Mark Dorrian, Frederic Pousin, eds., *The Aerial View in Visual Culture* (New York: I.B.Tauris Ltd., 2013) 213.
[99] Cosgrove, Fox, op.cit., 100.
[100] Ibid., 12.

> seconds. Watch people in the presence of an aerial photograph at the same institution, and they will often spend minutes in front of it, puzzling out details and seeking to recognize what it is they are seeing,"[101]

The aesthetics inherent in the configuration of both natural and artificial landscapes are revealed finest from up above, regardless of the medium. Airborne vision today has far transcended the stable means of conventional photography, while commercial flight proves evermore commonplace. The span of aerial experience, therefore, continues to operate within a diversity of channels and each medium generates its own lot of imagery in a constant course of transformation. To further make sense of this process, it remains rather crucial to explore the dynamics of the airplane –and hence air travel– that characterize the first significant rupture within the perceptual extents of aerial view.

As phrased by the French aviator, writer and poet Antoine de Saint-Exupéry in his memoir *Wind, Sand and Stars*, "[t]he airplane has unveiled for us the true face of the earth."[102] From the airplane is disclosed a most unusual phase of the environment we inhabit: "Above roads and rail corridors, above walls and embankments, passengers watch buildings grow into cities and cities grow into regions. Our sight becomes global."[103] The span of the airplane-view stretches far beyond the confines of any earthbound voyage. It reveals, by nature, an overreaching sight of the earth but at continuously shifting prospects. The ascending traveler is exposed to a rapidly deviating oblique view of the mingling neighborhoods below and only within minutes watches the same ground thrive into cities and landscapes of vague, flattened lines. The plane hits higher altitudes and the growing distance in between the flyer and the ground generates a sense of detachment. "[A]s the land falls away, the view fills with space," while cities recede into lines and details fade out of sight. [104]

Air travelers conceive the earth below within a fluctuating frame, or in other words, they recognize the stable form to be transient: "[a]erial perception allows us to see

[101] Ibid., 9.
[102] Antoine de Saint-Exupery, *Wind, Sand and Stars.* (New York: Harcourt, 2002) 63.
[103] Schwarzer, op.cit., 119.
[104] Ibid., 119.

form in formation, as one composition of landscape gives way to another."[105] Flying not only discloses the extensive network within the world below, but as well differs from the earthbound experience in scale, pace, and context. As Schwarzer cites McLuhan's argument, the immediate rupture occurs when the airplane overrides all formulated network beneath, allowing "the utmost discontinuity in spatial organization." Detachment from the gravitational bounds contributes to the reconsideration of the existing framework, while it further generates a perceptual rupture within the space-time continuum. The view not only comes at varying extents regarding altitude, scale, rate or context, but as well embodies a measure of distance from the ground that eventually molds the understanding of the urban form.

From high above, the built environment reveals unexpected sights. "Given its potential range, the airplane offers an almost infinite array of perspectives… The aerial zoomscape, like the poetic view, looks at things from unexpected angles and through unusual juxtapositions."[106] During the first few minutes into takeoff, the perspective from the air fluctuates at the utmost rate as the plane gradually ascends into air. Architectural details lose sharpness to merge into a cluster of urban entity, and eventually disappear from sight: "From the sky's multiple angles, architecture becomes graphic and geographic." It is during this interval that a critical shift occurs regarding the perspectival view—the cone of vision outgrows from bird's-eye-oblique to vertical, while the urban mass below recedes into faint patterns of landscape defined by the curvature of the earth. Earthbound limitations diminish, and a boundless horizon opens up. "Because of the airplane's velocity and altitude, because of the vastness of space around the plane," as Schwarzer thereupon remarks, "passengers who look down usually find their eyes wandering freely over a landscape that looks abstract or even alien."[107]

The experience of flight, as mentioned above, discloses a boundless range of perspectives. At low altitudes the urban sight is monitored from the bird's eye stance in low and high oblique views—ranging from a mere hundred meters to over a thousand. Oblique perspective discloses a scene characterized by the vertical play of

[105] Ibid., 120.
[106] Ibid.
[107] Ibid., 130.

the urban environment and the aligning landscape, while breeding a strong visual distinction of the forefront against the vague outline of the distant background. From the oblique bird's eye stance, structures of significant height overshadow the base that formulates the ground-level network, and the extents of the overall scale render the scene rather abstract. "As a result, oblique views occur less frequently in scientific presentations than in popular and artistic illustrations."[108]

A most compelling feature of aerial oblique view, Schwarzer remarks, is "its recasting of architecture," where from a distance, architectural patterns can be anticipated within the infrastructure of the urban network—"serpentine rows of houses in subdivisions, outcroppings of malls, tall buildings, and condominium complexes, urbanization encroaching on forests and fields." Dimensional perception becomes an overriding factor in visual terms while the cityscape opens up in vast extents.

> "The bird's-eye view allows us to observe a greater scale in the depth dimension—to see the things behind things, features obscured to travelers on the ground…In aerial distance there thus emerges a radical reorientation of the senses and of the relationship to the land. Oblique aerial perception positions us in a distanced and sometimes dominating relationship to what lies below."[109]

The vertical view, however, operates in between an approximate of a thousand meters and twelve kilometers, from where the cities appear as two-dimensional, flat planes: "reduced to line and plane, architecture loses its perspectival illusionism. Because of constant scale, a vertical aerial view or photograph makes buildings look like miniature blueprints, the city like a map."[110] Longitudinal distances are attained in accurate ratios, and precise measurements can be conducted using various methods. From high above, while much information revealed by the oblique view disappears, an exceeding semblance opens up before the traveler for the earthbound order uncoils within a greater network. One seeks to make sense of this aerial sight by the vast contours along topography, or the various landscapes that extensively

[108] Ibid., 134.
[109] Ibid., 135.
[110] Ibid., 147.

articulate onto one another. Immediately distinguished from above are "the configurations of the buildings, fields, and infrastructure that make up the cultural landscape," and as Schwarzer further quotes from J.B.Jackson, "it is from the air that the true relationship between the natural and the human landscape is first clearly revealed."[111]

"The aerial view realizes the Cartesian rationalization and abstraction of space that has preoccupied Western culture and visual art for the past 300 years."[112] Bird's-eye illustration is a longstanding practice as investigated in the previous chapter, particularly regarding the urban depictions of major towns and cities. Long before the onset of aviation technology, had the view from above been exercised from elevated grounds or imaginary points of high altitude. In the late 19th century, the advent of aircraft and photography unraveled a brand new channel through which the God's-eye was finally witnessed in authenticity, and "by the second decade of the twentieth century," as Mitchell Schwarzer marks, "postcards, posters, calendars, and other types of illustration depicted cities in aerial photographs," disclosing them in such a unique fashion that could only be visualized by imagination before.[113] Air travel has unfolded the everyday environment in a most unusual –and astonishing– manner. By the few decades following the onset of air photography, aerial images were publicly recognized over numerous media and had already induced vast reaction through distinct channels as literature, art, architecture and urban planning.[114] The "revolutionary" medium was celebrated upon its utopian potential by then the leading intellectuals and designers, while a new form of aesthetics emerged regarding the notion of ascension.[115]

Eventually, "the early twentieth-century invention of the airplane brought on a cultural euphoria that influenced the works and writings of urbanists, architects, artists, and science-fiction writers during the 1920s and 1930s."[116] Along with the

[111] Ibid., 151.
[112] Cosgrove, Fox., op.cit., 116.
[113] Schwarzer, op.cit., 137.
[114] Adnan Morshed, "The Aesthetics of Ascension in Norman Bel Geddes's Futurama," *Journal of the Society of Architectural Historians*, 63 (Mar., 2004) 80.
[115] M. Christine Boyer, "Aviation and the Aerial view: Le Corbusier's Spatial Transformations in the 1930s and 1940s," *Diacritics*, 33 (Autumn-Winter, 2003) 102.
[116] Adnan Morshed, "The Cultural Politics of Aerial Vision: Le Corbusier in Brazil," *Journal of Architectural Education,* 55 (May, 2002) 201.

revolutionary medium came forth such concepts as altitude, perspective, dynamism, depth and scale—upon which a new language of abstraction was mounted. The extensive sight revealed on the experience of flight has presented the viewer with a novel means of seeing the earth through which perspectival vision was ruptured, scale was distorted, details were rendered less crucial, while the articulation of the earthbound patterns and the topographical relations within the grander scale were ascribed greater emphasis. The avant-garde reaction of the early twentieth century, in that manner, constituted a significant input.

### 3.1.2 Avant-garde interpretations on the notion of flight

> "[P]owered flight radically challenged conventional modes of seeing and experiencing space, and offered wholly new perspectives on familiar objects, revealing forms and patterns impossible to see from the ground. Inevitably, the creative potential of aerial photography soon attracted artist"[117]

Human cognition, as Cosgrove and Fox suggest, operates over a process that prioritize the recognition of shapes, boundaries and the repetitive features within the confounds of the surroundings: our visual perception is "pattern-fixated, and take great aesthetic pleasure from discerning pattern, seeing it stretched and broken and reformed."[118] Despite the fact that the cognitive aspects of the human-eye has evolved upon a span of the necessities concerning basic survival, the discussion regarding the history of art dwells upon the way these patterns operate in the formal arrangement of picture making. "It was in the very years that camera was first mounted on aeroplanes that Modernist artists began to create images that sought to foreground shape and pattern over the conventional forms of figurative representation."[119] Soon enough, the "aero-technological" transition of vision and the constant shifting of its viewing stance have radically influenced the understanding of

[117] Cosgrove, Fox., op.cit., 99.
[118] Ibid., 99
[119] Ibid., 100

the built environment, and the peculiarity of this new perspective inspired many artists to re-interpret their subjects in distinct manners. [120]

> "When aerial photographers deliberately seek out, frame and create pattern rather than seeing their work as serving purely documentary purposes, they approach the conventional realms of art. As both photography and flight have evolved into a wider spectrum of technology and become aerial and remote sensed imaging, so artists in the late twentieth and early twenty-first centuries have constantly broadened their definition of aerial art, suggesting that our understanding of patterns and their meanings is likewise expanding."[121]

The discussions pairing the notion of flight with artistic endeavor arose in the early years of aerial photography. By all means, the medium proved exceptionally congruent for the appreciation of conventional aesthetics—upon the beauty inherent in the picturesque scenery as behold from above, and by the many settings of both natural and artificial landscape that fall in the realm of traditional art. Yet still, the most distinguished form of aerial art, as Cosgrove and Fox remark, "recognizes that the medium offers far greater creative opportunities than the picturesque conventions of representing natural and human landscapes."[122] The most notable reaction before the course of aerial view has emerged within the avant-garde context, challenging the precedent customs of the traditional painting. The Modernist undertaking of aerial photographical art, in that sense, has dwelled upon "an interest either in abstract patterns or in documenting human interactions with the natural world."[123]

Artists were soon engaged in the potential of this medium to revolutionize the conventional ways of seeing and interpreting the world. Much of the concepts correlated with the notion of flight—dynamism, speed, fracture of form, altitude, perspectival rupture—found rather abstract interpretations in the works of avant-garde painters. For air travel broke the horizontality of the ground-level by a constantly shifting trajectory of vision, an unfamiliar dimension opened up along the

[120] Schwarzer, op.cit., 137.
[121] Cosgrove, Fox., op.cit., 100.
[122] Ibid., 101
[123] Ibid.

vertical extents of the everyday space—a process Schwarzer defines as the expansion of spatial consciousness.[124] The early twentieth century formulation of sight witnessed the emancipation the stable eye from the familiar "viewing corridors" to instead operate in a multilayered medium of spatial cognition.[125] Cubist painters grew an immediate interest on the articulation of manifold viewpoints overlapping at once, while as well dealing with the representational aspects of speed and movement. Correspondence of the Cubist painters' abstract formulations with the dynamic prospect of the airplane view, in that sense, was at one notable.

> "Matisse, for example, lived close to Issy-les-Moulineaux [airfield] and visited it regularly to watch air shows, along with such artists as Picasso, Braque and Delaunay. All of them marveled at the speed and power of the machines and at how powered flight made a new view of the world possible, and modernist painters quickly took to the air and recorded their experience in paint."[126]

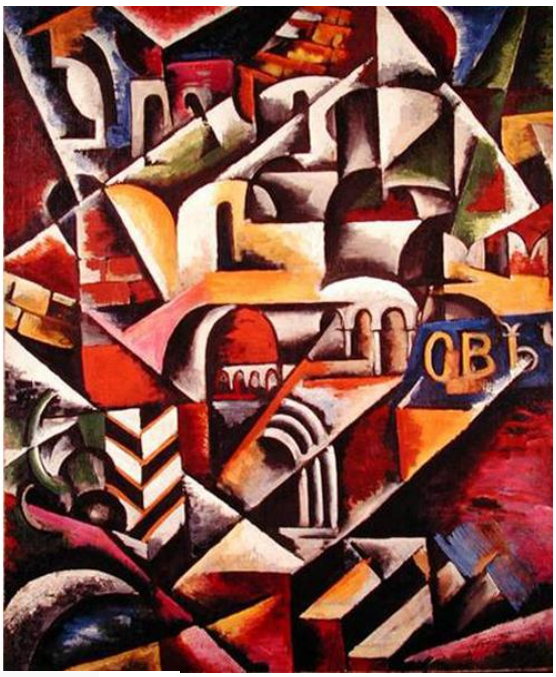

**Figure 3.1** [left] Robert Delaunay, *Red Eiffel Tower*, 1911.
**Figure 3.2** [right] Lyubov Sergeyevna Popova, *Cubist Cityscape*, 1914.

[124] Schwarzer, op.cit., 139.
[125] Ibid., 139.
[126] Cosgrove, Fox., op.cit., 32.

As Newhall thereupon remarks, "the resemblance [between aerial photographs and abstract paintings] is not accidental, but inevitable," for the view from the airplane has inspired those seeking to experiment with the conventional channels of representation.[127] While artists as El Lissitsky, Paul Klee, and Piet Mondrian were engaged in the task of creating abstract interpretations of aerial recordings over "agricultural fields and urban grids and boulevards," impressionists as Paul Cézanne undertook a rather different approach regarding the translation of geometrical forms; and cubist artists, as stated above, were experimenting with surface patterns for the distortion of conventional perspective.[128] In either case, airborne view "not only encouraged the introduction of more complexity into representation; it also helped create a new language of form and space."[129]

The most notable artistic initiative regarding the formulation of this new language was that of the Futurists'. "The birth of Italian Futurism coincided more or less with the birth of the modern machine," Willard Bohn remarks.[130] Introduction of the airplane and the consequent advancements in the field of aviation were granted with much enthusiasm by those engaged in the connotations of this modern product. Soon enough, *Aeropittura* –the first art genre to ever set its subject-matter as the airplane and aerial vision– was predicated upon the incitement of powered-flight. "Following his election to the Accademia d'Italia on March 18, 1929, Marinetti published a document that was to profoundly affect the nature of Futurist research: the *Manifesto della Aeropittura*."[131] Dwelling on the contemporary vision exposed upon the experience of flying, *Aeropittura* was particularly significant for its fragmentation of forms into "dynamism of movement."[132]

> "Italian Futurists in the late 1910s and '20s particularly pursued this theme, using airplanes and vertiginous aerial perspectives to promote the displacement of nature by technology and to record

[127] Newhall, op.cit., 105.
[128] Schwarzer, op.cit., 139.
[129] Ibid., 139.
[130] Willard Bohn, "The Poetics of Flight: Futurist 'Aeropoesia,'" *MLN*, 121.1 (Jan., 2006) 207.
[131] Ibid., 208.
[132] Schwarzer, op.cit., 139.

the combined experience of flying and seeing the ground in ways beyond the capacity of the static photograph."[133]

The Futurists were much fascinated with what they've seen from the airplane, but considered the photographic medium to act somehow restrictive in the expression of this novel perspective. Their experimentation with form involved a constant deterioration of the stable, terrestrial image and the emphasis on the elevated, dynamic view. The number of aeropainters involved in the movement outreached a hundred by the end following the decade, amongst whom Tullio Crali, Giacomo Balla, Fortunato Depero , Enrico Prampolini were the most significant figures. The group maintained active work till the onset of World War II. Besides the cited movements substantially involved in aero-painting, similar approaches were likewise adopted by other avant-garde groups around the same era, amongst which the Suprematists, Expressionists, Surrealists and Neo-plasticists were also acknowledged.[134]

**Figure 3.3** [left] Tullio Crali, *Aerial Bombardment*, 1932.
**Figure 3.4** [right] Tullio Crali, *Diving on a city*, 1939

### 3.1.3 Influence on pop-culture: Heroic icons

The advent of aerial image not only engendered substantial artistic reaction, but also introduced the prospect of a heroic man.[135] A prominent concept of the 1930s, the aviator hero was particularly represented by the American icon Superman: "By

[133] Cosgrove, Fox., op.cit., 32.
[134] Ibid., 139.
[135] It wasn't until 1941 that a flying female superhero, *Wonder Woman*, was extensively recognized.

choosing the modern metropolis as the battleground on which to rescue laissez-faire modernity from disastrous consequences, Superman and the modernist planner narrated remarkably similar stories of derring-do."[136] A metaphor for the man defying the laws of nature by his wisdom, the image of the aviator hero was wistfully celebrated in popular culture—as his apogee symbolized an alternative existence in the coming age that pledged salvation from the disasters of the world wars.[137] The connotation of the aviator's voyage as well comprised poetic value for the visual spectacle it presented and the myths of the daring aviator.[138]Amongst the most noted heroic figures of the twentieth century, Superman's physical ascension from the chaos of the ground, in that manner, is regarded a significant symbol of escape from the financial and social state precipitated by the Depression of the 1930s.[139] Yet, in between the two world wars, as Adnan Morshed suggests, the fields of city planning, literature, film, and science fiction have as well generated their own tales of heroism upon the concept of flying, "conjuring up many urban utopias" that supervene the issue.

"The aviator as hero was a *locus classicus* of the cultural impact of powered human flight in the early twentieth century."[140] For long an intellectual process of reasoning, comparison and derivation, the procuring of aerial information had abruptly transformed into an immediate first-hand experience. The aviator occupied a privileged stance of supervision that could only be visualized within the territories of imaginative thinking before the advent of human flight. As discussed previously, aerial perspective was at once a comprehensive sight that signified a more civilized life, while embracing an authoritarian stance that helped regulate and fix the chaos below. For such heroic connotations it bore, aerial vision was soon granted a "Promethean sheer":

> "As the city below shrank to miniature scale, its disparate urban elements subsumed in a wholesome picture and its spatial developments appearing like layers in a historical palimpsest, the

[136] Morshed, "The Aesthetics of Ascension in Norman Bel Geddes's Futurama," op.cit., 78-79.
[137] Boyer, op.cit., 94.
[138] Ibid., 95.
[139] Morshed, "The Aesthetics of Ascension in Norman Bel Geddes's Futurama," op.cit., 79.
[140] Ibid.

> aviator's commanding view became closely allied with a sense of scopic empowerment...the aerial eye grants 'an incomparable power of intellection,' that is, the ability to see the inner logic of a trans-historical formation."[141]

The notion of flight was as well associated with the discussions of evolution. For the act of gazing from above was the result of an intellectually advanced process, it was correlated with the Darwinian approach of progress of species. "In ascending above the common folk and seeing what they could not, the aviator took on a superhuman cast, becoming a godlike voyeur of the earth who seemingly had trekked along a longer evolutionary path than most homo sapiens."[142] Physically advanced, equipped with the most recent technologies and granted a noble seat up above, the aviator was by all means a precursor of the modern Western society. The ascension of the hero was hence much correlated with such notions as "transcendence, evolutionary, advancement, and optical power"--the connotations over which the myth of the New Man was constructed.


**Figure 3.5** [left] Superman issue cover, April.1969. [143]
**Figure 3.6** [center] Flash Gordon issue cover, Aug.1934. [144]
**Figure 3.7** [right] Frank Paul, *Flying Man*, cover of Amazing Stories, Aug.1929. [145]

[141] Ibid., 81.
[142] Ibid., 81.
[143] Superman's Tragic Marriage, Superman issue cover, April 1969. Retrieved from <http://spinnerrackmemories.blogspot.com/2012_05_01_archive.html> (January 2013).
[144] Flash Gordon on the planet Mongo, Flash Gordon issue cover, Aug. 1934. Retrieved from <http://setisays.blogspot.com/2010/08/blogging-alex-raymonds-flash-gordon.html> (January, 2013).
[145] Morshed, "The Aesthetics of Ascension in Norman Bel Geddes's Futurama," op.cit., 83.

"Le Corbusier was spiritually aroused by the feats of the aviator who was sent out to challenge unchartered realms, to fly above the icecaps of the Poles and across oceans and deserts, and over the highest mountain ranges."[146] The interwar period brought along the idea of the aviator who has not only transcended the physical limitations of mankind, but as well managed to break free from the earthbound-banality towards a celestial utopia beyond. Aviation implied a future of innovative living—both spiritually and spatially. As in the case with the American aviator Charles Lindbergh, whose aerial bravado was granted with much enthusiasm amongst modernist designers especially after his non-stop transatlantic flight, the human powered-flight symbolized "mankind's victory over physical barriers, [as] Lindbergh's flight also symbolized the ascendency of the ideal American type."[147] In the face of postwar crisis, the public intake of the flying aviator was rather transformed into a mass-celebration through which the citizen adopted much optimism for the coming age beyond. "The New Man: revolting against gravity by sheer physical prowess, with eyes fixed, as it were, on nothing but the future."[148]

The 1930s American pop-icons were illustrated as flying heroes empowered with the omnipotence of the God's-eye view—Superman, Buck Rogers, and Flash Gordon. Independently soaring over the modern metropolis, the heroes "policed the boundaries of good and evil," patrolling those on the ground below.[149] The term 'superman' was rapidly used in popular aviation and urban design publications during the first decades of twentieth century, as the ascending hero was particularly correlated with utopian thinking and evolutionary progress—the flying man signified the most advanced phase of the evolutionary domain whose opposite end was occupied by the primitive ape. In that sense, the image of the aviator hero acted a metaphor through which the far more optimistic future was envisioned:

> "The flying man, the aviator, and Superman were pop equivalents of a philosophical system of future-gazing. The aviator epitomized a type of spectatorship that conjured the possibility of imagining an

[146] Boyer, op.cit., 96.
[147] Morshed, "The Aesthetics of Ascension in Norman Bel Geddes's Futurama," op.cit., 83.
[148] Ibid.
[149] Ibid.

> ideal future as well as conceptualizing new categories of aesthetic practices."[150]

Superman's X-ray vision was also of significant value for its affinity with the God's-eye, as his gaze operated as an omnipresent scan over the increasingly chaotic structure of the expanding city. He was a "towering monument" standing above the modern metropolis at a time when the notion of the superhero "shifted from the rugged frontiersman of the nineteenth century... to the urban operative, such as Superman"[151] Making use of his elevated stance, Superman's mission was not only a task of urban surveillance, but as well involved the undertaking of urban recruitment.

### 3.1.4 Negative Aspects: Fear of Airplanes and Bunkers

For centuries medieval settlements had been encircled by walls that operated as the utmost protection against hostile threats—as vessels containing the city. The protective measures of the mediaeval city, however, proved inefficient by the turn of the twentieth century, for it was rendered entirely visible from above and exposed to attacks from the airplane. Military utilization of aviation technology didn't critically constitute an urban threat until the second world war—from the earliest balloon technology till the advent of the airplane, primary motivation of human-flight had long based on field surveillance and military reconnaissance for the main purposes of information gathering and artillery management in the course of the warfare. By the rapid technological progress recorded in aircraft industry, however, it was soon made clear that air forces proved most critical for the destruction of the enemy's military resources and industrial efficiency.

Following the wartime operations of air forces, the idea of targeting civilian populations –otherwise called strategic bombing– started to gain considerable grounds by the end of World War I, as put by the Italian general and air power theorist Giulio Douhet in his 1921 work *The Command of the Air.*[152] Douhet proposed the air forces to fly past the enemy's artilleries and directly aim at the

[150] Ibid., 83.
[151] Ibid., 91.
[152] Giulio Douhet, *The Command of the Air* (Books Express Publishing , 2013) 32.

civilian populations where they remain the most vulnerable—in the consequence of which the governments would be forced to surrender, and battle be won.

Warfare consideration of targeting civilians inevitably triggered discussions of spatial vulnerability in the face of this aerial threat. From above, cities stood bare targets, entirely exposed to aerial attacks. Le Corbusier was amongst the first architects to take an urgent notice on the necessity of urban defense against aerial warfare, the earlier conceptions of which he published in the work *Urbanisme.*[153] Studying the existing literature on the menace of aerial warfare technology, Le Corbusier openly concluded that aerial bombing constituted a treat as severe as to lead to the extinction of civilization—a treat in the face of which cities could be destroyed within the blink of an eye.[154] "Le Corbusier understood that the air would be the new theater of military operations and that threat of aerial warfare emanated not only form explosive projectiles…but also from poison gas and chemical warfare…and from flammable liquids."[155] In that regard, Le Corbusier's studies of urban defense against aerial warfare culminated the subject under three headings: first and the most problematic being the treat of aerial bombing—causing vast destructions within the urban context. Second issue was the projectile of poisonous gases and chemical weapons for the purpose of suffocating civilians in buildings, narrow streets and courtyards, while third being the use of combustible liquids to set fires of extensive scales.

Le Corbusier's Linear Radiant City was substantially conceptualized upon creating separate zones of residential, commercial and industrial purposes. The entire built surface of the city had to be reduced, allowing for wide open spaces and the residential buildings to be raised on piloti. Meager courtyards and narrow corridor streets were suppressed to allow enough ventilation against noxious gas, while open pools and other water resources were as well deemed essential for the detoxication of the atmosphere. Accessibility and management of the urban routes also became essential inputs of urban design—the city layout had to minimize the risk of bottlenecks and jams along the city exits. Following the World War II, the Linear

[153] Morshed, "The Cultural Politics of Aerial Vision: Le Corbusier in Brazil," op.cit., 111.
[154] Ibid.
[155] Ibid.

Radiant City had entirely overrode the medieval formulation of the cityscape—planned and built in line with the experience gained. The strategies proposed by Le Corbusier at first hand in the 1940's gained immediate recognition specifically across Europe while pertinent measures were being taken into account in the face of the approaching international crisis: even after the two world wars, the architect's early initiatives were still considered amongst the most relevant and effective of its kind.[156]

Regarding aerial bombings in the course of World War II, there wasn't much to accomplish to protect the existing framework from projectiles and missiles directly dropped on the city. Neither the present roofs nor the walls were suitable to be reinforced within a feasible range of cost and technology. As a solution, air raid shelters have emerged as the most efficient action to take in the face of the aerial threats, and the course of construction were soon given start based on the availability of the city layout and building structures. Shelter design was as well considered to provide protection against chemical and flammable liquid attacks.

Underground bunkers were the most reliable considering the isolation provided. They were generally designed with steel reinforced concrete top covers in curved form to allow bombs bounce -or change direction- upon hitting. The walls underground were constructed of concrete with minimum thickness of 0.38m, and there were two exit doors with small and sealed observation glasses. The bunkers constituted various chambers reaching down the ground level—with medical care sections occupying the very bottom. Underground ventilation was also enabled through steel fans, filtering in the outside air and providing forced circulation within the chambers.

Considering the minimum cost and time required for construction, different kinds of shelters were as well planned for and built on building tops with bomb-proof roofing, anti-explosion chambers and reinforced floor plates to resist bombing. This mode of sheltering particularly proved more efficient against noxius gasses and chemical attacks, since it provided easier maintenance of the fresh air within. In this respect, underground shelters could efficiently be turned into collective refuges in case proper isolation and ventilation of the top-shelters were not in place.

[156] Ibid.

For the ease of gathering people in due time and also to avoid risks of demolition which always constituted a threat in the case of building-top shelters, collective underground bunkers were commonly adopted for construction in cities across Europe. Plans of various shelters and the related standards were also followed by and published in Turkey, starting from the early years of the World War II.

## 3.2 Instrumentalization of Aerial Image on Architecture and Urban Planning

### 3.2.1 Rebuilding the world from above

The aesthetics of ascension," as Morshed implies, "suggests the modernist invocation of a new logic of looking at the world, which derived from the Enlightenment ideal of visual clarity."[157] With every technological progress is manifested a peculiar channel of discovery. The twentieth century advent of aviation technology was therefore of significant value for the medium it presented over spatial understanding. Regardless of the natural or spatial constraints formerly of operational predicaments, airplane rendered accessible the entire face of the earth by the "net of surveillance" it has cast upon the ground below, manifesting the grander network in evermore explicit measures.[158] Emancipated from the earthbound domain, aerial view naturally signified a stance far beyond the limitations of the human extent: "It revealed the constant struggle man had made against nature until he had finally subdued the space of the world and turned it into a gigantic geometric representation."[159] In face of such gigantic composition, the twentieth century designer was not merely granted an extensive span of aerial information, but was also endowed with the ability to organize or even regulate this picture below. Exposed with all its complementary connections, detachments and the association of its various fragments, aerial view, in that regard, not only induced a discrete kind of attention and clarity, but it also constituted a status of power and privilege.

Looking down at Manhattan from the 110$^{th}$ floor of the World Trade Center, when de Certeau asks "Having taken a voluptuous pleasure in it, I wonder what is the source of this pleasure of 'seeing the whole,' of looking down on, totalizing the most

[157] Ibid., 78.
[158] Ibid., 98.
[159] Ibid., 100.

immoderate of human texts," it is again the same privileged, celestial perch of altitude that he talks from, while the poster next to him reads "It's hard to be down when you're up."[160] Gazing over Manhattan from the 110th floor, de Certeau continues, one is at once liberated from the urban cluster below. No longer clenched by the hodgepodge of the streets that randomly twist and turn from around a chaotic jumble of traffic, the mass below is outdistanced by altitude—a mass that shuffles and eventually eradicates all identity within itself. Up there, things take a rather different turn:

> "His elevation transfigures him into a voyeur. It puts him at a distance. It transforms the bewitching world by which one was 'possessed' into a text that lies before one's eyes. It allows one to read it, to be a solar Eye, looking down like a god."[161]

De Certeau's stress on the totalizing gaze indicates the condition where the scene below is no longer a depicted product of imagination, but rather a possibility within the human extents—a reach that "[materializes] today the utopia that yesterday was only painted."[162] Similarly, Morshed explores the significance of the aviator who is granted a privileged stance upon the ascension he/she takes, and his approach mainly adopts the planner's perspective in its discussion of the god's eye view. Morshed speaks of a modern "aviator hero," who claims to hold control over, and master even, the totality of grounds that lie so apparently down below:

> "[the] aestheticization of aerial vision exemplified a new kind of aviator hero who could be seen to resemble the early-twentieth century modernist planner, seeking to rebuild the world from his high perch of authority… An investigation of the parallels between the planner's authoritarian desire to survey the seemingly chaotic cities below, whose problems only he[/she] can remedy, sheds new light on the derogatory connotations that surround the cliché of 'planning from above.'"[163]

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[160] de Certeau, op.cit., 157.
[161] Ibid.
[162] Ibid., 158.
[163] Morshed, "The Aesthetics of Ascension in Norman Bel Geddes's Futurama,"op.cit., 78.

Having hold of the picture, by all means, has engendered the idea of claiming its substance, being in the possession of control and alleging the authority for further intervention. As in the example of the labyrinth, the anxiety residing within its complex interior fades entirely as one rises above the intricacy of its inner form and is able to conceive the spatial logic overriding the totality of the structure. In the face of aerial vision, the planners' positioning was rather similar—freed from the optical constraints of the earthbound eye, the world below was much clearly perceived. The analogy of the architect's gaze with that of the aviator's was immediate and clear. As the span of the human-eye has stretched so far as the boundless sky, the elevated stance now inhabited by the designer was at once a "literal and conceptual vantage from which he[/she] could envision his utopia."[164]

"Aerial fantasies and their influence on architecture permeated modernist thinking since the advent of powered human flight."[165] As Deriu thereupon remarks:

> "Recent studies carried out in different disciplines indicate that a major shift occurred in the politics and aesthetics of aerial representation in the second half of the 1920s, when the mode of vision enabled by powered flight came into full fruition. Charles Waldheim has shown that architectural projects dating from that period revealed a 'new form of aerial subjectivity... [introducing] a form of perception based on 'an aerial viewing subject as spectator-consumer', which played a major role in the contemporary understanding of landscapes.'"[166]

From the earliest days on, the view from the aircraft unveiled the earth for what it actually was. The vast extents of the airborne sight had enhanced a new kind of awareness upon the configuration of land and its fractions on the grander scale. In the face of such clarity, the designer was immediately confronted with the "natural laws visualizing these as organic chain of events," and the extents of the humane intervention upon this vast network.[167] The unfolding portrait below, however, revealed a natural order as much as chaos—the city in the face of mechanical growth resembled a clutter of miscalculated decision-making, while its mingling with nature

[164] Ibid.
[165] Ibid.
[166] Deriu, op.cit., 197.
[167] Boyer, op.cit., 95.

was characterized by a state of uncontrolled actions. The nineteenth century aerial view, in that sense, rendered manifest the uncontrolled expansion of the industrial city that constituted a central problem to the field of planning—for the rapid urban growth has brought along a plenitude of complications throughout Europe and North America. So the aerial view of the city, in Morshed's definition, performed in two courses simultaneously; it was both a medium of surveillance and discovery, and a stimulator of modernist urban thinking. Meaning, on the one hand, aerial view was exercised as a visual method for acquiring information on geographical extents, urban formations and the architectural framework. On the other hand, it constituted a medium that intrinsically induced a desire to repair what was believed to be a malfunctioning environment below, as in the face of such urban decay, professionals were alarmed to take immediate action.

"From the air, the huge scale and disorder of the industrialized metropolis were apparent. So too, were huge-scale architectural and planning solutions."[168] Several questions were posed upon the information airborne images provided, particularly on the significance of its visual dimension and the contribution it may have had regarding the rehabilitation of urban problems:

> "What is the implication of an aerial viewpoint on our perception of an object? How does our mental image of cities and geographies change when we look at them from above? What are the epistemological and philosophical consequences of the aerial vision? How does the particular mode of looking from above affect design strategies?"[169]

By the end of the World War I, as Schwarzer quotes German architect Hans Schmidt, over the information attained from aerial photographs, the industrial city was fairly criticized upon the absence of uniform patterns and spatial order within its formulation, and that aerial information could be utilized as a tool of urban

[168] Schwarzer, op.cit., 140.
[169] Morshed, "The Cultural Politics of Aerial Vision: Le Corbusier in Brazil,"op.cit., 201.

recruitment regarding the "design principles of regularity, unity, and economy."[170] Some decade later, a wide span of aerial recordings were largely employed in the fourth congress of CIAM held in 1933, and by the end of the interwar period, the medium was vastly publicized and rendered useful in the fields of urban planning and architectural design.

> "From aerial angles, architecture is apprehended within its greater context. The elements of infrastructure—roadways, bridges, culverts, and factories—merge with buildings into a cityscape of forms and routes. With air travel, it has become possible to perceive urban conditions previously visible only through drawings or maps… During the interwar years, the sky gave empirical proof of the industrial city's shortcomings."[171]

Or in Le Corbusier's words, "the airplane indicts."[172] The planner was at once stunned in the face of the urban pathology that was so precisely made manifest for the first time since the age of mechanization. Consensus on the peacetime utilization of aerial images regarded urban planning as the primary postwar task, since aerial photography and further surveillance techniques were extensively advanced during the course of warfare.[173]Amongst the most notable figures of the twentieth century architecture and planning, Le Corbusier's take on the issue was relatively notable: "But today it is a question of the airplane eye, of the mind with which the Bird's Eye View has endowed us; of that eye which now looks with alarm at the places where we live, the cities where it is our lot to be."[174] Le Corbusier was particularly insistent on the idea of tearing down the pathological limbs within cities, for the current infrastructure was deprived of logical order and was growing evermore perplexed. He considered the land to be ill, a diseased tissue doomed to decay unless taken immediate action—it soon proved evident that "we must save our cities."[175]

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[170] Schwarzer, op.cit., 140.
[171] Ibid., 140
[172] Le Corbusier, *Aircraft*. (New York: The Studio Publications, 1935) 5.
[173] Tanis Hinchcliffe, "Aerial Photography and the Postwar Urban Planner in London," *The London Journal* 35.3 (November 2010) 277.
[174] Le Corbusier, op.cit., 5.
[175] Boyer, op.cit., 101.

"The bird's-eye view has enabled us to see our cities and the countries which surround them, and the sight is not good."[176] As stated by Le Corbusier, the exactitude and realism of aerial photographs were of significant value for the story they told—especially after the warfare surveillance, accurate recordings of cities were rendered available for numerous town authorities but were hardly employed efficiently. Regarding the postwar planning, Le Corbusier's remark on the urgency of the issue underscored the immediate processing of aerial images by the participation of urban planners, architects, and the responsible organizations within the state. In that sense, his extensive undertakings of urban design methodology, particularly during the decade following the Great Depression, were notable proposals regarding his discussions of the airplane view and the information revealed within its scope. The architect's urban proposals for Algiers and Rio de Janeiro, for instance, were juxtaposed with the cities' aerial images in his published work *Aircraft*, for the photographs portrayed problems as much as solutions, a process only the architect was authorized to undertake.[177]

The interwar years progress in the transportation technologies as railroads and automobiles had stimulated the construction of architectural and urban projects on an evermore greater scale: "skyscraper offices and high-rise residences in rail-serviced downtowns…housing subdivisions that reached to the city's edge and were accessed by new highways."[178] From the beginning of the age of mechanized transportation, construction projects of the larger-scale were already put in progress before the aerial investigation was given start—but the advent of the airplane vision had further stimulated the execution of this ongoing operation. The postwar condition, by that manner, proved no different. The years following the Second World War, transportation routes maintained their course of expansion, while the scale-wise span of building construction has stretched evermore extensively:

> "[S]kyscrapers, superblock residential districts…buildings for industry, institutions and airports grew to gargantuan scale. Because of such development, figure/ground distinctions were

[176] Le Corbusier, op.cit., 11.
[177] Schwarzer, op.cit., 142.
[178] Ibid., 143.

> much more apparent in a city viewed from the air in the mid-twentieth century than they would have been in earlier eras."[179]

However, the postwar city as seen from above was a scene of decay. Overlooking the ground below, megastructures prevailed the urban context evermore distinctively, while within a mingling of highways and railroads stranding along the metropolitan domain, the cityscape resembled a setting of unsystematic and confusing patterns. Investigating the cityscape from above, it was at once apparent that natural topography was insensitively handled in the course urban expansion, and the more recent constructions were rather heedlessly merged with the existing urban context. Decades after the Second World War, the faith put in the transformative capacity of aerial images had diminished to vast extents:

> "Since the 1970s, most architects and planners have increasingly refrained from using the insights of the aerial view to propose a comprehensive reordering of the city. Aerial planning would henceforth precipitate smaller urban interventions and frequently advocate for the restoration of disturbed natural environments."[180]

"The adventure of aviation had a decided impact on the future of global relationships as it seemed to destroy old concepts of spheres of influence and the balance of powers and to conjure up instead a new world order and transnational organizations for peace."[181] This idea of the new world order was a multi-layered discourse operating on spatial, social and political levels—new principles of global reform and spiritual rebirth were thus emerged upon the notion of aviation. "The airplane is the mark of a new age, it is the peak of a huge pyramid of mechanical progress that rushes forward into a new era on widespread wings."[182] Aviation was significant for many connotations it inherited, as discussed previously. Totalizing and privileged at once, it was as well a challenging process signifying an act of courage—for the existing order was soon destroyed upon the novelty of this contemporary viewpoint. From high above, geographical networks within the global order could be explicitly observed independent of any humane boundaries, and not long after, the operation of

[179] Ibid.
[180] Ibid.
[181] Boyer, op.cit., 96.
[182] Ibid., 106.

the aircraft has far transcended the national constraints to establish a chain of intercontinental relations. "Aviation with its stress on technical mastery, elite leadership, organizational discipline, and a new world order created an array of geopolitical consequences both utopian and reactionary."[183] For many professionals the view in itself was regarded revolutionary, and common belief suggested that new channels were soon to emerge in the light of this contemporary perspective, engendering the prospect for "new modes of architectural and urbanistic imagination."[184] The notion of the future city was subjected to imaginative thinking inspired by the extents of aerial perspective, and the idea of the new world order was partially built upon urban fantasies and utopian dreams. From the earliest times on, aerial view has inherited social connotations beyond the scope of mere functionality—it has sparked visions that has far transcended the content of the frame revealed from the airplane.

Eventually, during the first half of the twentieth century, designers saw major problems and great potentials in the new urban portrait. The employment of the aerial image on city planning was considered a method of urban reofrmation which would contribute to the reconstruction of cities, especially after the destruction induced by the two world wars, while "books of aerial photographs became standard texts in school of planning."[185] The fascination with the aerial perspective, however, was eventually deflated by the 1970s for the difficulties faced in the totalitarian undertaking of urban problems. Today, aerial images continue to serve within a vast span of scientific fields and also civilian channels.

### 3.2.2 Architect as the future hero

"Aestheticization of aerial vision exemplified a new kind of aviator hero who could be seen to resemble the early-twentieth-century modernist planner, seeking to rebuild the world from his high perch of authority."[186] The airborne image proved notably influential in stimulating the designers' ambition of future construction, hence uncovering the conception of the hero-architect as the planner of an ideal future. The

[183] Ibid., 98.
[184] Morshed, "The Aesthetics of Ascension in Norman Bel Geddes's Futurama,"op.cit., 80.
[185] Hinchcliffe, op.cit., 277.
[186] Morshed, "The Aesthetics of Ascension in Norman Bel Geddes's Futurama,"op.cit., 78.

aviator's godlike gaze was often associated with that of the modernist planner's ambition to treat the anomalies of post-industrial cities from above: "the omniscient downward gaze on the futurist city, analogous to Superman's, offered a metonymic image of the modernist planner himself, intent on rectifying the physical as well as social disorder below."[187] In the face of such chaos, the modernist planner's immeadiate intention was to rework the existing framework in physical and social measures—an illusion engendered by the vastness of aerial perspective that transformed the earthbound chaos into abstract clarity. The twentieth century aviator's God's-eye, in that sense, paralleled that of the architect's in its capability of realizing a greater order on the decayed land below.

The aviator's gaze performed on the two levels of surveillance and practice. Not only did aerial image granted valuable data on geographic structure and urban configuration, but it also induced a strong desire to mend what was believed to be a jumbled mass below. In providing the necessary information to reveal the urban disorder, aerial surveillance was considered substantially useful. "With the single glance [from the airplane]," Morshed quoted Fairchild, "the city planning and zoning departments can do their work more rapidly and intelligently, because all factors pertaining to their peculiar problems are registered photographically and to scale, covering the entire city."[188] Fairchild's faith in the aviator's "single glance" in handling the complications below coincided with the grander notion of the aviator as a social protagonist, as discussed previously. Extending the human sight and contributing to the procurement of the social disorder, the aviator's earthly missions were soon assumed by the architects and planners of the early twentieth century. "The hero is the subject of modernism," as Morshed cites from Walter Benjamin—and "the idea of an architect-hero, seeking to redeem a fallen world from the heights of authority he has claimed, has been an enduring modernist myth."[189]

Regarding the twentieth century notion of the aviator-hero, a pertinent instance from the 1939 New York World's Fair proves significant: the popular exhibition of General Motors's Highways and Horizons titled Futurama, undertaken by the

[187] Ibid., 91.
[188] Ibid., 80.
[189] Ibid., 91.

American industrial designer Norman Bel Geddes—"one-acre animated model of an American utopia as it might appear in the year 1960 to people traveling in a low-flying airplane." By the sponsorship of the General Motors Corporation, the main theme resided upon the conception of mechanized highways and far-reaching suburbs; while the exhibition was particularly significant for the discussion it stimulated upon aerial view, its operational span and the envisagement of the future-city. Central to Bel Geddes's utopia was the modern cityscape reinforced upon the technological impetus of the twentieth century—experienced within a 18-minute ride on an elevated belt flying over the physical model. As the motto of the spectacle read "I have seen the future," the spectators' elevated positioning over the one-acre model accounted for an association of their gaze with that of modernist planner's. The super-heroic aerial voyage over the sanitized world below, in that sense, granted the spectators with the privileged perspective of the patrolling aviator:

> "The [Futurama] viewer in his or her mobile aerie looking down on an American utopia evoked a familiar image in which Superman glides over his embattled metropolis intent on restoring order, or the modernist planner fixates his self-righteous eyes on his model of the future city"[190]

Bel Geddes's emphasis on the Futurama spectator as the Superman-planner has found solid ground in one particular photograph published in one of the General Motors exhibition booklets. The photograph was modified by designer himself with the intention of relating the Futurama spectators with "modernism's protagonist planners:"

> "Bel Geddes—in a characteristic manipulation—replaced the heads of the Futurama's common spectator with those of power-wielders of the New York political scene such as the New York City mayor, Fiorello La Guardia; John D. Rockefeller, Jr.; the New York City parks commissioner, Robert Moses; the 1939 fair's president, Robert Whalen; and others." [191]

[190] Ibid., 91.
[191] Ibid., 94.

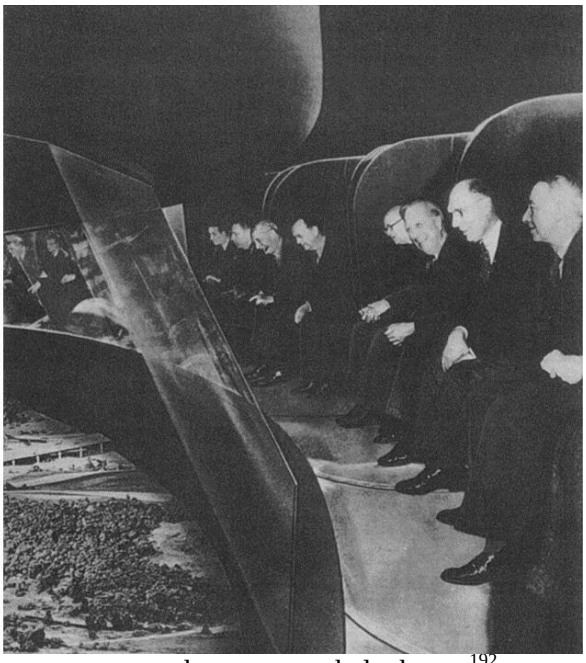



**Figure 3.8** [left] The Futurama model, with spectators on the conveyor belt above. [192]
**Figure 3.9** [right] Bel Geddes replaces the heads of the Futurama's "ordinary" spectators with those of the power-wielders of New York political scene. [193]

In the course of Futurama's construction, Bel Geddes had concurrently been undertaking a series of commercial projects for the Shell Oil Company with a much similar content—building an undersized version of the model he had been constructing for the Futurama exhibition: the "City of Tomorrow." In his scaling of the project, the view from the camera lens had constituted Bel Geddes's primary reference: "The city's photographic qualities, as seen from the air, became the project's overriding consideration." A set of utopian views were eventually engendered over Geddes's model from a "supposedly airborne position," and the images soon began to be broadcasted over magazines as *Life* and the *Saturday Evening Post*, through which Geddes was granted significant public attention as the creator of this American utopia. In much of the publicized instances, the "hovering camera persuasively captured Bel Geddes's godlike gaze seeking to solve the entire gamut of urban problems."[194] His role in undertaking the project was much correlated with the modernist planner's say over the postwar city, associating his stance with the godlike view of the aviator.

[192] Ibid., 76.
[193] Ibid., 94.
[194] Ibid., 89.

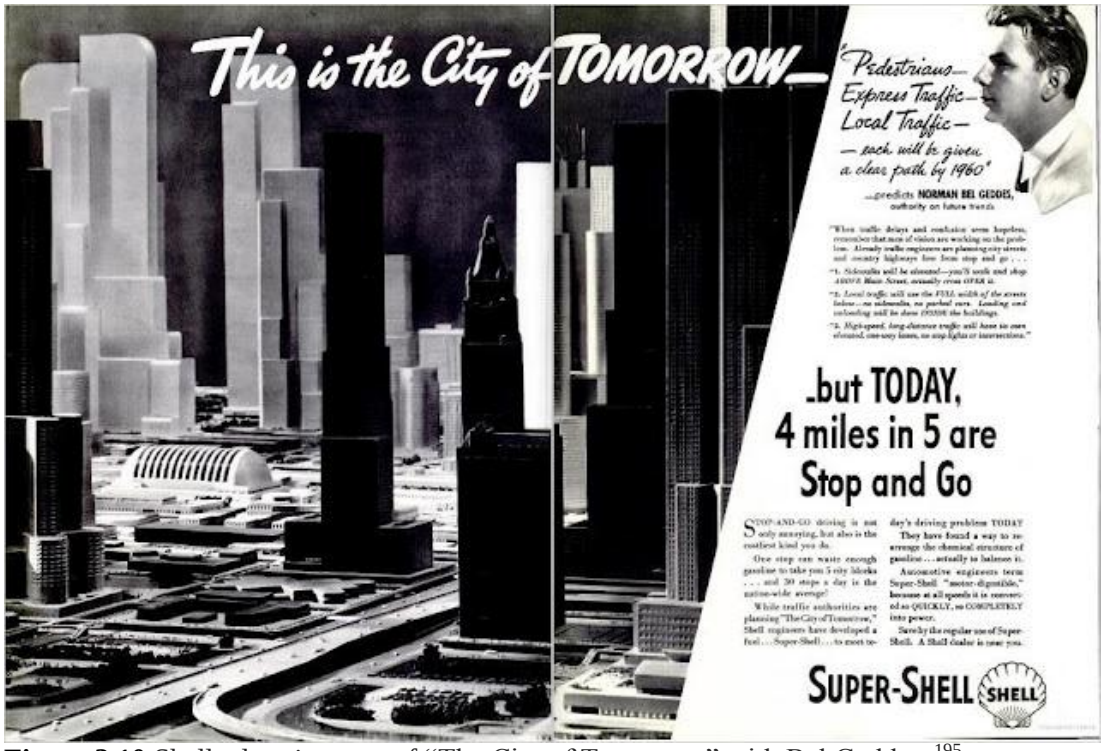



**Figure 3.10** Shell advertisement of "The City of Tomorrow" with Bel Geddes. [195]

Another instance shows him imitating a chess play by the many wooden blocks he used for the construction of the City of Tomorrow, much like an ubiquitous god hovering over the extents of his creation: "behind this heightened drama of 'playing God' lurked a persistent and enabling sense of self-aggrandizement that propelled modernist planners' imaginations."[196] In one letter Bel Geddes wrote his wife, he spoke of these wooden models of skyscrapers and how he wandered around with skyscrapers in his pockets, much like a God playing with his creation.

[195] Shell advertisement of "The City of Tomorrow" with Bel Geddes. Retrieved from <http://viz.cwrl.utexas.edu/content/future-city-past-norman-bel-geddes%E2%80%99s-%E2%80%9Ccity-tomorrow%E2%80%9D> (July 2014)
[196] Morshed, "The Aesthetics of Ascension in Norman Bel Geddes's Futurama,"op.cit., 89.

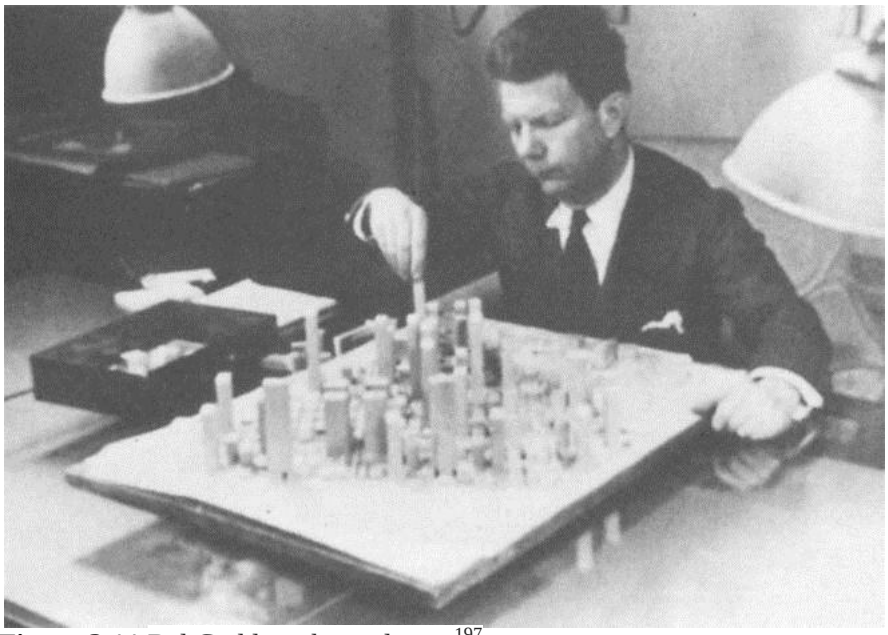


**Figure 3.11** Bel Geddes, chess player. [197]

Another significant instance, Le Corbusier's "hand-into-the-picture-frame" above the model of Ville Contemporaine -his design for future dwelling- verifies this twentieth century conception of aviator-architect rather explicitly:

**Figure 3.12** Le Corbusier's hand over the Ville Contemporaine.[198]

As mentioned above, Le Corbusier's intake of the issue proved much notable regarding the view from the airplane. His 1935 publication *Aircraft* was dedicated on

[197] Ibid., 89.
[198] Ibid., 93.

the discussion of aviation technology, aerial view and its likely impact on the transformation of the urban form—as he both looks *at*, and looks *from* the airplane. Aerial view, for with the vast horizon it opened up, had stimulated much inspiration for his later ideas of urban reformation:

> "Today it is the question of an airplane eye, of the mind with which the Bird's Eye View has endowed us; of that eye which now looks with alarm at the places we live… it is as an architect and town planner that I let myself to be carried off on the wings of an airplane."[199]

Le Corbusier's undertaking of the issue proves rather significant for both his praising of the aviation technology and for the vast information made accessible by the view. In its overcoming of natural constraints, the machinery of the airplane was at once a fascinating development as well as a revolutionary achievement in the course of evolution. A new epoch has arrived as humanity stood on the verge of a novel form of machinery aesthetics and technological intelligence:

> "the airplane is the symbol of the New Age. At apex of the immense pyramids of mechanical progress it opens the NEW AGE... The mechanical improvements of the fierce preparatory epoch […] have overthrown the basis of a civilization thousands of years old."[200]

The discovery of the powered-flight and its unveiling of the bird's-eye view were of issues enthusiastically celebrated by Le Corbusier. The aviator's gaze not only contributed to the architect's reasoning on post-war planning, but as well influenced his conceptualization of the future society and the imminent social order. In his work *Aircraft*, Le Corbusier brings together photographs of airplanes along with a plenitude of aerial shots displaying nature and the cityscape. His stress on the advanced machinery involves the discussions of technology, functionality, civilization and the future order; while his emphasis on the bird's-eye vision dwells on such notions as the span of this new scale and the decaying cityscape it has revealed below. The medium, for Le Corbusier, was at once revolutionary and

[199] Le Corbusier., op.cit., 5.
[200] Ibid., 13.

promising for the fact that airplane revealed the earth as what it actually was, and it becomes the planner's immediate task to ponder upon and discerning the dynamics of this portrait below: "The airplane has given us the bird's eye. When the eye sees clearly, the mind makes a clear decision... A new scale of grandeur will animate the architecture of the city and the scope of its undertakings."[201]

Le Corbusier took his first flight from Paris to Moscow in 1928, "but it was his flying over South America in 1929 that provided Le Corbusier with the opportunity to truly internalize the aerial experience in his thinking."[202] The flight over Rio has stimulated a new kind of urban thinking for Le Corbusier: "the conception of a vast program of organic town-planning came like a revelation."[203] The architect's sudden struck, or rather the divine inspiration that emerges in the face of aerial view is fairly expressive of a twentieth century issue: the kind of visual clarity that the modernist planner is endowed with—"a geographic sense of the whole."[204] The airplane sight, however, according to Le Corbusier, is not merely significant for the boundless extents it presents, but as well for the momentum it inherently holds. The human sight naturally occupies a certain extent and pace through which the voyager discerns the surrounding environment: "It is only the streamer on sea or the feet of the pedestrian on a road that can give what may be called sight at human scale: one sees, eye transmits calmly."[205] Traveling in earthbound vehicles -as automobiles, motorcycles and bicycles even- the spatial experience turns into something rather "inhuman and hellish" by the mechanical speed one assumes, as Le Corbusier states. It is with the advent of air travel that an additional channel coherent with the human sight appears: gazing down from the airplane, "the spectacle is not rushed but very slow, unbroken."[206] It is this unbroken, humane sight that contributes to the comprehensive understanding of the landscape from up above and renders the airplane a platform of far-reaching cognition.

Flying over Rio de Janeiro, Le Corbusier is startled in the face of the landscape that vastly opens up before the airplane window, and it is during this flight that a new

[201] Ibid.
[202] Morshed, "The Cultural Politics of Aerial Vision: Le Corbusier in Brazil," op.cit. 202.
[203] Boyer, op.cit., 96.
[204] Morshed, "The Cultural Politics of Aerial Vision: Le Corbusier in Brazil," op.cit.
[205] Boyer, op.cit., 102.
[206] Ibid.

formulation of urban planning hits him like an epiphany—the two sketches of Rio he has made during the 1929 flight propose a colossal viaduct positioned 30 to 100 meters above ground with double-height housing units situated within, joining central nodes within the cityscape and connecting the topographic constituents of the surrounding geography.[207]

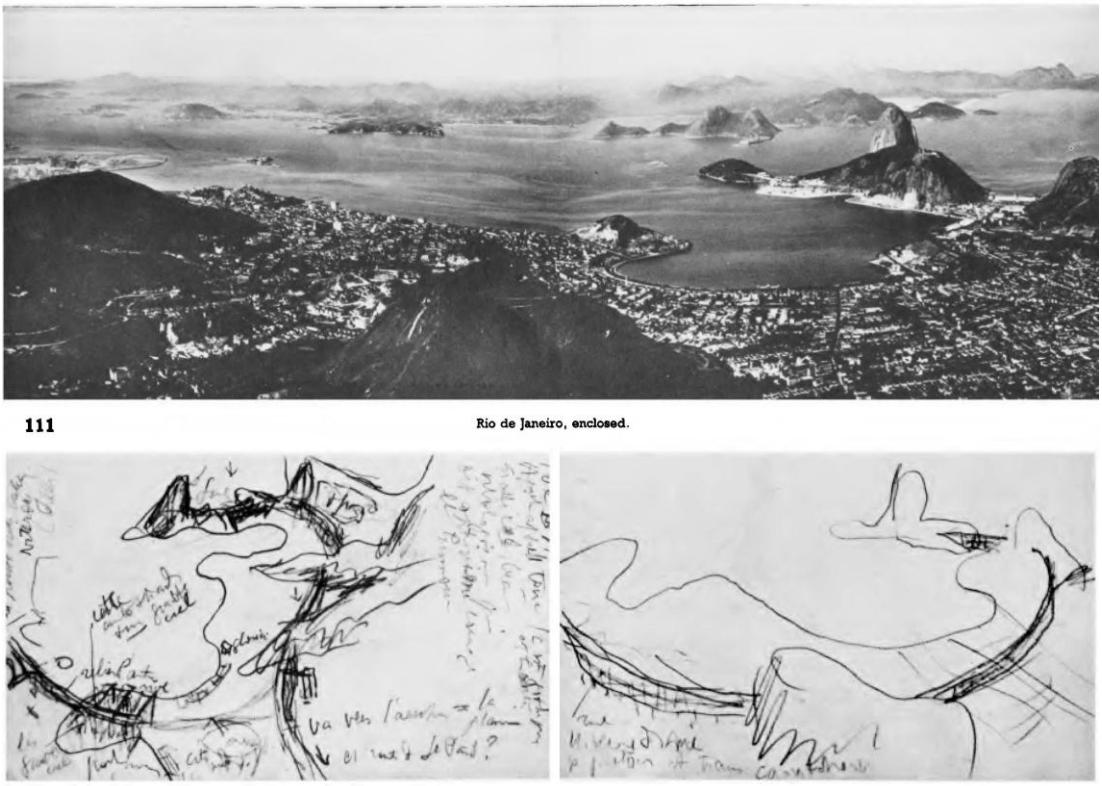



**Figure 3.13** [top] Rio de Janeiro, enclosed. *Aircraft.* [bottom] Two sketches made during a flight in 1929, just when the conception of a vast programme of organic town-planning came like a revelation. *Aircraft.* [208]

It is no coincidence that Le Corbusier's eureka proposal for Rio assumes the outline of the city's grander landscape. The boundless range of the unveiling cityscape has graced the content of the architect's drawings in their handling of the proposal's scale, extents and outline. It was from the apex of the airplane that Le Corbusier claimed a commanding gaze over the city: "It was apparent that upon seeing Rio's landscape from above, Le Corbusier simultaneously carried out a work of discovery, imagination, and, most importantly, reform of its geographical and architectural

[207] Morshed, "The Cultural Politics of Aerial Vision: Le Corbusier in Brazil," op.cit., 204.
[208] Le Corbusier, op.cit., 111-112.

premises."[209] Standing up above neurosis of the urban maze has the architect adopted a stance more compelling than ever:

> "Secure in his heights and freed from all visual claustrophobia and shortsightedness of earthbound vision, Le Corbusier assumed the role of a *dieu voyeur*... The *dieu voyeur* seeks to bring the diversity and arbitrariness of urban life into an ordered spatial matrix, a geometrical pattern, and a rationalized blueprint, programmed to produce desired social behavior. Through the eyes of the *dieu voyeur*, twentieth-century urban planners sought to fulfill the modernist dream of transforming the city into an object of knowledge and a governable space."[210]

The planner's gaze aimed to formulate the existing framework into a sterile space purged of all physical, mental and political disorder—the ills of the city were to be mended under the operation of planners; or as Le Corbusier puts, "cities with their misery, must be torn down...and fresh cities built."[211]

Le Corbusier as well worked on a number of urban proposals for Algeria in between the 1930s and 1940s. The architect's plan for Algiers, The Plan Obus, was the result of a political process through which Le Corbusier undertook the task of uniting all citizens in well-planned, sanitary environments. A variation of the former Ville Contemporaine in its formulation of units, the project assumed a rather unusual program regarding its regulation of the conventional urban hierarchy: "with his aerial exploration of a new geography, Le Corbusier's urban strategy marked a significant departure from the regional pattern and differential urban growth characteristic of colonial cities."[212] From high above, Le Corbusier's intake of the extending geography below was bereft of any political boundaries, which in turn inspired him to come up with "an architectural program that internalized all sorts of divisive lines." Within only a decade, upon the impetus of airplane vision, Le Corbusier's urban framing of the early 1920s had transformed into a rather extensive visual field that invaded the horizon rather than merely converging towards it, as "the *beyond* had been accessed," indicator of the further expansion of his World City.

[209] Morshed, "The Cultural Politics of Aerial Vision: Le Corbusier in Brazil," op.cit., 204.
[210] Ibid., 204.
[211] Ibid., 205.
[212] Ibid., 206.

> "Le Corbusier's designs in Brazil as well as in Algiers showed how the symbolism and experience of flight—a quintessentially modern phenomenon—were translated spatially, visually, and politically into the city of the future...Le Corbusier's projects revealed the emergence of the aviator as a moralist planner... the experience of flying was an opportunity to view city planning as a universal act of rectifying both spatial and social pathologies on a terrestrial scale."[213]

### 3.2.3 Influence on Urban Theories and Aesthetics: Visionary Projects

"Technology has been much involved in twentieth century visionary thinking just as social issues were in that of nineteenth century."[214] Contrary to rather concrete approaches, the city has also been subjected to imaginary thinking in the wake of aerial perspective. Visionary projects were soon realized underscoring the ways in which the twentieth century man was anticipated to live, including utopian proposals for the future city and the advance mechanization escorting this urban vision, all engendered by the impetus of technological advance. Just as the airplane came to be a popular symbol of modernist culture, its frame of vision attracted much attention as a contemporary medium through which spatial thinking could be exercised. "At stake in all these projections was a new type of 'aerialized' spectatorship" Morshed remarks, "and, consequently, the possibility of new modes of architectural and urbanistic imagination."[215] It soon became common belief that aerial view would act as an impetus on the generation of novel ideas for an ideal future city, drawing much fascination among utopian architects, planners and sci-fi writers.

"The desire to reach altitude, an elevation above the fettering earth, the dream victory over gravity, flying—all these, as we know, have been utopian aims since time immemorial."[216] These intentions have undoubtedly invaded the imagination of twentieth century designers in the face of technological advent. It was no coincidence

[213] Ibid., 207.
[214] George R. Collins, "Visionary Drawings of Architecture and Planning: 20th Century through the 1960s," *Art Journal*, 38 (summer, 1979) 245.
[215] Morshed, "The Aesthetics of Ascension in Norman Bel Geddes's Futurama," op.cit., 80.
[216] Christiane Crasemann Collins, George R. Collins, Ulrich Conrads, Hans G. Sperlich, *The Architecture of Fantasy; Utopian Building and Planning in Modern Times* (New York: Praeger, 1962) 22.

that extensive airport projects were proposed in the midst of cities while the projection of utopian skyscrapers or modern housing projects often included landing surfaces on rooftops or on the surrounding landscape.[217] The earlier illustrations of the Empire State Building that demonstrated a zeppelin-landing-deck on top constituted a noted example, while Wright's 1959 mile-hile tower project also included landing ramps for 150 helicopters.[218] In the face of twentieth century aviation, architectural and urban projects grew evermore grander on scale and higher in altitude, while air-travel has penetrated the projection of the future city not merely as a design input, but also as a mode of lifestyle.

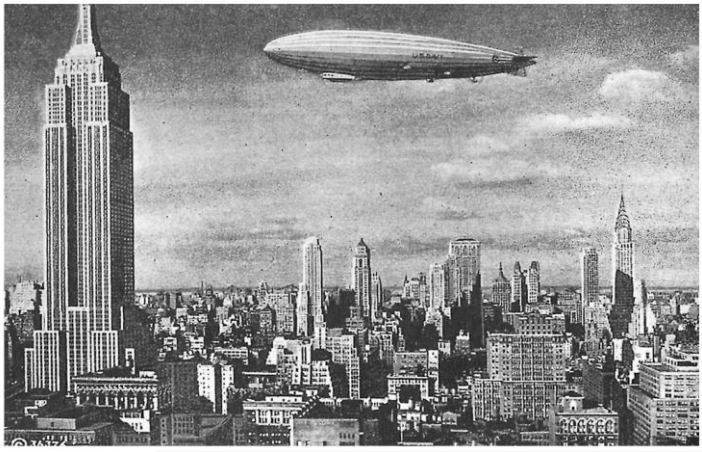
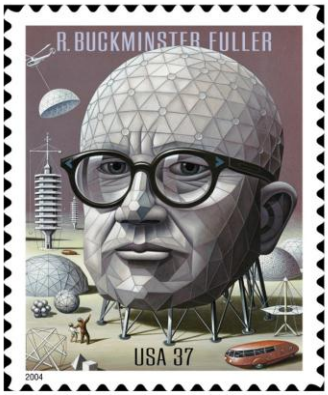


**Figure 3.14** [left] Empire State Building and zeppelin: a metropolitan mating that never came to be
**Figure 3.15** [right] Frank Lloyd Wright in front of his mile-high tower desing. October 1956

Projects of greater scopes were as well being envisaged in the form of mobile, revolving or completely detached architecture that simulated the experience of flight. Amongst the most significant examples of this kind were considered those of Richard Buckminster Fuller's hovering structures. His floating sphere project, "Cloud Nine," constituted of flying spheres "a mile or more in diameter sheltering autonomous communities of several thousand people." [219] Fuller's design was significant for the stress he put on technology, rather than social programming. The concept of aviation had substantially penetrated Fuller's studies for the interest he hold of aircraft technology and design. Regarding the projects of human-sheltering

[217] Ibid.
[218] Ibid., 111.
[219] James Tennant Baldwin, *BuckyWorks: Buckminster Fuller's Ideas for Today.* (Oxford: Wiley, 1997) 190.

he largely worked on, Fuller's focus remained upon the application of the most recent technologies on residential systems—a process through which significant improvements could be achieved for future dwelling. Amongst his long-term objectives, therefore, had resided the procurement of a most economical and efficient shelter design, rendered feasible by the recent technologies of construction and material production. In that manner, regarding the twentieth century advent of the airplane, Fuller was more concerned with the technological potential offered by the machinery of the craft itself rather than the grander vista it unveiled from up above. During his postwar work, Fuller involved in his designs materials used in the field of aviation and ideas derived from the structure of aircraft technologies—a case much significant for the enthusiasm he shares with Le Corbusier on the potentials inherent in aviation machinery. Reaching for "a construction similar to an airplane, light, taut, and profoundly strong," Fuller's work holds applications of this technology within the sphere of architectural design and hence constitutes a significant case for the involvement of the twentieth century designers in the technologies offered by the field of aviation.[220]



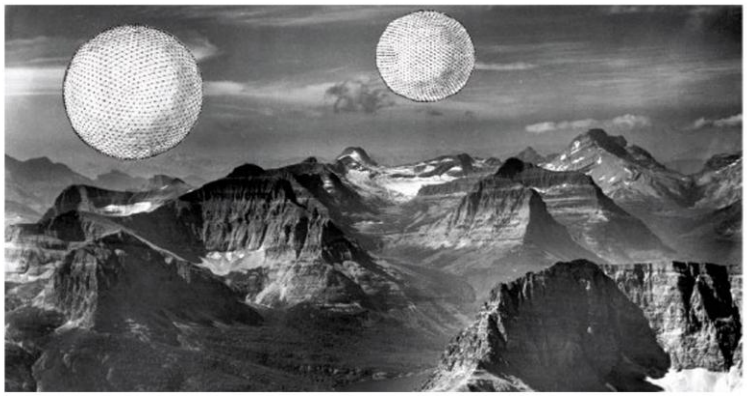


**Figure 3.16** [right] Buckminster Fuller stamp, 2004.[221]
**Figure 3.17** [left] "*Cloud Nine"* illustration by Buckminster Fuller.[222]

In the illustrations of Wright's Broadacre city, the urban form is seen to be conceptualized in a visionary state operated by futuristic vehicles of air travel. Elements of aviation are inherent to the structure of the future city and seemingly

[220] Buckminster Fuller Institute, "Geodesic Domes." Retrieved from <https://bfi.org/about-fuller/big-ideas/geodesic-domes> (January 2013).
[221] Buckminster Fuller stamp, 2004. Retrieved from <http://buckminsterfuller.net/services.html> (January, 2013).
[222] Baldwin, op.cit.

shape the operation of the social program within the cityscape, while vertically notable structures of extensive altitude and scale contrast with the scene below.

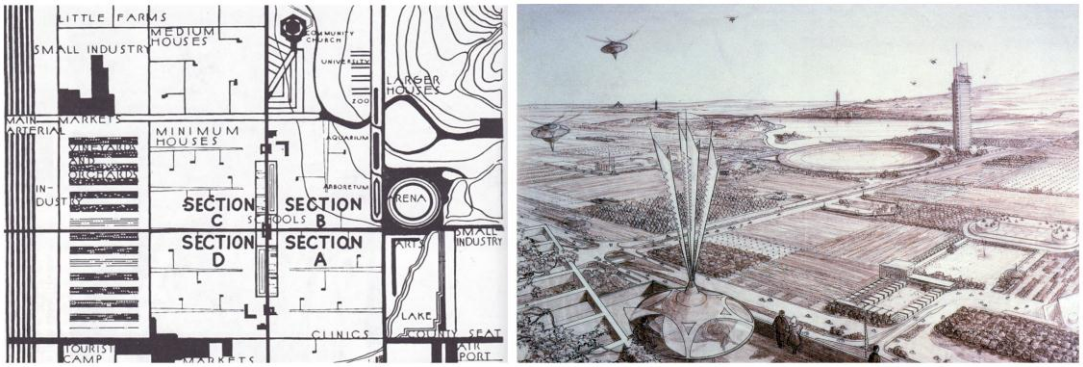



**Figure 3.18** Plans and illustrations of the Broadacre city.

During the popular years of aviation there emerged a series of futuristic urban projects shaped around the concept of air travel, as discussed previously. Amongst the most notable instances, Morshed remarks, is Julian Krupa's "Cities of Tomorrow" published in America's first sci-fi magazine *Amazing Stories* in 1939.[223] "The city of tomorrow […] would consist of an idyllic, vertically stratified urbanscape in which 'dwellers and workers… may go weeks without setting foot on the ground."[224] Public circulation is seemingly elevated in overlapping levels and has assumed a much more complex network, while air vehicles fly in between megastructures that as well serve as landing strips by their fifth façade. The street on level zero is hardly distinguishable as the city has taken the vertical course. The apex from which Krupa visualizes the future scape, in that regard, proves much crucial for the stress it puts on the city's representational aspects. "The artist's airborne gaze, replicating that of the city's flying citizenry, seemed most effective for representing the 'vertical panorama of the city of tomorrow."[225] Similarly, the remark on the attached note reads "many persons will live in the healthy atmosphere of the building tops, while others will commute to far distant residential towns, or country homes,"—a discourse that is much in analogy with the content of the modernist planning in its rhetoric of sterile living and the orderly post-war city.[226]

[223] Morshed, "The Aesthetics of Ascension in Norman Bel Geddes's Futurama,"op.cit., 80.
[224] Ibid.
[225] Ibid.
[226] Ibid., 81.

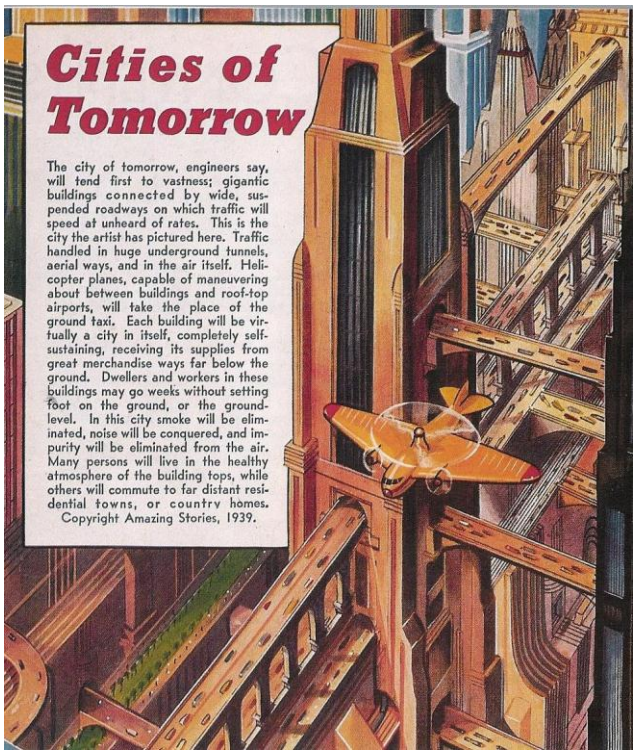



**Figure 3.19** Julian Krupa, "Cities of Tomorrow," back cover of *Amazing Stories* (Aug. 1939)

### 3.3 Normalizationo of Aerial View: Loss of Enthusiasm

Satellite technology had featured the onset of a new age in aerial photography, as discussed in the previous chapters. Over the course of the past fifty years, the formerly curious perspective has grown all the more familiar upon the vast circulation of aerial imagery. As it has been briefly reviewed in the previous chapters, by the end of the two world wars, the view from above was no longer greeted with the same public enthusiasm it initially aroused, and flight was no longer a peculiar notion. In this course regarded as the "normalization period", as David Gilbert states, the vast familiarity with airborne images had brought along a sense of banality—a course soon to be surmounted by the onset of geographical information programs.[227] Today, the execution of systematic ground survey continues to be carried out for over half a century, while aerial photography and footage prove ever-the-more accessible for a wide range of audience. The public outbreak of the interactive virtual globe, on the other hand, dates only as far as the previous decade.

[227] Gilbert, op.cit., 295.

### 3.3.1 Geographical Information Programs Today

> "We are looking at a virtual globe comprising multiple layers of satellite imagery, aerial photography, and 3D GIS data mediated through a search program that, as Google tells us 'let's you fly anywhere on Earth.' On the other hand, however, this interface and the geospatial data which comprise the apparently integrated simulation of Earth's terrain speak in complex ways to a quite radical transformation in the global environment it simultaneously depicts… in which the social, economic, environmental, and geopolitical vectors and fault-lines at work are not unrelated to the forces driving the information technology which subtends those images and their means of dissemination."[228]

Within the course of aerial vision, as discussed previously, the advent of geographical information software characterizes the operation of the last phase—succeeding the historical imaginary, and the twentieth century photographic. The extents of aerial view today prove considerably advanced even when compared to the late twentieth century. With recent progress, aerial images are today granted an interactive, three-dimensional platform that is substantially accessed via internet—seizing a virtual medium within which the gazer flies across continents and dive into the streets of the world's largest metropolises. The most popularly used virtual globe program is currently GoogleEarth, but there exists alternatives as Yandex.Maps, Bing Maps, Yahoo! Maps, WikiMapia, Marble and a number of additional counterparts. For featuring the most advanced content, GoogleEarth will be taken as a sample in further investigation of the issue.

GoogleEarth operates as a geographic-information platform, within which a plenitude of applications have been installed providing a variety of services to internet users, companies and urban organizations across the world. Amongst the many features of the program, there remain the most popular Google Sky, 3D Buildings and Google Street View along with the more recent Google Ocean, Google Mars, Google Moon and Historical Imagery—as there also are several other

[228] Felicity Scott, "Making Data Speak," in Gretchen Wilkins, ed., *Distributed Urbanism: Cities After Google Earth* (London: Routledge, 2010) xi.

applications under the fields of environment, night vision and social research.[229] The extents of the view has far transcended global bounds to reach at the neighboring bodies of the Solar System, while also rushing through a grand archive of tours, videos and imagery.

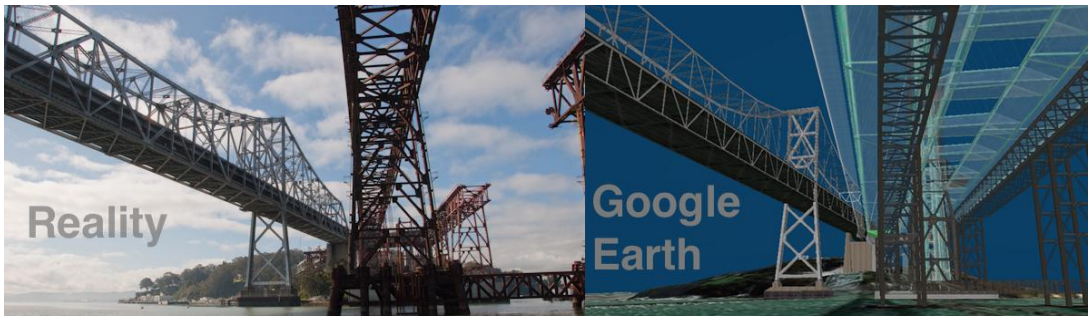


**Figure 3.20** GoogleEarth modelling

In traveling around the virtual globe, the viewer experiments an entirely emancipated medium through which he/she can fly across continents, glide in between countries, aerially pan above digitally modeled cities and 3D environments, and eventually, descend on ground to stroll along streets. As it has been previously stated, "not only does the built environment change all the time, but, through technological mediation, so too do its perceptual contexts, coordinates and constraints."[230] In rendering the Earth a virtual globe that one gazes upon, flies over, zooms in and out and swoops along independently, the geographic information programs today open up an entirely different medium of spatial experience. They not only prove significant in terms of air-traveling above Earth, but also for superimposing a plenitude of cartographic layers that all comprise a unique set of information—a multilayered surface where a boundless range of data is both attained from, and concurrently inserted onto by the users.

> "We are faced here, of course, not simply with images of Earth but with an interactive datascape, a vastly extended, often high-resolution, multi-layered, searchable, manipulable, and digitally transmittable information database or archive, much of which was once available only to military or government agencies… these images allow us to be 'close-up at a

[229] Google Earth Showcase. Retrieved from < https://www.google.com/earth/explore/showcase/> (March 2014).
[230] Schwarzer, op.cit., 16.

> distance,' and in shifting of scales we can see or read things that might not otherwise be legible."[231]

### 3.3.2 Aerial Imagery in Contemporary Design Practice

GoogleEarth maps the globe by the superimposition of images attained from satellites, aerial photography and GIS data, constituting today by far the most prominent platform amongst a number of Geographic Information Systems. There currently remain a variety of disciplines benefiting from the medium—besides the popular location based services which allow GPS-enabled mobile devices to display the user's location in relation to fixed assets [the nearest restaurant, gas station, fire hydrant] or mobile assets [friends, children, police car], there as well exists an extensive range of industrial, scientific and businesses-related fields that professionally utilize the technology. Some notable instances are real estate, public health, natural disaster follow-up and analysis, crime mapping, national defense, sustainable development, natural resources, landscape architecture, archeology, regional and community planning, transportation and logistics. [232]

Regarding the technical utilization of aerial data, a most relevant domain that exploits the bounds of GoogleEarth proves the practice of design—namely architecture and urban planning, as aerial view inherently constitutes a design tool in the execution of the practices:

> "The question raised here is how new technologies and new modes of simulation might function not simply as contemporary tools of analysis and representation but as platforms to forge new conceptual and design strategies that might speak to, or speak back to, the discipline's long-standing commitment to making those worlds more just."[233]

Today, the conceptualization of the cities as they would be seen from the air constitutes a significant input in the transformation of the built environment, as the notion of the fifth façade –namely the roof– proves yet another notable aspect of

[231] Scott, op.cit., xii
[232] Google Earth Showcase. Retrieved from < https://www.google.com/earth/explore/showcase/> (March 2014).
[233] Scott, op.cit., xiii. For a detailed discussion of the issue, see Gretchen Wilkins, ed., *Distributed Urbanism: Cities After Google Earth* (London: Routledge, 2010)

architectural design that has opened up in the process. The aerial perspective has, in the course of its advancement, brought about a novel understanding of the built environment, and the structuring of its planning—rendering the representation of cities from the air a question of all-the-more critical significance. The issue becomes much evident in rather extreme cases as Dubai, in the manner that "it combined superlative ambitions with an unlikely tabula rasa condition, the combination of which perfectly suited the kind of fly-in, fly-out expatriate urban design practices enabled by the explosion of easy access to aerial photography."[234] The contemporary Google Earth medium has, in the way it presented the built environment in a brand new dimension for not only professionals but for the public user as well, contributed to the transformation of the design approach in considerable measures, as Wilkins further remarks.

> "A key aspect of Google Earth is its accessibility and interactivity. If it were merely a tool for viewing images its relevance would be reduced to novelty. Rather, it is one of the emerging tools through which we can interact with the physical world remotely and participate in design collectively."[235]

As procured by the recent technologies, a vast pool of information builds upon the material aerial surveillance provides, and a plenitude of departments continuously benefit from, utilize or interact with the data provided within the software. A critical prospect, however, resides in the fact that the compilation is partially constructed by the user input—either by voluntary contribution, or the inventory of mobile data. The information procured by the latter, particularly by the various applications smart phones have recently facilitated, reveals a manifold of facts on the distribution of socio-cultural assets in the public realm.

> "The connectedness of places and data has increased exponentially over the past decade or more, eventually enabling an environment in which the web is the primary operating system for all things material and digital, actual and imagined, an environment of networked objects of all

[234] Gretchen Wilkins, "Introduction," in Gretchen Wilkins, ed., *Distributed Urbanism: Cities After Google Earth* (London: Routledge, 2010) 3.
[235] Ibid., 2.

> sorts…These increasingly complex relationships between distributed networks and local conditions have shifted social, economic, and environmental practices, and the practices of architecture and urbanism are similarly affected."[236]

An important concept to be noted here is the local-specific data-processing maps that reveal important layers of information regarding various public spheres. Subjected to those maps are the concepts that are mostly intrinsic to urban-life, focusing on the distribution of such notions as accessibility, armed violence, diseases, natural disasters, unemployment ratios, greenery, migration, night-life, public sentiment etc.[237] "Measuring public sentiment is a key task for researchers and policymakers alike. The explosion of available social media data allows for a more time-sensitive and geographically specific analysis than ever before."[238] In the scope of this initiative, regarding the practice of architecture and urban planning, there are generated a series of interactive maps defined by the engineering manager Rebecca Moore as "multi-decade animated time lapse of the Earth" -constituted by the superimposition of millions of satellite images recorded over years- which display the chronological course of urban and rural transformations within the last few decades.[239] Google Earth today involves the application Historical Imagery, which renders the issue all-the-more facilitated for public use.

The contemporary course of aerial view opens up various aspects regarding the professions of architecture and urban planning—not only in the span of professional bounds, but in terms of attaining a novel appreciation of the built environment from above. It is rather ambiguous to what extents the view-from-above marks the line of urban transformation in light of the recent progress, but it proves evident that the view has somewhat articulated into the dynamics of the process: "ss the tools of architectural production are increasingly integrated with those of cultural production,

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[236] Wilkins, op.cit., 1
[237] Kent Vesaire, "Bilişim," Retrieved from <http://kentvesaire.org/index.php/bilisim> (July, 2014).
[238] Karla Z. Bertrand, Maya Bialik, Kawandeep Virdee, Andreas Gros, Yaneer Bar-Yam "Sentiment in New York City: A High Resolution Spatial and Temporal View," *New England Complex Systems Institute*. Retrieved from <http://www.necsi.edu/research/social/newyork/> (September, 2014).
[239] Google and NASA partnership: "Melting Glaciers, Sprawling Cities: the Google Project," <http://www.youtube.com/watch?v=jHz5kMMavas> (June 2014).

the discipline of architecture is poised to reassert its relevance across a much broader territory of design and making."[240]

There as well remain informal archives that are built upon the enthusiasm inclined by the span of aerial perspective and satellite imagery, by means of which the quality of aerial representations of the earthbound domain are discussed and documented. A notable instance to be remarked here is the initiative of the website "Daily Overview,"[241] a blog that is dedicated to appreciating the aesthetical and conceptual assets intrinsic to the view from above. The mission of the blog reads:

> "Our project was inspired, and derives its name, from an idea known as the Overview Effect. This term refers to the sensation astronauts have when given the opportunity to look down and view the Earth as a whole... From our line of sight on the earth's surface, it's impossible to fully appreciate the beauty and intricacy of the things we've constructed, the sheer complexity of the systems we've developed, or the devastating impact that we've had on our planet... As a result, the Overviews (what we call these images) focus on the the places and moments where human activity—for better or for worse—has shaped the landscape."[242]

In the course of the technological progress, aerial view has become a medium more commonplace than it ever was. A great variety of audience, in that regard, had been involved in the experiencing of the perspective—amongst which remain professionals from a variety of fields, as remarked above, or those who merely hold a certain measure of interest for the perspective. Daily Overview, by that regard, proves a distinguished case for it reveals a most instant humane reaction in the face of this celestial gaze that exceptionally transcends the earthly bounds of humans—unfolding dimensions beyond the scientific and practical features of the view.

The enthusiasm with the twentieth-century view from the airplane window has induced vast reaction in the field of art, as discussed in previously. The high-resolution and interactive satellite imagery of the twenty-first century has, by that regard, sparked yet another shift in the interpretation of the Earth. What was

[240] Wilkings, op.cit., 6.
[241] http://www.overv.eu/
[242] Ibid.

unraveled by the scope of satellite imagery within the last decades was a captivating whole, composed of aesthetically striking regions, all interrelated in a continuous flow. In the course of years, there emerged photographers or artists, who have created works of aesthetical value either by direct framing of the Earth, or abstract interpretations of the view below.

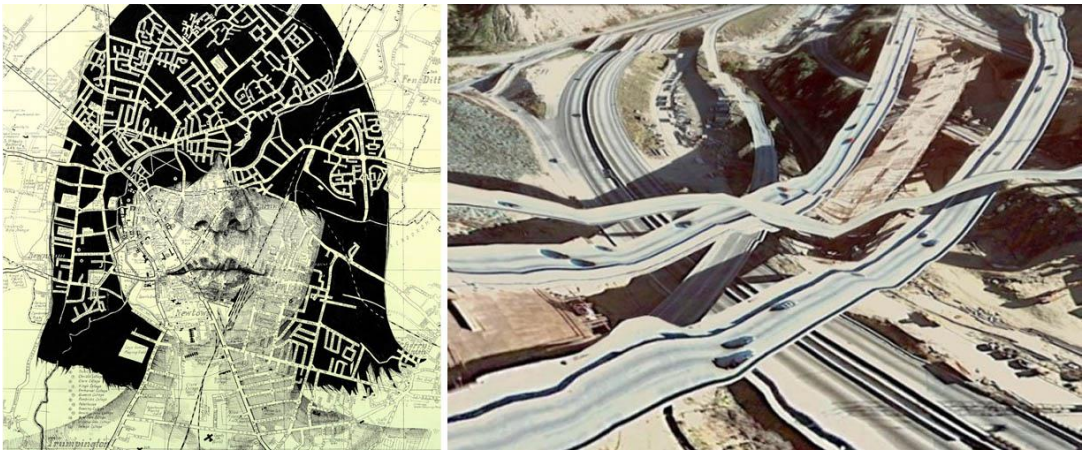

**Figure 3.21** [left] American artist Ed Fairburn, from the series *Cartography Portrait*, map of Cambridge.[243]
**Figure 3.22** [right] American artist Clement Valla, from the series *Postcards from Google Earth*.[244]

**Figure 3.23** French artist Armelle Caron, unmapping the city: map of Istanbul.[245]

The recent technological progress, as remarked previously, has facilitated the involvement of a boundless range of audience within the medium, the span of which stretches today from corporate organizations to anyone who owns a personal

[243] Image retrieved from the artist's personal website, <http://edfairburn.com/?projects=cambridge> (September 2014).
[244] Image retrieved from the artist's personal website, <http://clementvalla.com/work/postcards-from-google-earth/> (September 2014).
[245] Image retrieved from the artist's personal website, < http://www.armellecaron.fr/art/index.php> (September 2014).

computer with an internet connection. For the scope of this study, the contemporary case has been most briefly mentioned, but the content of the subject had boundlessly expanded over the course of decades along a variety of fields, and is today in continuous progress. Considering the line of transformation in experiencing the built environment, the technological development in seeing the world from above proves a most significant perceptual shift—to be able to trace the channel of which, the case of Istanbul will be investigated next.

# CHAPTER 4

## AERIAL VIEW AS A TOOL OF SPATIAL DOCUMENTATION, TRANSFORMATION AND SURVEILLANCE: THE CASE OF ISTANBUL

In the course of this study, transformation of aerial view and its manifold impacts on the fields of art, architecture and urban planning have been briefly documented along a chronological trajectory, with a particular emphasis on the actors involved. Transcending the extents of the earthbound span, air travel differs from the remainder of the transportation technologies in its exceeding of humane limitations. Aerial view, as discussed in the previous chapters, operates as a significant medium through which certain spatial parameters are redefined and perceptual constraints are fractured in critical measures. The vast extents of the view from above, by that regard, render this process all-the-more significant as the scale and nature of aerial vision suggest.

Being able to observe the course of transformation over an example proves crucial for an accurate understanding of the preceding discussion, and tracing of the historical course naturally requires the studying of a city which has been aerially documented along the previously-discussed three stages of the view-from-above. For that purpose, Istanbul has been determined as a convenient case study as an ancient settlement of significant cultural, social and economic value; for the city not only constitutes a historical capital of utmost importance, but as well operates as the socio-cultural and economic center of the Turkish Republic still. Throughout history, the city has maintained its urgent stance and today continues to expand at an extraordinary rate both in spatial and economical domains.

Istanbul has been extensively documented for a variety of purposes through the course of its development, and is believed to constitute a convenient instance in

monitoring the transformation of aerial representation of a particular urban settlement. The case study will accordingly trace the process through which Istanbul has been depicted and recorded from the air, both for the purposes of documentation and the transformation of its environs. Throughout history, the aerial images of the city has assumed a variety of forms ranging from the fifteenth century miniatures to the most recent footage captured from helicopters flying above the city—constituting a line of procession regarding the involvement of aerial perspective in urban images. Though for centuries Istanbul's aerial representations operated as a means to document the existing state of the cityscape, the advent of air photography has transformed the picturesque notion of the view into an objective medium through which urban information was accurately attained. The twentieth century operation of aerial view, by that regard, has been dominated by the functional use of the medium in gathering cartographic information, while the preceding centuries have staged a rather subjective interpretation of the cityscape mainly through the means of miniatures and panoramic views.

The turn of the twentieth century constituted a niche for the outbreak of the various tools of communication—by the multiplying instruments of media, public audience was granted rapid access to a broad range of visual material including the photographs captured from the aircrafts. The increasing complexity of the twentieth century broadcast has rendered the publicized materials all-the-more available in the course of decades, particularly following the World War II. Previously mentioned in the study as the phase of normalization, the gradually-increasing acquaintance with airborne vision had induced a certain measure of wane regarding the public enthusiasm towards the notion of flight, as the view from the airplane grew evermore familiar.

By the turn of the twentieth century, aerially-attained data was being utilized within a plenitude of fields, amongst which urban planning had constituted a most significant stance. The earliest undertaking of Istanbul's comprehensive aerial survey was initiated by the French architect and planner Henri Prost, before he started working on the 1937 proposals of the city's master plan—a process he considered crucial in attaining an accurate assessment of the existing urban structure. By the end of the two years during which Prost had been undertaking the task of compiling the

necessary information from the air, the architect eventually managed to assemble the city's photographic map—of which he made extensive use during his studies. Aerial recordings over Istanbul, by that regard, were primarily given start by Prost's initiative with the professional objective of post-republican urban planning, and the images attained in the process were widely utilized for technical purposes in the following decades.

Second half of the twentieth century public domain was structured by the Western democratic model of government, as the cities of notable economic potential were faced with a rapid course of spatial development—through the process of which the task of urbanization constituted significant value. Post-war economic policies have for long structured the operations of the multi-party system in Turkish political scene, while in Istanbul, governments have exponentially became involved in the development of large-scale transformation projects.

Democrat Party seized power following the 1950 elections—triggering the earliest instances through which the process of urbanization had become a part of the political discourse. By the end of the decade, as the central operational area of the Democrat Party, Istanbul had far undergone a notable course of urban transformation grounded on the outline of Prost's earlier proposals. In the wake of events, as the leader of the Democrat party, Adnan Menderes's association with the ongoing urban operations was all-the-more distinctive in the media, as he had soon become the most prominent figure of the continuing process: the formerly professional gaze over the city -Prost's master plan- had turned into that of a political one.

Liberal policies have engendered the publicized figure of the political actor who is prominently involved in the transformation of the urban environment—namely the transformation of Istanbul for the economic and cultural assets the city holds. In the coming decades, similar urban operations of the larger-scale were sustained by other political and administrative figures as part of the political discourse their parties maintained. The governing party's involvement in the public domain was of competitive value as the operations of the government were rendered all-the-more visible for a broader public intake—in the course of which aerial view has been commonly utilized as a medium to reveal the extent and complexity of the projects undertaken by the government.

Considering the contemporary circumstances dominated by the wide-spread of digital media, the last two decades had induced a substantial shift in the understanding of the built environment, as discussed in the previous chapters. Following the advent of personal computers and the world-wide-web, the prevalent application and the user-friendly interface of the geographical information programs have substantially transformed the medium through which aerial view was experienced. The view-from-above today, by that regard, proves all-the-more accessible through numerous channels that are publicly available, and the actors involved in the process vary within an extensive span compared to that of the late twentieth century. Alongside of the twentieth-century political actors involved in the act of looking down, the boundless extents of aerial vision have generated an alternative audience that has interpreted and utilized the view in a plenitude of manners, including those that are involved for professional purposes, those who are sensitive to the environmental changes, or those who take a personal interest in interpreting or contributing to the aerial data conveyed by the virtual globes.

In the scope of this case study, the historical transformation of Istanbul's aerial representations will be conducted briefly as part of the documentation stage, following which the twentieth century utilization of the view as a constituent of urban transformation and political discourse will be discussed. Lastly, the contemporary state of the view will be explored in its extending context.

### 4.1 Tool of Documentation: Historical Depictions of Istanbul from Above

Istanbul holds a boundless past of civilizations, countless warfares, invasions, victories and a constant course of spatial development—its global status, as phrased by the Turkish architect Doğan Kuban, is a gift of the history: it constitutes a most unique historical phenomenon in which a minor settlement of a Greek colony has grown to become the capital of three Empires.[246] In the course of its development, the extents of Istanbul's waterscape –as its most significant geopolitical quality– act as an integrative agent of civilizations from the earliest times on, while the city becomes a peculiar center where geography congregates history, maintaining its evermore critical stance as an Imperial capital for more than a thousand years.

[246] Doğan Kuban, *Istanbul Yazıları* (Istanbul: YEM Yayın, 1998) 18.

As most cities of utmost importance and significant aesthetical value, Istanbul has attracted the curious gaze for centuries. The city has been extensively depicted by artists from earliest times on, as there remains a comprehensive archive today by means of which one is able to trace the morphological development of the settlement. Aerial view naturally occupies a particular stance for the extensive scenery it enhances, and through the course of years, Istanbul has been variously depicted from imaginary points of elevation or actual locations of high altitude in the intention of capturing the unique scenery of the settlement. In the scope of this thesis, to provide theoretical correlation with the framework of earlier discussions and the examples included from the European context, the historical span of the case study will stretch from the present state of satellite imagery back till the 16th century depictions of Istanbul.

By the end of the 15th century, Istanbul -the then Constantinople- has deliberately become a center of attraction for a fair lot of Europeans not merely by means of its oriental cityscape and culture, but as well for the various financial opportunities the Ottoman Sultans provided with much generosity.[247] Amongst those taking genuine interest in the Empire were politicians, traders and military experts as well as those professionally involved in the fields of art and architecture, a considerable number of whom worked for the Palace and the Ottoman family.

In such an era where the Empire was a significant asset of curiosity, a number of Istanbul's panoramic depictions had already begun to circulate in the Western lands. Particularly the engravings made on wood or copper were sponsored by the Palace as they constituted a symbol of civic pride, as well as a medium through which the Imperial city was introduced to travelers and traders from all over Europe. Today, there remains a variety of engravings dating back to the earlier period of Ottoman hegemony over Istanbul, a significant instance of which is the 1572 engraving that depicts Sultan Suleiman I with entourage before the bird's-eye view of the historical peninsula and the coast of Uskudar.

[247] Çelik Gülersoy, *Views of Istanbul Throughout the Ages* (Istanbul: Yenilik Basımevi, 1971)


**Figure 4.1** Engraving by Georg Braun and Frans Hogenberg, *Constantinopolis.* Cologne, 1572.[248]

A popular theme of the following century Istanbul engravings was the panoramic framing of the historical city silhouette. Amongst the most noted artists was the Swiss engraver Matthaus Merian—a seventeenth century topographer who owned a publishing company as well, made relatively realistic copperplate engravings of Istanbul and reproduced them in Germany.[249]


**Figure 4.2** Engraving by MatthausMerian, *Constantinopolis*, view from Pera. Frankfurt, 1641.[250]

[248] The University of Chicago, News Office online archive. Retrieved from <http://www-news.uchicago.edu/releases/07/071105.oi.maps.images.shtml> (August 2014).
[249] Gülersoy., op.cit.
[250] The University of Chicago, op.cit.

Antoine Ignace Melling, a German painter and architect, and one of the popular figures of the Ottoman Palace, was assigned as the imperial architect of Sultan Selim III in between the years 1795 and 1812, in the course of which he managed to produce a plenitude of detailed drawings of both the imperial buildings and the Bosporus landscape. His drawings were then transferred into engravings and published in his famous book *Voyage pittoresque de Constantinople et des rives du Bosphore*[251] in Paris, 1809.[252]

**Figure 4.3** Engraving of Istanbul included in Melling's work, *Voyage pittoresque de Constantinople et des rives du Bosphore*.[253]

Many Western artists have taken interest in producing engravings of the city particularly from locations of high altitude or relatively tall structures, amongst which Galata Tower constituted a significant spot not merely for the relatively higher stance it provided, but as well for the much favored scenery it hold. Until the late 19th century, from which time on aerial photography eventually replaced engravings, a vast number of Istanbul paintings have been reproduced by the engraving technique to be circulated particularly around Europe and America—amongst which panoramic

[251] "Scenic tour of Constantinople and the Bosphorus".
[252] Gülersoy, op.cit.
[253] St. Andrews Special Collection. Retrieved from <http://standrewsrarebooks.files.wordpress.com/2013/02/constantinople-2-melling-voyage-pittoresque.jpg> (August, 2014).

and aerial illustrations hold a significant stance for the extensive scenery they provided.

Another prevalent form of art in depicting Istanbul was Miniature drawings, which had originated in the East during the 11th century and eventually attracted the attention of Ottoman Sultan Mehmed II—the conqueror of Istanbul. He established a Workshop in Istanbul, enabling miniature art to find grounds and the promising miniature artists to be properly trained. Among those who became famous with their work were Nakkash Sinan, Nigari, Matrakçı Nasuh and Levni, all having produced miniature drawings of Istanbul from above particularly for illustrating specific occasions of historical significance to be included in manuscripts–such instances as the conquest of Istanbul or the Festivals held in the Golden Horn- and as well for the mere purpose of documentation.

**Figure 4.4** Istanbul miniature by Matrakçı Nasuh- 1533[254]

[254] Image retrieved from < http://tr.wikipedia.org/wiki/Matrakçı_Nasuh> (December, 2013)

**Figure 4.5** View from circumsion celebrations of Sultan's sons, Surname by Levi, 1721[255]

Another artistic tradition through which Istanbul has been aerially depicted is the genre of panoramas. By the early 19th century, panorama paintings constituted another popular medium for the aerial documentation of the city. The name panorama itself was devised by the English portrait-painter Robert Barker, meaning "all-view."[256] Barker was issued a patent of the panorama technique he developed, for which he later designed a building to hold exhibitions of the gigantic 360° paintings displaying sceneries from all around the world, making quite an amount of fortune by the shows hold and engravings sold in the building.

Robert Barker's son Henry Barker visited Istanbul in between the years 1799-1801, and from the top of the two historical towers, Galata and Leander's, produced at least two well-known panoramic paintings of the city, later to be displayed in Barkers' family-owned Panorama Building in London. The panoramas were exhibited bearing the titles "View of Constantinople and the Surrounding country from the town of Galata" and "View of Constantinople from the Tower of Leander," and as they both

[255] Image retrieved from <http://thearthistoryjournal.blogspot.com.tr/2011/02/levni.html> (June, 2014)
[256] Namık Erkal, "Tam Zamanında Gözlerinizin Önünde: Londra Panoramalarında İstanbul Sergileri 1," *Toplumsal Tarih* 170 (2008) 42.

comprised a 360° scenery of their surroundings, the scenes were displayed in cylindrical halls 27.5 meters in diameter and 17.3 meters at height.[257]

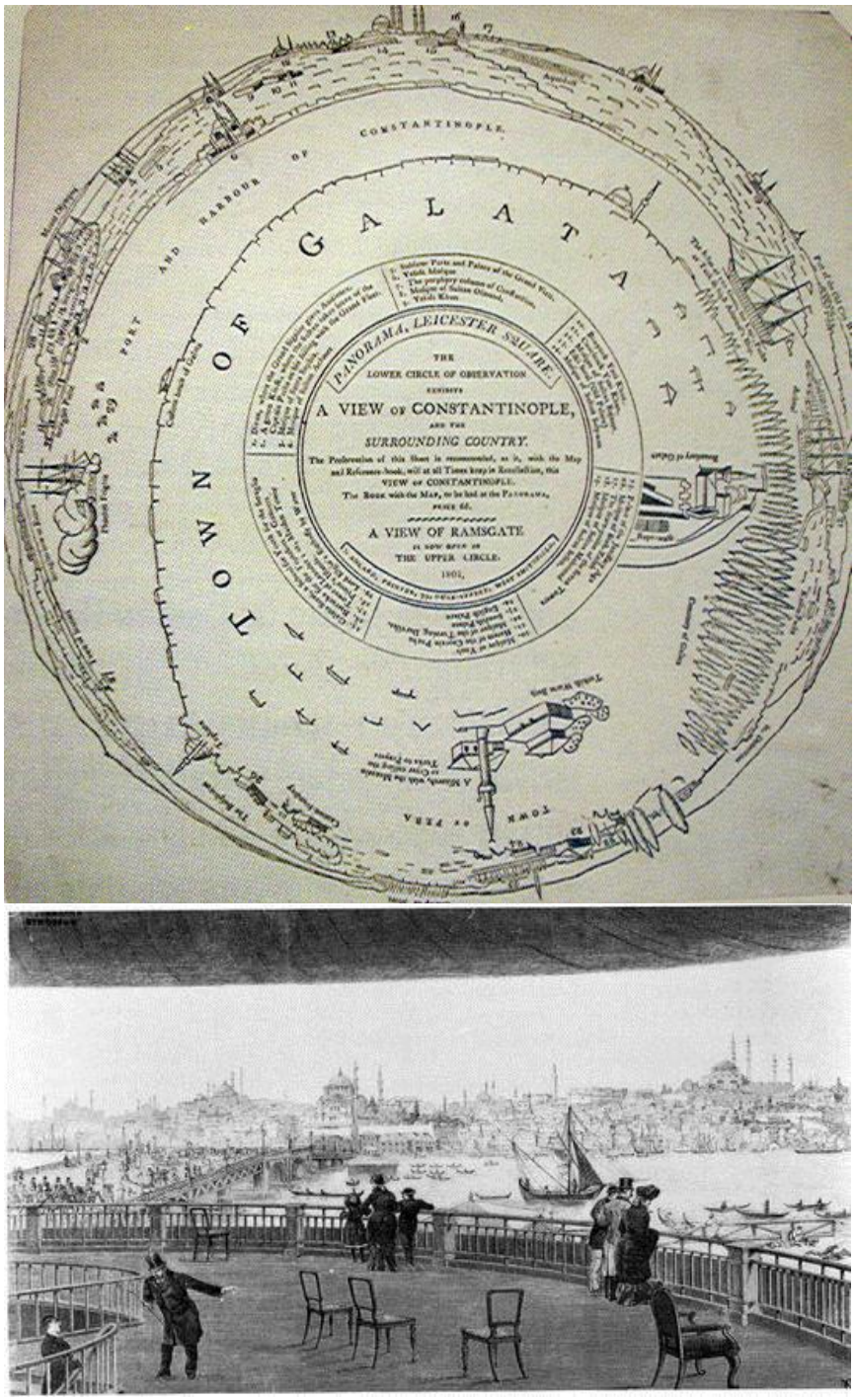


**Figure 4.6** Plan of the Istanbul painting displayed in Barker's Panorama Exhibition

**Figure 4.7** Visitors in Robert Barker's Panorama Building viewing Istanbul, Leicester Square, London 1801.[258]

[257] Ibid.
[258] Ibid.

Barker's panoramic paintings were of significant value in the way they hold both the picturesque details and the ideal representation of the landscape in traditional perspective. Regarding the case of panoramas depicting the Ottoman lands, the fact that they maintained the purpose of presenting the Western foreigners with the images of the mysterious Eastern capital was as well of notable importance.

**Figure 4.8** Henry Barker'a panorama painting of Istanbul.[259]

Considering the circumstances of the late 18th century, it might be suggested that the panoramas have constituted the past equivalent of the contemporary documentary programs or live broadcasting even, bringing recorded instances from around the world to a group of audience who reside in an entirely different context. In the view from the Galata Tower for instance, which was engraved to plates later in 1813, one may discern in photographic precision the monuments, houses, ships and even the residents at times. The panoramic views of Istanbul were, by that regard, of significant value for their much-detailed introduction of a completely unfamiliar and faraway geography to the Europeans, the images of which afterwards were also utilized as city guides by the travelers visiting Istanbul.

In his other painting, the view from Tower of Leander, Henry Baker is seen to insert an event into the scenery. With the three main sites of the city in the background – historical peninsula, Galata and Üsküdar- Sultan Selim III was illustrated traveling in the imperial boat with all the state officers accompanying him in a convoy, departing from Topkapı to arrive at another palace along the Bosporus.[260] The method of depicting events within the city silhouette was also a tradition practiced by the miniature artists, as stated above—for the utilization of aerial perspective in such

[259] Ibid.
[260] Ibid.

paintings was significant of a narrative value in their extensive inclusion of the setting.

Panorama paintings continued to be exercised by Western artists visiting Istanbul for several other purposes—as aiming for private collections, preparation of picturesque travelogues, and even providing strategic and political information to be utilized by the European states, institutions or businessmen. Not long after the panoramic view attained much popularity, however, during the course of the nineteenth centur,y the advent of photography had signified the onset of a new era regarding the scope of the word panorama:

> "By the time the panorama as an architectural type began to decline, in the early 1860s, photographic panoramas had become hugely popular in Europe. The development of a host of photographic and proto-cinematographic devices, in the second half of the nineteenth century, justifies Oettermann's claim that the panorama should be considered 'the first true visual mass-medium.'"[261]

Istanbul had continued to be photographed from the much exercised historical vantage points, or the favored spots of popular scenery, but it wasn't until nineteenth century that the city was actually seen from the air. The first balloon flight ever witnessed over the bounds of the city dates back to 1801, but no aerial recording of the journey remains today. In May 1909, a 20,000 franc-worth French air-balloon ascended over Taksim Square, during the flight of which the first aerial photograph of the city was captured over the historical peninsula (Figure 4.8). Only in the course of a few months, there appeared for a brief moment the first heavier-than-air craft above Kurtuluş piloted by the aviation pioneer Bleriot, the instance of which resulted in the crushing of the airplane due to inappropriate weather conditions. Both occasions were, all the same, greeted with great public enthusiasm and intellectual interest at a time where the debate over the future of aviation technology comprised much uncertainty. [262]

[261] Deriu, op.cit., 194.
[262] Süleyman Faruk Göncüoğlu, *İstanbul'un İlkleri Enleri* (İstanbul : EP Yayıncılık, 2004) 69.

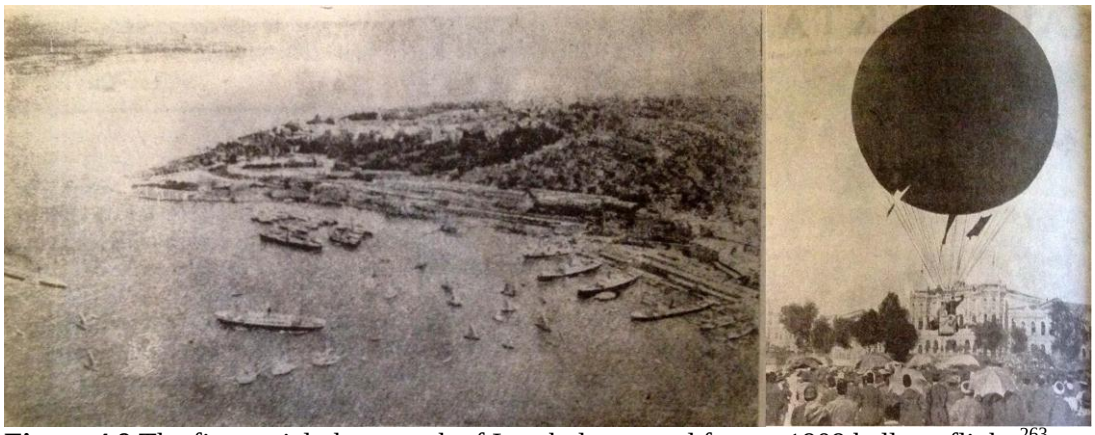

**Figure 4.9** The first aerial photograph of Istanbul captured from a 1909 balloon flight.[263]

## 4.2 Tool of Spatial Transformation: Twentieth Century Operations

> "Aerial discovery, even limited to direct or recorded vision, has a boundless sphere… As a method it serves many sciences, principally those which observe the surface layer of the ground and the phenomena that occur upon it. It extends scientific possibilities and opens up new horizons…Its principal significance lies in a vision of things seen from new and variable angles."[264]

### 4.2.1 Actors of Urban Transformation

"Solitary in his monoplane," Morshed remarks, "the aviator was the modernist trope par excellence representing a privileged view of the earth and was a catalyst for new models of aesthetic experimentation."[265] A boundless portrait greets the viewer from the stature of the airplane. Having revealed with all its components and fractions, the vast scape below endows the viewer with a grander understanding of the world, and a privileged access beyond the limits of the earthborn eye. Transcending the earthborn, or the mortal in that sense, inherently corresponds to the idea of a celestial glimpse which resembles that of Gods. Denis Cosgrove marks this heavenly perspective as the "Apollonian gaze," a view that is:

> "at once empowering and visionary, implying ascent from the terrestrial sphere into the zones of planets and stars… Apollonian gaze seizes divine

[263] Ibid., 70.
[264] Dorrian, Pousin , op.cit., 250-51.
[265] Morshed, "The Aesthetics of Ascension in Norman Bel Geddes's Futurama,"op.cit., 79.

> authority for itself, radiating power across the global surface from a sacred center, locating and projecting human authority imperially toward the ends of the earth."[266]

It is the gaze of the few powerful, or rather the authority, that occupies the elevated stance against the rest of the world. The act of gazing from above, however, has for long been transcending the means of mere surveillance. As Cosgrove briefly puts, "the idea of seeing the globe seems also to induce desires of ordering and controlling the object of vision."[267] It was this desire of interfering with the worldly order that fascinated most urban planners of the early twentieth century in the face of the first aerial photographs, and today it is the boundlessness of the aerial scale that still stimulates those in power to intervene with the domain of the cityscape extending below.

#### 4.2.1.1 Planner's Gaze: early twentieth century

> "Mid-nineteenth-century Istanbul was chaotic, overcrowded, poorly sewered, badly administered, prone to catastrophic fires and plagued with ineffective transportation systems. A century later the city was a metropolis with large avenues, postwar modernist architecture and city blocks which had swept away much of its traditional nineteenth-century street pattern and altered its urban form."[268]

Modernization of Istanbul was given start by the Ottomans in the early eighteenth-century as it has gradually advanced into the following decades. Known for the brief period of the Tulip Era, the reign of Ahmed III had staged the first instances of Western architecture to invade the traditional urban context by an intense course of construction. Under the reign of Selim III, Istanbul was later met with a grander ambition to be transformed into a modern European capital, as during the reign of Mahmud II the reforms were proceeded within further aspects. The first known initiative to apply Western urban planning concepts to Istanbul, however, was followed by the establishment of an urban development policy only a few months

[266] Cosgrove, *Apollo's eye*, op.cit., 5
[267] Ibid.
[268] Murat Gül, *The Emergence of Modern Istanbul : Transformation and Modernisation of a City* (London : Tauris Academic Studies, 2009) 1.

prior to the Edict of Gülhane in 1839—a document as well considered to constitute the first attempt of a master plan despite the many deficiencies it hold.[269] Noted as the author of this document in several resources, the German Field Marshall Helmuth von Moltke was ordered by Mahmud II -prior to the development of the 1839 policies- to prepare a cartographic land-survey of Istanbul, which he completed in the year 1837. The survey was, eventually, greeted with much enthusiasm by the ruling Ottoman elite.[270]

The following decades have staged further growth of the city under the influence of particularly technological, educational and military reforms, as industrial sites have also been introduced into the urban context—in the process of which "Istanbul was witnessing the experimental stages of revivalist [European] architecture."[271] There remained, however, a plenitude of unrealized projects especially within the span of the late nineteenth-century political and economic crisis. Amongst the most notable examples were the several construction proposals of bridges and tunnels over Bosporus—projects variously discussed and reshaped by different engineers through the course of decades, involving the connection of railways and major settlements in between the two shores. None of the proposals, however, were to be realized under the reign of the Empire.

Another significant yet unrealized proposal from the period Sultan Abdulhamid was that of the French architect Joseph Antonio Bouvard—the first European expert ever to be invited to Istanbul for the undertaking of a complete redevelopment plan for Istanbul. However, what proves particularly significant on Bouvard's work regarding the scope of this thesis was that it constituted the first instance in which aerial photography became involved in the preperation of an urban redevelopment plan for Istanbul.

In 1902, Bouvard was invited to undertake a master plan particularly for the improvement of certain public spaces of critical touristic and aesthetical value. Zeynep Çelik's **"**Bouvard's Boulevards: Beaux-Arts Planning in Istanbul" article provides a detailed insight on the issue:

[269] İbid., 20-29.
[270] Ibid., 30-31.
[271] Ibid., 58.

> "Around the time when the City Beautiful plans in the United States attempted to bring a new order and pattern to American cities, a parallel scheme was prepared for Istanbul, the capital of the Ottoman Empire. Its author was the Beaux-Arts-trained Joseph Antoine Bouvard, Inspector General of the Architectural Department of the City of Paris... for Paris had represented the ultimate image of beauty and culture to the ruling Turkish elite since the beginnings of the 18th century."[272] (çelik, 341)

Accepting Sultan's invitation, Bouvard immediately requested large-size aerial photographs of the city to be able to undertake the project, for he was unable visit Istanbul at the time he was assigned the work. It is through the information he managed to gather from these aerial photographs that Bouvard completed his avant-garde proposals for Istanbul.[273]

The application of Beaux-art planning on the city was already given faint start by the widening of critical urban arteries as Divanyolu, while architectural projects of similar fashion were being realized on the outskirts of Galata and the Golden Horn. With the late nineteenth-century transformations characterized by the European fashion, the existing city fabric was largely structured by the Turkish-Islamic assets as there remains the question of whether Bouvard hold an accurate impression of the existing fabric or not. Such a consideration, however, was disregarded by the Ottoman elite as "the desired image was that of a European city:"

"Bouvard's designs consist of large watercolor drawings, bird's-eye views, and long-range perspectives...he chose several notable locations and applied to the existing fabric his classical Beaux-Arts principles of regulation, symmetry, isolation of monuments, and creation of vistas with prodigious terminal points."[274]

Further resembling impressionistic sketches rather than cartographic plans, Bouvard's proposals focused on certain public nodes of significant value, such as Hippodrome, Beyazit Square, and the Galata Brigde with the Valide Sultan Square in

[272] Zeynep Çelik, "Bouvard's Boulevards: Beaux-Arts Planning in Istanbul," *Journal of the Society of Architectural Historians* 43.4 (Dec., 1984) 343.
[273] Ibid., 342.
[274] Ibid., 343.

Eminönü. In Bouvard's work, urban connections on the larger scale as well as the topographic quality were almost entirely disregarded as design inputs. Merely working with the information derived from photographs, Bouvard's drawings have evidently lacked a holistic consideration of the cityscape, and did not stand in correlation with the existing morphological assets.

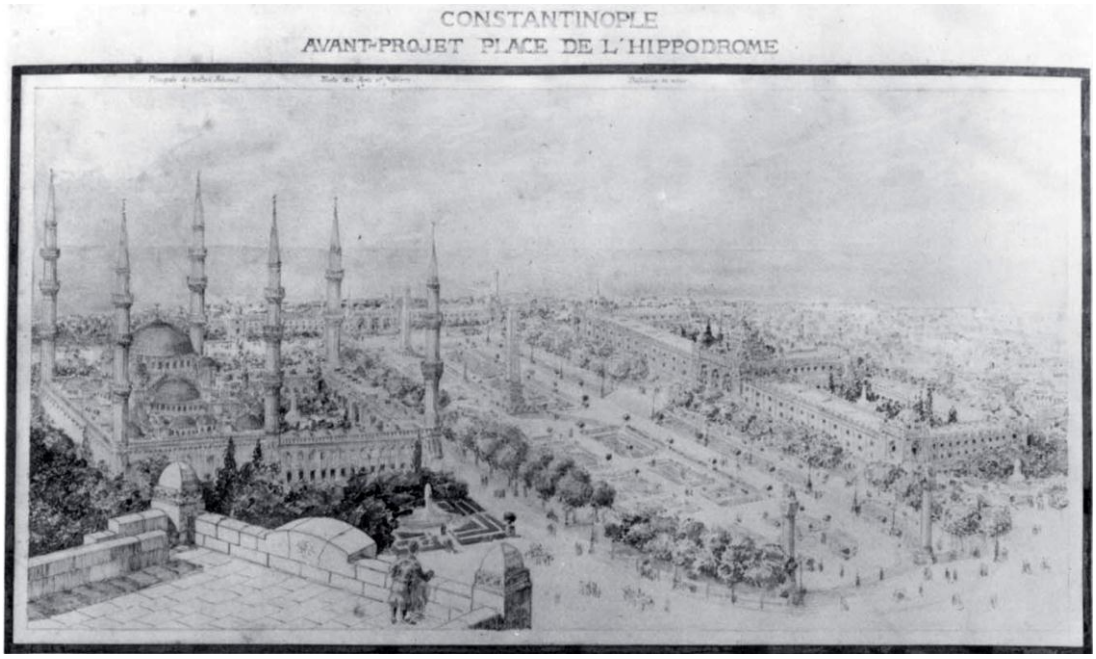


**Figure 4.10** Joseph Antoine Bouvard, "Avant-Garde Project, Hippodrome Square," Paris, 1902.[275]

In Bouvard's proposals for both the Hippodrome and the Beyazit Square, as Çelik thereupon remarks, "topography was disregarded," while particularly the existing fabric of the Beyazit Square was substantially overlooked: "Bouvars's scheme would lose its coherence if the slope were taken into consideration… Bouvard's disregard for topography and the existing fabric made this ambitious scheme a mere illusion."[276] Aside from the problems in scale and the proportional inaccuracy of renderings, the boulevards emanating from the nodes do not constitute meaningful axes within the grander urban scheme—they seem to hit dead ends as they cross the projected public spaces.

[275] Ibid.
[276] Ibid., 347-348.

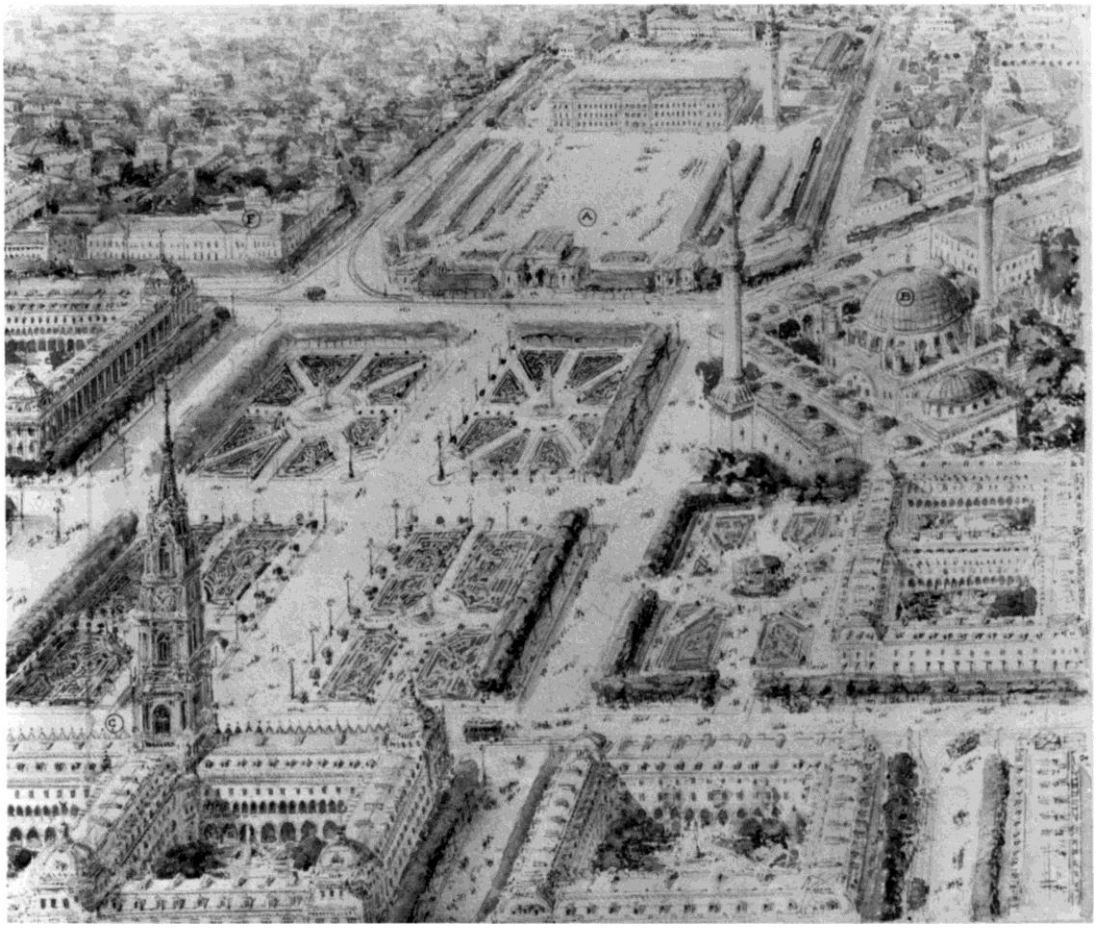

**Figure 4.11** Joseph Antoine Bouvard, "Avant-Garde Project, Sultan Bayezid Square," Paris, I902.[277]

For the architect didn't hold an accurate grasp of the existing cityscape and developed his proposals merely through aerial photographs of the designated transformation area, the final products have not managed to provide a fruitful outcome for an actual enhancement of the city-center but rather provided a medium through which the architect has forced a Parisian image out of the existing context. Çelik's remark on the issue is at once notable: "Bouvard's avant-project was an exercise in form. It was not even based on a preliminary program, and thus many buildings were not assigned a function in the drawings."[278] The picturesque quality of his aerial renderings were undoubtedly notable in their elegant depiction of the cityscape, but there remained a plenitude of problematic parameters as the scale, preservation of the existing fabric, local heritage, city-culture, and the connection of major urban arteries—"so much for working from photographs."[279] The resulting

[277] Ibid.
[278] Ibid., 354.
[279] Ibid., 345.

images, however unrealistic they proved, attained a certain measure of artistic quality and spatial order that vastly differed from the chaotic fabric of the existing urban environment. The aerial perspective assumed by the architect in his renderings has obscured minor details while emphasizing a most Western silhouette within the existing fabric. The picturesque scenery, by that regard, resembled that of a European city in its beauty and architectural quality—an asset extensively celebrated by the ruling elite at the time.

Regarding the utilization of aerial view as a tool of urban transformation, there remain two remarks to be underscored in Bouvard's drawings. As the scope and perspective of his renderings extensively suggest, the architect has been making use of aerial photographs in completing his proposals—a case that particularly likely evident when the renderings are juxtaposed with early twentieth century instances of Istanbul (Figure 4.12). The information provided by the aerial photographs, in that sense, directs the architect in his conceptualization of the project, and for the very first time, the view-from-above is utilized in the transformation of the built environment of Istanbul.

Bouvard's finalized drawings, however, prove rather unsatisfactory in providing realistic solution for the underlying problems, as stated above. Aerial renderings of the studied nodes and arteries in this early case act as picturesque frames that romanticize the scenery of the proposals, rather than constituting accurate solutions for the existing urban disorder. In their functioning, Bouvard's illustrations operate no different than the preceding instances of aerial depictions in their emphasis of the civic pride and the overriding artistic impressions.

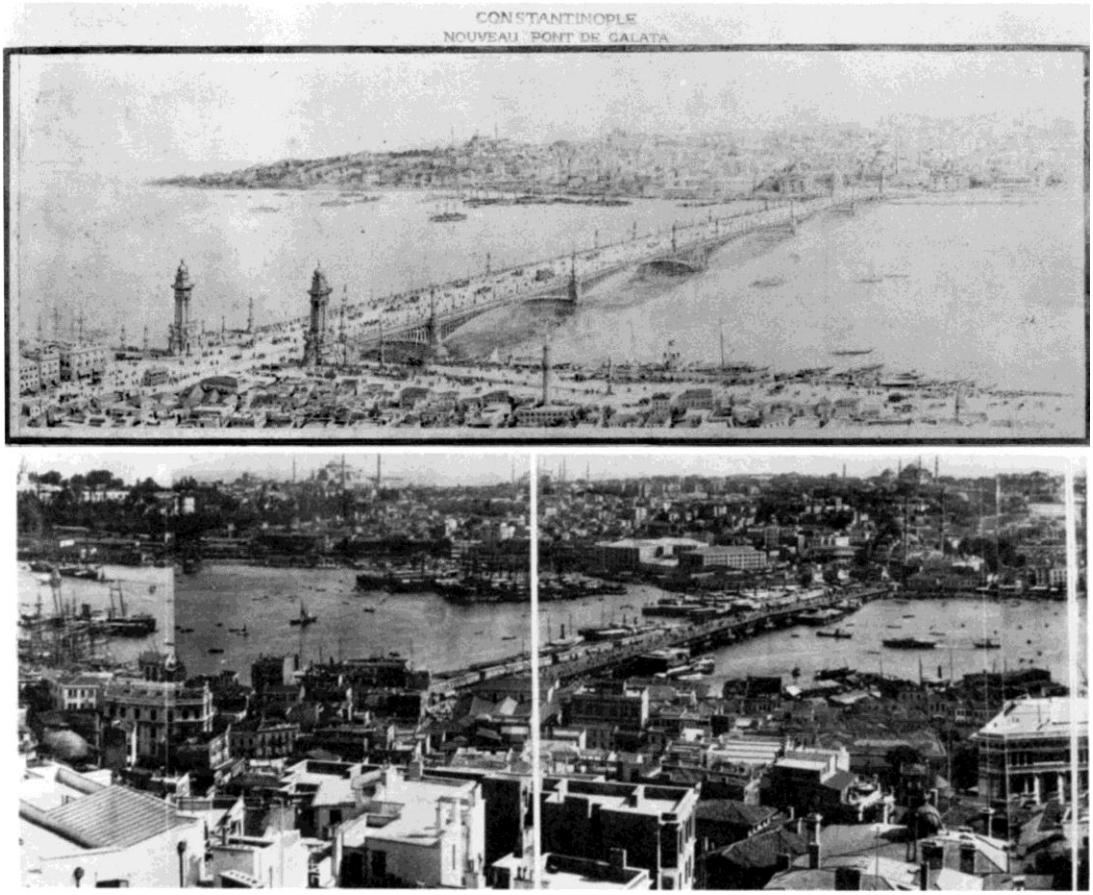


**Figure 4.12** [top] Joseph Antoine Bouvard, "New Bridge of Galata," Paris, 1902.
**Figure 4.13** [bottom] Turn-of-the-century view of the Galata Tower.[280]

Bouvard's early twentieth century initiave, by that regard, fails to attain something more than "an exercise in form," as Çelik thereupon suggests, but still proves unique in its utilization of aerial photography in devising Istanbul's master plan.[281] The architect's method clearly marks an onset in the course of Istanbul's urban transformation, however, it is not until three consequitive decades that aerial photography constitutes a useful input in the execution of the city's master plan.

The onset of the Republican period had staged an extensive course of urban transformation, particularly in the newly established capital Ankara—as building up the modern cityscape constituted an operation of priority from the earliest days of the Republic:

[280] Ibid.
[281] Ibid., 354.

> "Having emerged with the claim to 'plan' cities in compliance with the new transportation technologies, public hygiene, and, most importantly, the needs of the industrial age of the West at the turn of the 20th century, this new discipline was regarded by the ruling class of the Republican era in Turkey as an effective tool for modernization and specialization that needed to be taken advantage of, not merely in shaping the urban environment required by contemporary social life as foreseen, but also for generating a modern visage for the city."[282]

The issue was, thereupon, approached with urgency: "from the very beginning, the Republican authorities opted for a planned urban development in conformity with the modern principles of town building. European architects and planners…were invited to develop plans for Turkish cities."[283] In realizing these Republican objectives, Western specialists were called upon the task either by competition projects or on personal invitation—amongst which Hermann Jansen and Henri Prost were influential figures.

In the year 1935, noted for his knowledge of the Orient and its people, the French architect Henri Prost was called to Istanbul with the object of undertaking a development plan for the city—in the process of which Mustafa Kemal Atatürk is considered to be personally involved.[284] In close cooperation with several governmental figures as Lütfi Kırdar and Muhittin Üstündağ, Prost became immensely involved in the course of urban transformation for the next fifteen years.

Prior to his 1937 proposal of a master plan, during the course of the first two years of his arrival in Istanbul, Prost had been meticulously –and aerially– investigating the cityscape in collaboration with the Turkish Air Force—for the task of updating the currently incomplete and imprecise cartographic resources. In the process, the architect has gathered and later made extensive use of the city's aerial recordings in the preparation of his first Master Plan for Istanbul.[285] A technique he was initially

[282] Cana Bilsel, Pierre Pinon, eds. *From the Imperial Capital to the Republican Modern city: Henri Prost's planning of Istanbul (1936-1951)* (İstanbul: İstanbul Araştırmaları Enst., 2010) 103.
[283] Cana Bilsel, "Remodelling the Imperial Capital in the Early Republican Era," in Jonathan Osmond, Ausma Cimdina, eds., *Power and Culture : Identity, Ideology, Representation* (Pisa : PLUS-Pisa University Press, 2007) 98.
[284] Bilsel, Pinon, op.cit., 106.
[285] Ibid., 112.

introduced in planning the Moroccan cities, for Prost, attaining of a comprehensive aerial survey of Istanbul proved most crucial not merely in documenting the current framework, but in providing an accurate base of cartographic information as well. A constant updating of the city's aerial recordings, in that regard, was a professional requisite in achieving an effective course of urban planning—by the technique of photogrammetry, a great variety of aerial images of different altitudes and scopes were assembled in order to attain a revised and complete photographic map of Istanbul.

Pierre Pinon remarks Prost's approach in undertaking the project as follows: "Prost analyzed the city for two years before proposing a Master Plan. For him, being acquainted with the land was essential. He achieved this knowledge by surveying the land and using aerial photography."[286] Both as a means of gaining urban insight and for the procurement of accurate cartographic information, Prost has granted utmost importance on the issue, and never before had Istanbul been so comprehensively subjected to air survey.

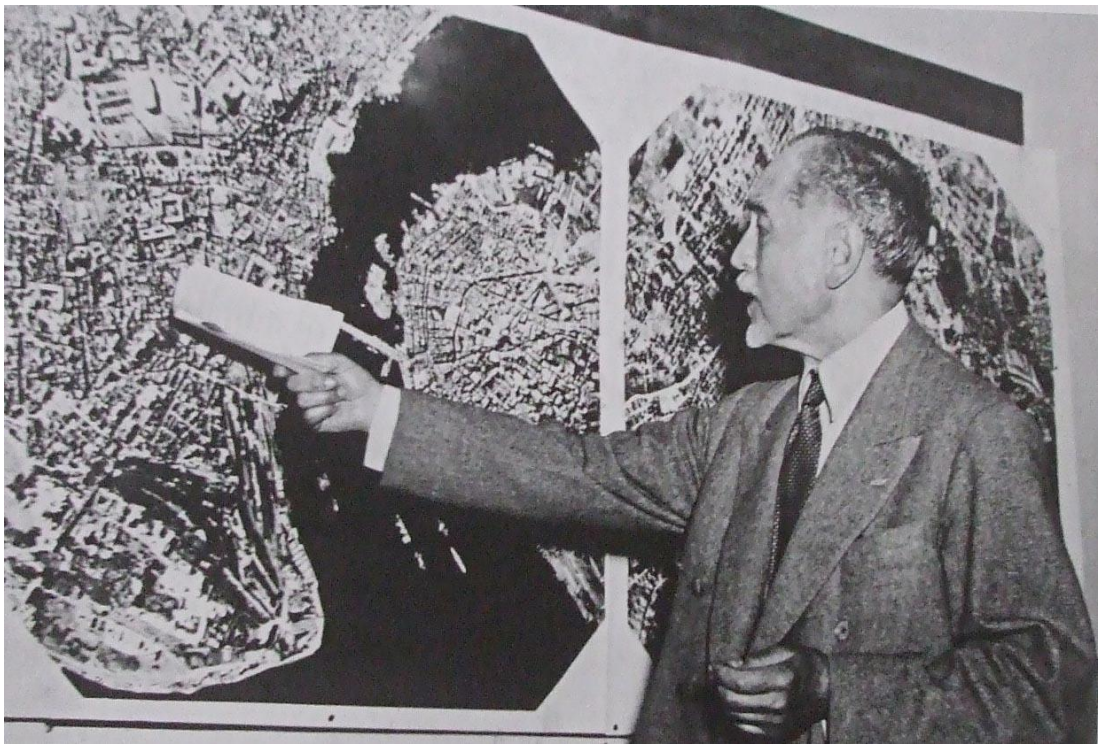

**Figure 4.14** Prost, presenting Istanbul Urban Development Plan in Academie des Beaux-Arts in Paris.[287]

[286] Ibid., 82.
[287] Ibid. 80.

Orthographic use of air photography was of critical importance for Prost in the execution of the city's master plan, as discussed previously, however, the architect has also made extensive use of oblique-aerial images in developing his proposals. Prost's archive includes a variety of aerial photographs upon which he seems to be taking detailed notes—analytical sketches of the existing urban fabric as well as the diagrammatic proposals that seem to explore the potentials of the given site. Prost further makes use of oblique-aerial perspective in his renderings of certain development areas where he seems to be exploring the contextual relations in between the existing urban facades and the nodes he tends to be creating. The utilization of aerial perspective in conveying his ideas, by that regard, is evident by the means he has undertaken the task.


**Figure 4.15** Binbirdirek Cistern Square. Houses to be demolished. [288]

[288] Ibid., 281.

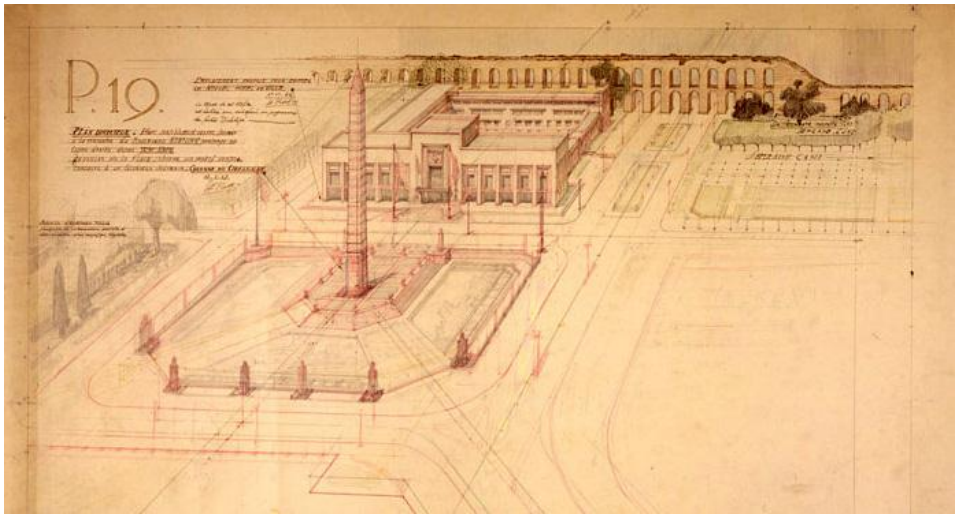


**Figure 4.16** Project for a New Fatih Square. Axonometric drawing. Henri Prost, October 1937.[289]

In the year 1940, Prost himself published an article on the prominence of aerial information in urban planning, with the title "Air Photography and Urbanism."[290] In his discussion, the architect's most prominent remark dwells on the importance of "knowing" the city in the deepest wise possible for being able to undertake an effective master plan. Starting his discussion with a brief on the positive aspects of topographic maps, Prost, all the same, points to the shortcomings of the information these maps convey in providing a detailed survey of each building block in terms of the structures they hold. For the execution of an efficient planning process, however as Prost suggests, it proves of utmost importance that the architect and planner is well acquainted with all mysteries of the built environment.[291] In gaining access to such an extensive span of information, cadastral and topographic plans mostly fail to project the necessary information in understanding the content and quality of the space to be transformed.

Prost eventually remarks, for twenty years now, airplanes have been operating over cities for "peaceful" purposes, transforming the modes in which the built environment has been examined and studied before—for both the aviation and photographic reconnaissance technologies were extensively advanced through the course of the World War. By that regard, as Prost further remarks, regarding the

[289] Ibid., 317.
[290] Henri Prost, "Hava Fotoğrafı ve Şehircilik," *Belediyeler Dergisi* 56 (1940) 6-8.
[291] Ibid., 6.

invitation of the Turkish government, he claims to have accepted the offer under one condition only—to be provided with a comprehensive photographic-map of the transformation area before starting with the work.[292]

**Figure 4.17** Land survey over Istanbul.[293]

Unlike the private or state companies as concurrently observed in the West,[294] there remained no Turkish enterprise that could undertake the operation in Istanbul—on account of which Prost have worked with the Turkish Air Forces for the completion of the process (Figure 4.17). Providing some technical insight in the technique of photogrammetry, Prost further notes that photographic maps save the planner much time and money in the execution of master plans, and if such maps for every city in Turkey could be provided, the planning profession would be rendered much more straightforward and beneficial.

Following the post-war advancements in the fields of aviation and photography, cities were now documented more precisely than ever, rendering aerial photography a significant tool for further development of the planning profession. Prost's 1935

[292] Ibid., 8.
[293] Ibid.
[294] For further discussion on the issue, see Davide Deriu " Capital Views: Interwar London in the Photographs of Aerofilms Ltd." *The London Journal* 35.3 (November 2010).

initiative in Istanbul constituted a first in its gathering of such a comprehensive set of aerial information which was extensively utilized not only for the purpose of urban planning, but such research fields as meteorology, archeology, landscape architecture and several other fields in the course of the following decades.

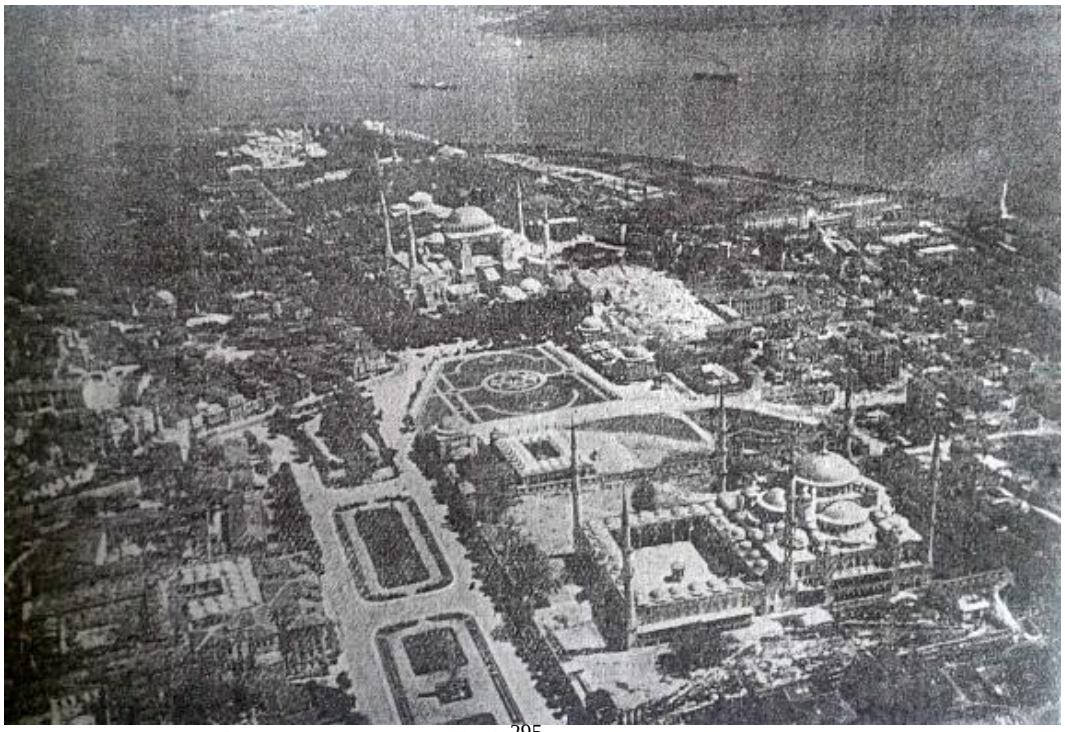

**Figure 4.18** Land survey over Istanbul.[295]

In the early 1920s, representatives of the first Italian airline company Aero Espresso Italiana S.A. (AEI) had contacted Turkish officials for the establishment of a seaplane transportation link between Brindisi, Athens, Izmir and Istanbul, as Haluk Zelef remarks, the realization of which was given start in 1925.[296] The decade following the construction of the first seaplane station in Büyükdere, the AEI seaplanes have operated for "cargo/postal services; transportation of dignitaries and the wealthy; and organized tours for the new aerial tourists of the modern era."[297] The aerial vantage point of the tourist was quite a new phenomenon in that period, and the brochures published by AEI about the

[295] Prost, op.cit.
[296] Haluk Zelef, "Impacts of Seaplanes and Seaports on the Perception and Conception of the Modern City: the Case of Istanbul," *Journal of Urban History*, (June, 2014). 3
[297] Ibid.

company's aerial services were as well considered as the first aerial city guides over the route of the seaplanes.

Their span of utilization, however, was stretched along other professional spheres. Prost was amongst those who were much interested by the impact of air transportation and its involvement in shaping the modern city. Zelef quotes Prost's notes of 1937 as "just like the automobile…the important role to be played in prospect by the seaplanes for public and private transportation would not be just a fantasy."[298] His urban proposals involved co-operation of both land and sea facilities for air transport: "he saw future of seaplanes as being not only to connect Istanbul to other locations, but also as playing a key role in the daily routine of the city."[299] Prost's interest was rather evident in his consideration of the issue in Istanbul's 1937 master plans—an idea he is later seen to have flourished by the conception of a "centralized seaplane station" in his notes dating 1940, close to the Yeşilköy airport facilities, "suggesting that the waterscape and landscape be reshaped to create an enclosed basin…if such a facility were to be realized, Istanbul would become one of the most advanced cities in the world in its accommodation of both plane types."[300] Prost's conceptualization of the seaplane station as one of the key constituents of Istanbul's extensive urban program is indicative of the importance air travel was then granted—seaplanes were of advantage for the unique seacoast Istanbul inherited, and they proved to operate rather independently compared to the ordinary planes. As a notable planner of the twentieth century, Prost believed in the transformative capacity of air travel in shaping of the cities, and advised that a structuring of Istanbul's aerial routes would change the city's future stance in significant measures.

[298] Ibid., 16.
[299] Ibid., 16.
[300] Ibid., 16-17.


**Figure 4.19** Prost, gazing over a plan with several Turkish officials.[301]
**Figure 4.20** The Archeological Park. Limits of the park drawn on an aerial photograph with a hand written legend.[302]

**Figure 4.21** Aerial photographs of Taksim Gezi Park area before and after the application of Prost's plans.[303]

Prost's professional gaze over Istanbul eventually proves much evident in his planning approach. As the scope of his field of action required, in exercising Istanbul's master plan Prost naturally made extensive use the aerial medium in both oblique and orthographic sets. The span of his operations had stretched along an extensive domain of separate nodes and districts, in the face of which aerial perspective proved ever more crucial in bringing about these critical instances in a single frame—the need to survey the city on the grander scale was now a task more urgent than ever.

[301] Bilsel, Pinon, op.cit. 93.
[302] Ibid.,301.
[303] Korhan Gümüş "Role of architecture in the public sphere in Istanbul's representational domain," *Istanbul City Portrait International Conference, 2012.* Images retrieved from <http://istanbulcityportrait.wordpress.com/key-dates-and-venues/asu-aksoy/korhan-gumus/> (May, 2014).

#### 4.2.1.2 Politician's Gaze: urban planning and authority

Architecture's instrumental use by regimes of power," as Diane Ghirardo states, "is hardly new."[304] A discipline that has never proven completely autonomous from the institutions of administration, architecture has for long constituted a means of claiming authority on the urban scale. Otherwise put by Henri Lefebvre as "a means of control, and hence of domination, of power," space production embodies an intricate relationship with the notion of hegemony.[305] By the nature of this relationship, architecture, and thus urban design, prove potential tools to declare a certain degree of mastery over space, or in other words, a potential medium through which to claim authority over social realm. The essence of space formation, Kim Dovey thereupon suggests, holds certain fundamental intentions as pleasure, profit, status and political power—rendering the cityscape a scene of intervention.[306] Hence, any social reading of the urban structure is expected to reveal political constituents regarding the everyday settings, most particularly the public ones.

"Authority is a form of 'power over [the power of one agent or group over another]'" integrated with institutional spheres of society—primarily the state, private corporation and family.[307] Found upon a rigid definition of acknowledgement and consent, authority does not tolerate the questioning of its scope. Rather, "based on socially acknowledged rights and obligations, authority is the most pervasive, reliable, productive and stable form of power"—holding the right to outline the extents of, or if necessary entirely avoid, any span of argument within its domain. Yet, the span authoritarian practice widely depends on the measure of its legitimation—a case very much related with the notion the public sphere. To acknowledge the legitimacy of state authority is to acknowledge that it serves the grander interest of public. "The inefficient exercise of force is [thus] transformed into unquestioned authority," as the main connection to the built environment here is that

[304] Diane Y. Ghirardo, "Manfredo Tafuri and Architectural Theory in the U.S., 1970-2000," *Perspecta* 33 (May, 2002) 1.

[305] Henri Lefebvre, *The Production of Space,* trans. Donald Nicholson Smith (Oxford: Wiley-Blackwell, 1991) 26.

**[306]** Kim Dovey, *Framing Places: Mediating Power in Built Form* (London: Routledge, 1999) 1.

[307] Ibid., 12.

"authority becomes stabilized and legitimized through its symbols."[308] It operates within the public realm through a series of representational constituents that are institutionally entrenched in the urban environment, both spatially and ritually. Public sphere thus becomes a stage for the state authority.

Moreover, authority's claim over public space asserts itself through spatial regulations. "Architecture and urban design 'frames' space, both literally and discursively."[309] In this course of spatial framing, public realm operates as a terrain that mediates the experiencing of power and identity on daily basis. A key constituent of the process that relates to the overall discussion of this thesis, as Dovey remarks, is the input of imagination: "Imagination plays a key role in the discourse of power since empowerment implies a capacity to perceive one's real interests and connect them reliably to an imagined future."[310] For the fact that it arouses public desire and fantasy, the functioning of the architect and urban planner as "imaginative agents" gain much significance in the course of this make-believe process, which eventually characterizes the formulation of the social discourse of power.

"Place creation is determined by those in control of resources."[311] Built environment itself is the total projection of a series of identities, distinctions and conflicts that dwell on the discussions of gender, social hierarchy, ethnicity, culture and age. "It shows the interests of people in empowerment and freedom, the interests of the state in social order, and the private corporate interest in stimulating consumption."[312] As stated above, any spatial reading of the everyday environment will reveal a plenitude of connotations within. It is through the cityscape that authority asserts its identity, politics and dominance most evidently: grander the span of urban action, the more prominent the authoritarian declaration becomes.

Returning to Cosgrove's argument, what he formulates as the "Apollonian gaze" becomes the stature from which the authority interferes with the public realm. Aerial

[308] Ibid.
[309] Ibid., 1.
[310] Ibid., 13.
[311] Ibid., 1.
[312] Ibid.

view operates as the Apollonian gaze of control and the 'high-perch' of spatial intervention. Similar to that of the twentieth century reception in the face of aerial photographs, the air-borne inspection today involves a certain degree of mastery over the cityscape through which governments assert claim on the public realm. "The Apollonian gaze" as quoted above, "seizes divine authority for itself, radiating power across the global surface from a sacred center, locating and projecting human authority imperially toward the ends of the earth."[313] Metropolises of great capital, historical and cultural value, by that regard, today prove almost impossible to be visualized independent from the constraints of an omnipotent authoritarian gaze over the public domain.

There naturally exists a plenitude of parameters that operate in the formation of the cities' built environment—parameters that involve such motives as pleasure, profit, status and political power. Urban transformation process in Turkey assumes a rather similar projectile. As the most prominent and complex Turkish city, Istanbul is hardly ever able to escape the governmental interventions, especially in the face of contemporary capital dynamics: beginning with the establishment of the 1950s multi-party system in Turkey, the course of urban transformation has become a critical part of the Turkish political discourse.

Aerial operations of administrative actors prove significant for various reasons, particularly those over Istanbul. As the country's most populated and economically largest metropolitan area, Istanbul has for long constituted a notable subject of authoritarian intervention. Today, the city not only holds a unique heritage of historical and cultural assets, but as well operates as the capital of international investment and market economy. It maintains a continuous program of expansion through which new channels open up and presently, urban transformation projects of various scales continue to mark Istanbul's silhouette as well as the structure of its social environment.

As studied in the previous chapters, aerial view operates both as a symbolical and functional tool of urban transformation. The Godlike gaze over the cityscape suggests an act of totalitarian intervention and control, while the employment of

[313] Cosgrove, *Apollo's Eye*, op.cit, xi.

aerial images on city planning has long been considered a method of urban enhancement for further growth of cities. The span of agents involved in the process, however, mostly stretches beyond the team of professional experts and comprises influential figures from the state authority as well. In light of the discussions conducted above, it is for long suggested that authority, or the government, holds a significant claim over the construction of the public domain. Considered within the sphere of aerial view, or the Apollonian gaze as Cosgrove phrases, the span of governmental action gains further insight: as the mere subject of the aerial gaze, the public sphere becomes the scene of authoritarian intervention.

In the case of Turkey, the Apollonian gaze is particularly evident as part of the political discourse beginning from the late 1950s. To begin with, the process of urban transformation was publicly rendered all-the-more visible by the operational scope of the Western democratic model of government and the globally-competent city vision set for Istanbul in articulating onto the international scene—as to be explained briefly in the subsequent discussion. Nevertheless, in the early 1980s, the rapid development of both digital broadcast tools and printed media had rendered the issue socially more visible than it has ever been—in the course of which aerial view has been extensively utilized as part of the urban transformation discourse. It is from the earlier instances of the political Apollonian gaze that the discussion will be started from.

Before proceeding with the investigation of the Turkish political context, it is of significance to note that the role of aerial gaze within the circle of the political actors and the notion of urban transformation are not peculiar to Turkey, but rather the indicators of the operation of a grander network of Western policies—in the process of which the gaze not merely becomes a tool of the democratic system, but the authoritarian dictatorships as well. The cases may naturally involve conditions unique to their context, but the argument should eventually be read as part -and consequence- of a broader scope of action.

As stated above, the 1950s are considered to constitute a novel stage for Turkish Republic not merely for the transition from one-party to multi-party system, but as well regarding the emergence of a new country in the wake an unconventional era of social, economic and religious affairs. Democrat Party was established in 1946 by

the onset of the multi-party system, and had managed to outnumber the Republican People's Party (CHP) votes in the second round of elections, seizing power in 1950.

> "In the mid-twentieth century, industry and commerce replaced bureaucracy, and the center of gravity of the country had rolled from Ankara to Istanbul, which in the official discourse was proclaimed to be 'the jewel of Turkey.' And Prime Minister Adnan Menderes (1900-1961) declared: 'we are going to rescue her from the 1900s' gaze.'"[314]

A most significant asset of this political transition program was the rendering of Istanbul as the operational 'stage' of the Democrat Party, as Ipek Akpınar further suggests: "to win the election in Istanbul was supremely important to Menderes as it would represent the legitimacy of the DP in Turkey, symbolizing the change in political power."[315] Istanbul was considered a new center of a much grander program that would comprise the new Balkan and Middle Eastern bloc, and the making of the new city-image was considered of utmost importance in the realization of this process. By the second half of the decade, Istanbul was already a major component of DP's political discourse, Akpınar thereupon remarks, as "for the making of Istanbul a modern stage, the DP welcomed the image of American cities, with a network of roads surrounded by a new architectural language, High-modernism or International Style in the light of Prost's Plan."[316]

As stated before, Prost had been extensively working on the execution of the city's master plan in the first half of the century. By the 1950s, however, the course of urban planning assumed a rather different trajectory. Akpınar's note on the transition between Prost's urban operations to the grander vision of the Democrat Party is at once notable:

> "In 1950 following the victory of the DP in the national and municipal elections, Istanbul became the stage for more governmental activities, and Prost was dismissed. His departure marks the beginning of the second phase: responsibility for the city

[314] Bilsel, Pinon, op.cit., 167.
[315] Ibid., 168.
[316] Ibid., 170.

> plan was put in the hands of Turkish experts, who revised Prost's plan. Then, in 1956, Menderes took over personal responsibility for the urban reconstruction and there followed in the next four years…a period of intensive road building, street widening, demolition of old buildings and construction of new ones."[317]

This transition inevitably engenders in itself the Apollonian gaze of the powerful. Prost's operations have marked the spatial transformation of Istanbul in the first half of the decade, a professional eye gazing over the complexities and shortcomings of the city from the air. His professional gaze, however, transformed into that of a political one which processed the cityscape as a stage of political legitimation. As Menderes came to be the most prominent political actor involved in the course of urban transformation in the late 1950s, aerial recordings of the city at the time became the most evident proof the operation of his Apollonian gaze over the public domain. His presence as a political actor was much significant for the large-scale urban interventions that continued marking the cityscape in a rapid course of demolishment and construction.

**Figure 4.22** Menders inspecting a project proposal.[318]

[317] Ibid., 171.
[318] Gül, op.cit., 162

The aerial photographs of the city in the late 1950s, by that regard, imitates Menderes's eye in its framing of this constant course of transformation marking the context of the built environment. During the time, an extensive archive of aerial recording has been generated for documenting the state of the sites in transformation, as well as to monitor the progress:

> "In many ways, Menderes' redevelopment program mirrored that of Baron Haussmann's spectacular transformation of Paris a century before. Istanbul saw thousands of buildings demolished, gigantic boulevards carved out within its historical core and the outward expansion of its urban area."[319]

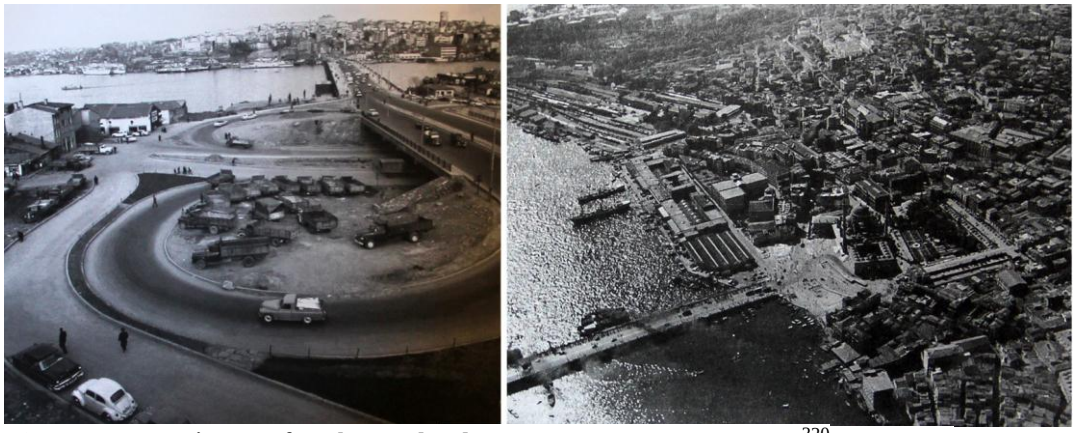

**Figure 4.23** Eminönü after the road-enlargement operations, 1940s.[320]

The new arteries that mark the urban context are evident in the images captured from the air, framing the extensive scale of the ongoing transformation. Further instances of aerial images record the large-scale scope of the demolishment.

[319] Ibid., 3.
[320] Süleyman Faruk Göncüoğlu, *İstanbul'un Kitabı* (İstanbul : Fatih Belediye Başkanlığı, 2011) 524.

**Figure 4.24** Demolitions executed in the west of Eminönü to construct the littoral road along the southern bank of the Golden Horn, late 1950s.[321]

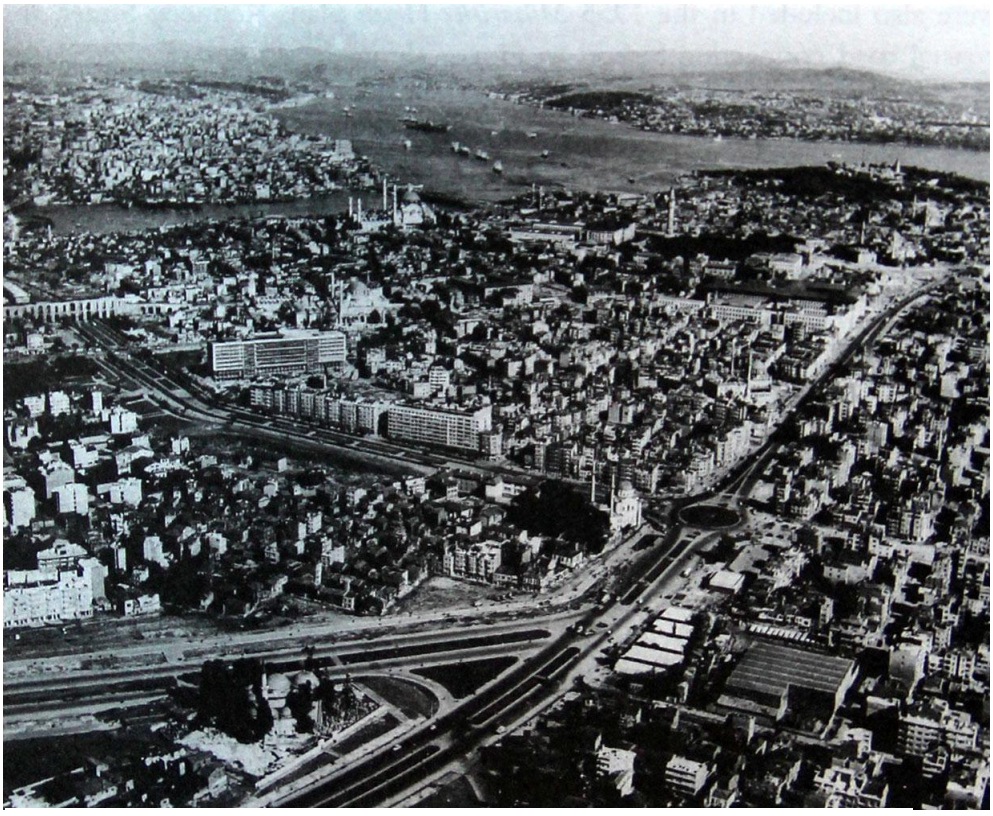

**Figure 4.25** An aerial view of Vatan, Millet and Ordu streets and Atatürk Boulevard, early 1960s.[322]

[321] Gül, op.cit., 151.
[322] Ibid.

**Figure 4.26** An aerial view of Vatan Boulevard under construction, 1958.[323]

The discussions here, as specified above, should be read a part of a grander social and economic program structured by the policies of the twentieth century and not as cases peculiar to the course of Istanbul's urban development. A significant instance to be noted, by that regard, is the resemblance of the urban operations undertaken by the 1950s Democrat Party with that of the 1930s National Fascist Party of Italy, leaded by the Italian politician Benito Mussolini. Though Menderes's urban operations are commonly discussed in correlation with the case of Paris, there further remains a significant –and historically closer- analogy with the early twentieth century destructions executed in the capital Rome by Mussolini, regarding the creation of the imperial city (Figure 4.27). Both cities bear witness to similar courses of urban reconstruction regarding the intervening gaze of the political leaders that prove significantly evident in the creation of the modern capital.

[323] Göncüoğlu, *İstanbul'un Kitabı,* op.cit.

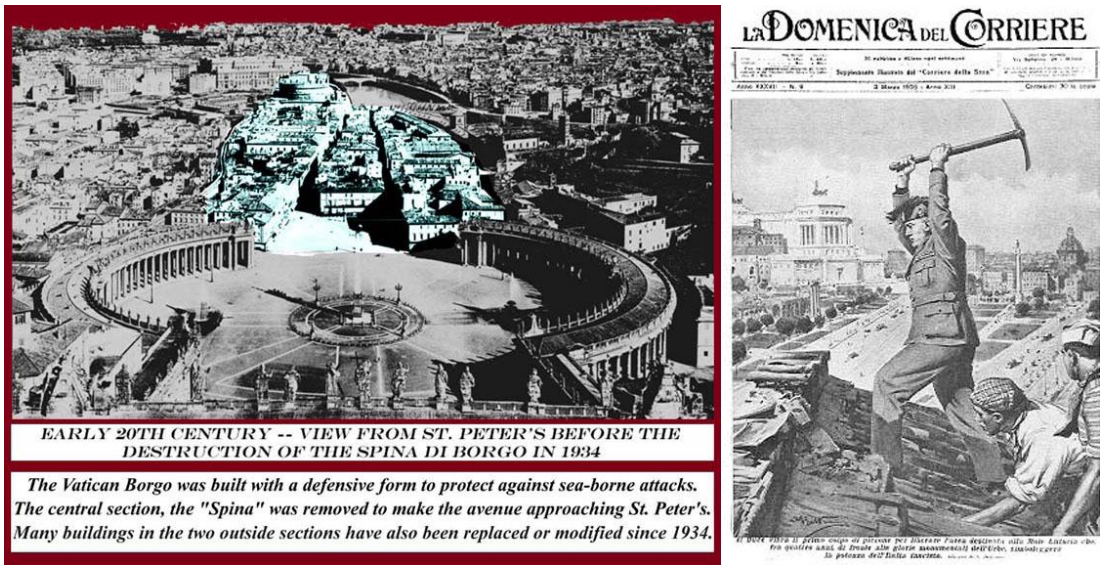


**Figure 4.27** Instances of urban demolishment in 1930s Italy, Mussolini photographed by a pickaxe during the construction of Mole Littoria, February 1935. [324]

Democrat Party was eventually overthrown by the military at the end of the decade, followed by a two-decade military-dominated interval during which the course of urban transformation progress had come to an halt. It wasn't until the 1980s that political actors were once again visible in the public scene.

> "Perhaps the most noteworthy project of the twentieth century…was the construction of the Bosphorus Bridge in 1973. Other uncompleted works in Prosts's and the Revision Commission plans—the Tarlabaşı Boulevard…and the extension of littoral roads along the Golden Horn—were carried out by another ambitious political personality, Bedrettin Dalan, the mayor of Istanbul from 1984 to 1989."[325]

It is this most prominent transformation actor in the 1980s that will next be discussed in light of the emerging liberal economic policies of the same decade. A phase that is characterized by the "integration of the national economy into a world economic order," this new era has been particularly marked with the rapid construction of high-rise office towers and mega-scale shopping malls—granting the city a "Singaporean

[324] Dino Messina, "Così nacque l'immagine di Mussolini picconatore," October 22nd 2012. Retrieved from <http://lanostrastoria.corriere.it/2012/10/28/cosi-nacque-limmagine-di-mussolini-picconatore/> (September 2014).

[325] Gül, op.cit., 178.

character" and rendering all-the-more dysfunctional the existing complexity of the traffic congestions.[326]

Turkey had been marked with a rapid course of globalization in the late twentieth-century. Along with this process came forth the model of autonomously-operating governments independent of the more extensive national politics, as Funda Uz remarks.[327] A late twentieth century vision of the government had been to facilitate the articulation of cities onto the grander global network, or otherwise put, to achieve the identity of the "world city"—a process that particularly engendered questions of management on both regional and international levels. Local governing bodies, in such wise, began to operate by a broader span of authorization and were granted a wider field of action: through the course of globalization, politics of the everyday urban environment were rendered all the more visible. [328]

Bedrettin Dalan, the first mayor of Istanbul 'metropolitan' municipality [1984-1989], has undertaken a significant number of urban transformation projects, each with an extensive scope. His large-scale operations were the political repercussions of the global "world city" vision set for Istanbul by the late twentieth century. Within the global-city objectives, a wider span of administrative and financial jurisdictions were authorized to the metropolitan municipalities by the state government itself—facilitating the execution of urban projects on the grander-scale. However, as Uz further remarks, the "word city" allegation for Istanbul has rendered the urban environment a showcase through which the cityscape was subjected to spectacle.[329] Building a spectacle-spectator relation between the city and the citizen, the urban environment was much presented like a consumable commodity holding a certain market value. What determined this value, in turn, was the quality of the public space and the scope of the ongoing transformation process. Large-scale urban projects have, in that regard, soon become symbols of this ongoing global development.[330]

[326] Ibid.
[327] Funda Uz, *Seksenler İstanbul'u kentsel söylemini popüler yazılı medya üzerinden okumak,* (unpublished doctoral thesis, Istanbul Technical University, 2007) 38.
[328] Ibid.
[329] Ibid., 49.
[330] Ibid.

Mayor Dalan was a well-known public political figure extensively made popular by the impetus of the media. The public recognition he possessed, however, was much dependent on the grand operations he was willing to undertake in the years of his employment. By the mid 1980s, the course of urban transformation was rendered all the more visible as part of the "world city" vision set for the province of Istanbul—while as the mastermind of the process, Dalan was allocated a compelling public visibility. The course of his transformation projects had continued to be vastly documented and publicly broadcasted over various channels, while his personal discourse proved as much newsworthy as his urban exercise for the attention it awoke. Dalan's projects constituted a certain measure of symbolic value, and his individual identity proved no less significant—Dalan's self, just as his projects, had become an immediate symbol of urban transformation through which he assumed the role of the public hero. In a 1986 interview, when Dalan was asked his preference of a nickname, his response turned out to be rather indicative of the status he wished to assume as an urban actor: "İstanbul Bedri."[331] The mayor was rarely modest in the consideration of his services to the city, while his public acknowledgement proved equally praising of the issue: in the same interview that he assumed the nickname "Istanbul," Dalan was defined by the interviewer as a kind of Robin Hood who stole from the rich and gave it to the poor.[332] The actual nickname he was known for, however, was "bee"—derived from the Turkish phrase "to work like a bee," establishing an analogy with his enduring urban operations upon the cityscape, and the symbol of the political party ANAP he represented.

Mayor Dalan's personal discourse, as stated above, had significantly contributed to his public-hero image as an omnipotent figure ready to fix the problems of the cityscape. Amongst his best-known projects was the decontamination of the Golden Horn, for him which had become a matter of honor in a few-years time. Dalan was very assertive in the operation of the issue, as statement of him read, "I would give my life for the Golden Horn,"[333] while another one of the same year recited "If I ever let go of the Golden Horn, I would soon be forgotten."[334] Similarly, in 1986 he was

[331] Ibid., 41.
[332] Ibid.
[333] "Bu Şehir Sahipsiz Değildir," *Milliyet*. November 1st, 1985, 2.
[334] "Haliç'i Bırakırsam Silinirim," *Milliyet.* May 17th, 1985, 12.

mentioned in a *Time* article that was entirely dedicated to the probing of Dalan's ongoing operations in Istanbul. The heading of the column read "*Time* had identified the 200 million dollar investment [in Golden Horn] as a daring initiative, while presenting Dalan as the solitary hero who is dealing with the problems of a six-billion city all by himself."[335] The emphasis of the "solitary hero" proved much indicative of his public image that framed Dalan as the sole savior of the city, undertaking the compelling task of rehabilitating the urban environment all by himself. The Golden Horn project that he initiated is particularly known for Dalan's famous motto: "I'm going to make Haliç as blue as my eyes," rendering evident his heroic personification of the process. Similarly, a 14-minute-long footage prepared by the Metropolitan Municipality of Istanbul in 1989 by the title "Istanbul from the Air: 1984-1989" includes an extensive range of aerial recordings taken from a helicopter flying above the urban transformation areas of Dalan's scope of authority. An English narrative simultaneously informs the viewer on the scope of progressions that has been accomplished by comprehensive urban planning and execution during the years of Mayor Dalan's employment. The vast extents of the urban transformation areas have been emphasized by long-shot aerial shootings, while the flying route of the air-camera is followed by the image of a pencil that concurrently traces the helicopter's coordination from a map.[336]

[335] "Dalan ABD Basınında," *Milliyet*, February 2nd, 1886, 2.
[336] Images captured from the video "Havadan Istanbul." Retrieved from <http://alkislarlayasiyorum.com/icerik/106374/havadan-istanbul-1984-1989> (March 2014).

**Figure 4.28** *Istanbul from the Air* movie, aerial shootings.

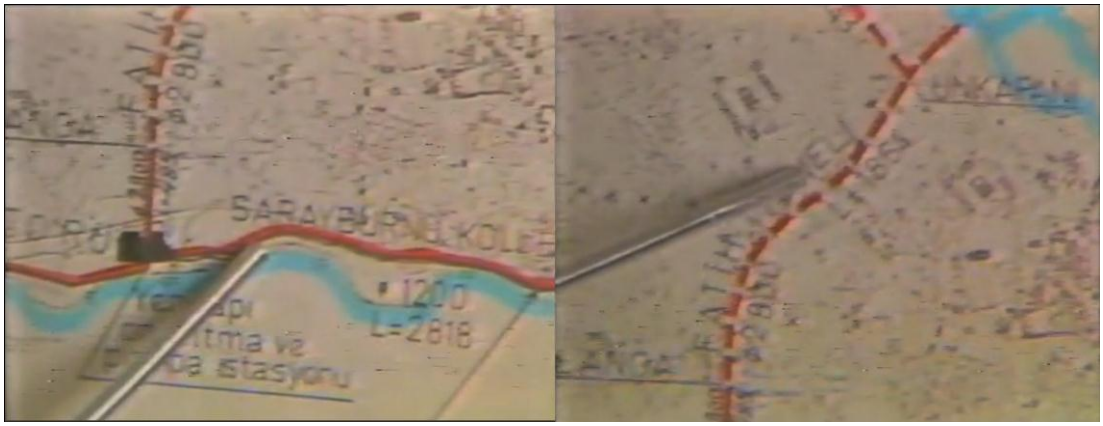


**Figure 4.29** *Istanbul from the Air* movie, the tracing pen over Istanbul map.

Evident enough, Dalan's public image bore the identity of a heroic savior—an omnipotent man striving against the urban pathology single-handed. The extensive scale of the projects Dalan undertook had rendered his operations an all-the-more epic act. A 1986 magazine cover, in that regard, proves much indicative of the heroic role Dalan had assumed by means of his urban undertakings. Similar to that of the early twentieth century omnipotence of Superman flying above the everyday scape to detect and fix urban problems, Dalan was illustrated a "supermayor" flying over Istanbul (Figure 4.30). A solitary figure dealing with urban shortcoming by himself, he was collaged as a superhero ascending above the cityscape—a consequence of his publicized image and the large-scale urban actions he was recognized for.

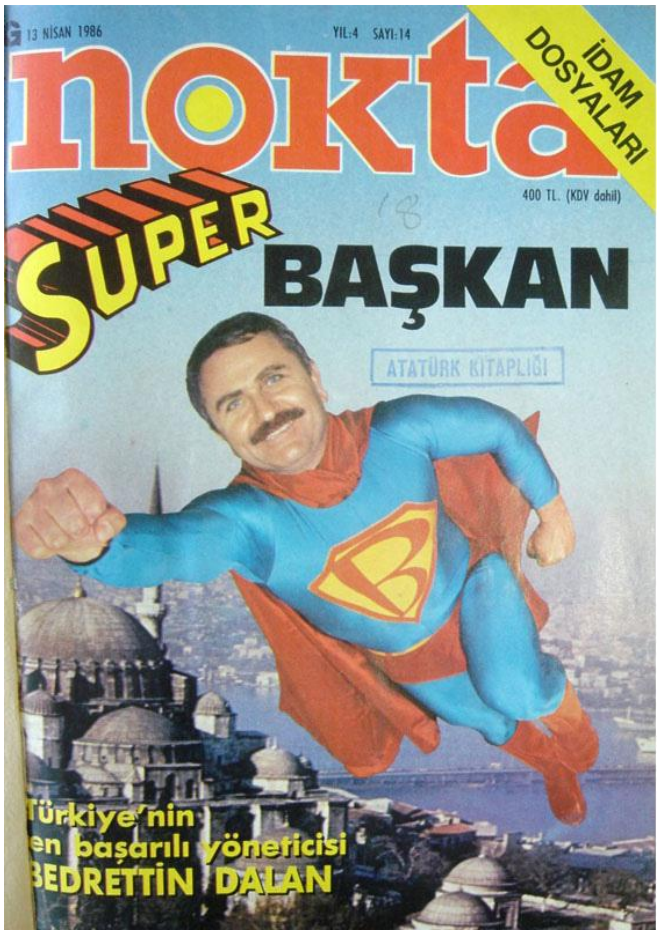


**Figure 4.30** Dalan flying over Istanbul, *Nokta*, April 1986.

Another significant municipal figure who has been marking the cityscape of Istanbul for over ten years now is the architect Kadir Topbaş of the Justice and Development Party. Kadir Topbaş maintains his stance as the mayor of Istanbul Metropolitan Municipality from 2004 onwards, but his association with municipal management reaches further back. In between the years 1994 and 1998, Topbaş was a consultant to the then Istanbul mayor, Recep Tayyip Erdoğan, while he actively sustained his profession as an architect, particularly concerning the restoration of historical monuments. In 1999, he was elected as the mayor of Beyoğlu Municipality and five years later, as the Metropolitan Municipality mayor of Istanbul. Topbaş's association with the organization UCGL -United Cities and Local Governments- is as well notable for his contributions in the formulation of a global vision regarding the operation of local governments. Similar to the world-city objectives of the previous decades, Topbaş's both local and international undertakings indicate a long-term vision of a globally-competent metropolis.

The outcome of the 2014 government elections revealed a rather interesting fact: there are currently three architect-mayors in Turkey, along with seven other engineers whose professions bear a certain degree of relevance with the practice of urban planning and environmental construction.[337] Topbaş, as the architect-mayor of the largest metropolis in Turkey, is also the first architect-mayor of Istanbul. In light of his architect-identity, Topbaş's undertakings assume a rather significant context. The homepage of his personal website bears the phrase "Istanbul is my life."[338] Rather insistent in expressing the dedication he holds for Istanbul, Topbaş assumes a public discourse that is more professional than ideological, or more technical than authoritarian—largely because he holds an educated eye that renders his urban agenda rather legitimate.

It has been previously discussed that in the face of globalization, the process of urban development operates within a span of long-term neoliberal policies. The global-city discourse, as urban planner Binnur Öktem phrases, involves the transformation of political, social and spatial assets, while by definition it constitutes a center of authority, management, and organization of the capital economy.[339] These cities operate in a competitive manner to become a center of capital investment, to assume a certain degree of leadership in the management of global economy, and eventually articulate into the grander network—a rather hierarchical process that leads to the formation of an international league of competence. In the course of this process, the formulation of urban transformation projects proves a crucial means of achieving the long-envisioned stance of the global city, as Öktem further remarks.[340] Both local and foreign investments in large-scale infrastructure projects, and a successful marketing of the new urban image become prominent assets in achieving the long-span objectives. International trade centers, malls, gated communities, renovation of old harbors, luxury residential areas, high-speed train, high-tech industrial parks, hotels and projects of the sort are considered amongst the kind of infrastructures that

[337] Bahar Bayhan, "Türkiye'nin Mimar Belediye Başkanları," March 31, 2014. *Arkitera*. Retrieved from <http://www.arkitera.com/haber/20529/turkiyenin-mimar-belediye-baskanlari> (June 2014).
[338] <http://www.kadirtopbas.com.tr/> (July 2014).
[339] Binnur Öktem, "Neoliberal Küreselleşmenin Kentlerde İnşası: AKP'nin Küresel Kent Söylemi ve İstanbul'un Kentsel Dönüşüm Projeleri," *Planlama* (2006) 53.
[340] Ibid., 54.

requires to be invested in order to attain the global assets of the world-city.[341] In the case of Istanbul, large-scale urban transformation projects bear utmost importance particularly for setting the city a stage of capital investment.

In the face of contemporary dynamics the city maintains its expansion along both spatial and economical trajectories, and the extents of urban transformation follow. A significant number of large-scale projects are simultaneously being planned, executed and inspected by the Metropolitan Municipality as a part of this process—amongst which transportation, commerce and housing outstand as the primary subjects of urban transformation. Topbaş, from the first years on, has been considerably assertive in his appraisal of Istanbul as a future model city. A 2007 statement of him reads "by means of urban transformation, we are going to render Istanbul a modern capital that will be in competence with the global standards of the most ideal cities around the world."[342] The same article quotes his remark of the professional identity he holds as an architect: "as an architect-mayor, it is evident that I needed to be assigned this task long ago…we are unfortunately dealing with the consequences of a poorly-managed municipal process…[343] Our objectives are set and very clear…I am ready to project my professional competence and skills, my experience and my enthusiasm in the development of this city, as long as I'm given the chance."[344]

Regarding the act of looking down, one may assert that metaphorically, Topbaş's range of authority comprises an immensely-scaled metropolis, but his gaze focuses on an unrealized face of Istanbul. Throughout his administrative act, Topbaş's discourse becomes prominent by his professional approach as an architect, rather than an authoritarian figure of management, as stated above. His public statements include much professional wording on the formulation of the projects and the outline of the master plans they undertake. The authorization he holds over Istanbul mostly encapsulates a city that is either in the progress of planning or execution, or rather partially constructed. His power dwells on a future envisagement that is yet not

[341] Ibid., 55.
[342] "Topbaş Geleceğin İstanbul'unu Anlattı," *Anadolu Agency*. August 6th, 2007. Retrieved from <http://www.hurriyet.com.tr/gundem/7032695.asp> (July 2014).
[343] Ibid.
[344] Ibid.

completely realized, and his public image is much associated with the notions of a global-city-vision, rather than the existing framework. As an administrative figure responsible for the publicity of urban transformation projects, and who is also specialized in the profession of architecture, Topbaş's aerial gaze mostly constitutes of those captured before the large-scale transformation projects of Istanbul that are either represented as physical models or cartographic outlines.


**Figure 4.31** [right] Mayor Topbaş and Prime Minister Erdoğan in the project publicity office of the Metropolitan Municipality in Sütlüce. Retrieved from Topbaş's personal website.
**Figure 4.32** [left] Norman Bel Geddes in the making of Futurama.

Just as Bel Geddes's gaze over his utopian city Futurama, a "one-acre animated model of an American utopia as it might appear in the year 1960 to people traveling in a low-flying airplane," Topbaş's positioning before the various representations of the world-city-Istanbul occupies a similar perch of authority.[345] Bel Geddes's future-model resides in the conception of mechanized highways and a cityscape that is entirely dependent on technological advance—while Topbaş's grander-objective of the globally-competent Istanbul vision embraces a discourse that is not far from Geddes's utopian undertaking. The architect-mayor, with his all-seeing educated eye, assumes a privileged view over the many representations of the future-city that he is much dedicated to rejuvenate.

Topbaş's public appearances constitute many instances captured before the large-scale, maplike satellite images of Istanbul, and occasionally helicopter tours above

[345] Adnan Morshed, "The aesthetics of ascension," op.cit., 74.

urban transformation sites. The transformation project for Kartal proves a significant process as it constitutes an internationally publicized initiative for its well-known architect, Zaha Hadid. In May 2005, Hadid and Topbaş have together taken a helicopter tour over Istanbul to aerially examine the city and the province of Kartal—an instance where two architects -with administrative authority- take an elevated stance above the public realm as influential actors that occupy a privileged stance.[346] The press conference of the project as well revealed a number of significant instances, particularly framing Topbaş and Hadid before the master plan outlined for Kartal. As discussed previously, the scale of urban transformation projects expand as the city maintains its growth—through the process of which emerges the need to ascend above and gaze down at the greater-scape to better make sense of the constantly expanding urban context, dynamics and interrelations. The actors of urban transformation project for Kartal, as most projects of the same scope require, make use of the aerial medium by first physically taking helicopter tours over the site of transformation, and further by the reworking of satellite images and digital graphic tools to reveal the formulation of its content. Sitting before the master plans, the two architects Hadid and Topbaş are seen to conduct the official start of the process: one in charge of the design, other of the execution. Here, it may be implied that Topbaş shares Hadid's omnipotent stance of the ascended planner who is the seeming mastermind of this development process that aims to fix the region's urban shortcomings. From the high perch of authority the architects occupy, they are endowed with the kind of authorization -and power- to transform the context below; as it is again before the aerial rendering of the project that Topbaş conducts his public discourse.

[346] "Topbaş: Turizme Tarih Yetmiyor," *Zaman*, May 18th 2005. Retrieved from <http://www.yapi.com.tr/Yazdir/topbas-turizme-tarih-yetmiyor-27118> (June 2014)

**Figure 4.33** Urban Transformation Project for Kartal: press conference.[347]
**Figure 4.33** Topbaş before satellite images, retrieved from his personal website.

As discussed previously, architecture operates as a communication medium through which the authority asserts its presence in the public space. Regimes formulate and regulate everyday space to declare a certain measure of identity—for the governments are temporary, but architecture is not. Istanbul, in that regard, has for long constituted a notable subject of authoritarian intervention.

Current President of the Republic and the former Prime Minister Recep Tayyip Erdoğan (2002-2014) is by far the most remarkable governmental figure publicized by the media. Having served as the mayor of Istanbul Municipality (1994-1998) and the president of the Justice and Development Party which today holds power since 2002, Erdoğan has, in the course of the past decade, become the most prominent governmental figure of the Turkish political scene. What proves of importance for the framework of this thesis is his involvement with the course of urban transformation, and his occasional aerial gaze over the cityscape. As it has been previously stated, today, Istanbul remains the capital of both local and international investment, and to actively take part in the global scene of economy, an extensive operation of urban recruitment is being executed. Former Turkish PM Erdoğan's interest in Istanbul naturally bears multiple aspects, but his involvement with the urban transformation discourse proves notable in light of the previous discussions.

Erdoğan's claim over Istanbul—the largest and most populated city in Turkey where the capital resides—is much significant in terms his aerial operations. During the course of his party leadership, there remains several occasions where Erdoğan has taken helicopter rides over the city to "inspect" the state of the ongoing projects,

[347] Image retrieved from < http://www.mimdap.org/?p=4302> (March 2014).

especially after the onset of the third airport construction. His gaze over the under-transformation cityscape, in that regard, bears much resemblance with the functioning of the Apollonian gaze—a gaze that is at once empowering and totalitarian, claiming control over the ground below; for as much as Erdoğan holds governmental authority over the public domain, he further holds much say over the spatial transformations the city undergoes. A well-known instance of these tours occurred in March 10th 2013, where Erdoğan is conducts an aerial inspection of the site specified for the third airport along with other projects, escorted by ministers and mayors of Istanbul.[348]

In his flight, Erdoğan particularly investigates the two long-disputed projects—the third airport and the third bridge, along with other critical locations to host new urban settlements. The news reports identify the flight as a "surprise tour"[349] which Erdoğan takes following his arrival in Istanbul the night before. In the course of the trip, he is photographed studying a map that marks the locations of the ongoing projects.

The emphasis on the "surprise" factor in Erdoğan's tour indirectly underlines the governmental jurisdiction that authorizes the Prime Minister to command, control and inspect his territorial province. Ascending above the citizens, Erdoğan surveys the cityscape from his high-perch of authority—a stance for which he holds the right to take unexpectedly, without no forewarning nor permission. Up above, holding the urban transformation map before him, he assumes the role of the planner in possessing the power to regulate the public realm with much omnipotence and claim. Similarly, he maintains the gaze of the powerful—at once godlike and omniscience. As stated before, "the idea of seeing the globe seems also to induce desires of ordering and controlling the object of vision,"[350] much like the way in which Erdoğan's aerial inspection claims say over the course of urban transformation below.

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**348** "Başbakan Yeni Havalimanı Arazisini İnceledi," *Airport Haber*. March 11st, 2013. Retrieved from <http://www.airporthaber.com/havacilik-haberleri/basbakan-yeni-havalimani-arazisini-inceledi.html> (March 2014).

349 "Başbakan'dan Sürpriz Helikopter Turu," *Ensonhaber*. March 10th, 2013. Retrieved from <http://www.ensonhaber.com/basbakandan-surpriz-helikopter-turu-2013-03-10.html> (March 2014).

350 Denis Cosgrove, op.cit., 5.


**Figure 4.35** Prime Minister's hand over the urban transformation areas.[351]
**Figure 4.36** Le Corbusier's hand over the model of Ville Contemporaine.

Looking at the urban transformation map, one gets to understand how further the span of operation stretches: a scale that by far transcends the extents of human perception, to ascend above is seemingly the only way to get a glimpse of the whole process. Erdoğan, in that regard, not only gazes upon his total field of action from the helicopter, but as well holds it before him in a single satellite image. By the various tools of aviation at his service, the Prime Minister occupies the privileged stance from which he surveys the existing realm—accompanied by three other governmental figures who "with their commanding gaze and high vantage point"[352] possess the kind of authority to shape and regulate the public domain below.


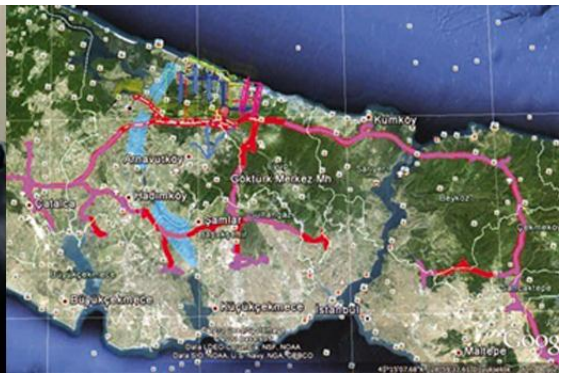


**Figure 4.37** Prime Minister's inspecting the ongoing projects.
**Figure 4.38** The satellite image on which the ongoing projects are marked.[353]

[351] Image retrieved from <http://www.ensonhaber.com/basbakandan-surpriz-helikopter-turu-2013-03-10.html> (March 2014).
[352] Adnan Morshed uses this phrase for defining Bel Geddes' work of photomontage that replaces the heads of Futurama'a ordinary spectators with those of the power-wielders of the New York political scene, symbolicly associating the simulated flight over the future city with the gaze of the "powerful men [who] could contemplate their role in shaping an American utopia." "futurama," op.cit., 94
[353] Image retrieved from <http://www.ensonhaber.com/basbakandan-surpriz-helikopter-turu-2013-03-10.html> (March 2014).

Erdoğan, following the 2014 local elections, executes a similar helicopter tour for the inspection of the worksite of the third Bosphorus bridge –Yavuz Sultan Selim– from the air. Reported in the news on March 4th 2014, the Prime Minister is photographed investigating the same field he was flying above exactly a year ago, upon which this time stood the concrete abutments reaching over 200 meters. As much telling as his portrait from inside the cabin hovering over the site, the instances of his helicopter captured from the ground as well proves much significant in its framing of the concrete abutments together with Erdoğan's helicopter. Once again by the tools of aviation at his service, the Prime Minister takes a privileged stance over the project: the image of his helicopter over the concrete legs physically actualize his social status as an omnipresent, authoritarian leader holding a gaze that is more elevated and privileged than the rest.

A similar aerial tour was executed in September 1st 2014 by Ahmet Davutoğlu, only two days after he was appointed as the new Turkish Prime Minister.[354] In the photographs taken from the flight, Davutoğlu is seen to be accompanied by the Mayor Kadir Topbaş, hovering over the construction site of the third bridge with a satellite-map before him, illustrating the ongoing transformation projects in Istanbul (Figure 4.X). Inspection of the city from the air, by that regard, can be suggested to constitute a privileged stance occupied by the chair of Prime Minister, that is, a most significant rank of authority in the Turkish political scene. The report and photographs, taken only months apart entirely indicate the same scenario with the same actors regarding the gaze over city, the only difference being Davutoğlu who had taken over the chair of Prime Minister from Erdoğan only a while ago.

[354] "Davutoğlu Istanbul'u Havadan Denetledi," *Sabah*. October 1st, 2014. Retrieved from <http://www.sabah.com.tr/Gundem/2014/09/01/davutoglu-istanbulu-havadan-denetledi#> (October, 2014).

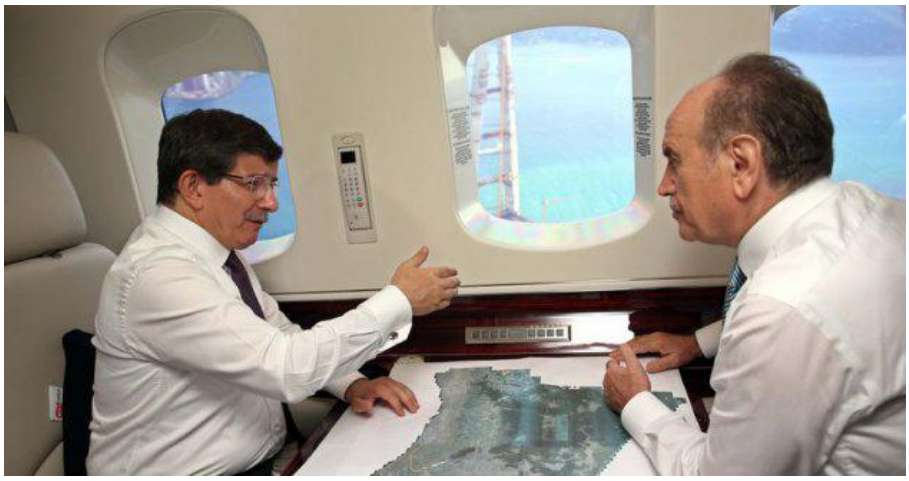

**Figure 4.39** Davutoğlu inspecting the third bridge construction from the air [September 1st 2014] [355]

Prime Minister Erdoğan's aerial interaction with the digitally-represented Istanbul further varies. In 2013, Erdoğan traveled to Silicon Valley to pay a visit to the headquarters of Microsoft, Google and Apple -the main players and technology leaders in the market of information technologies. During his visit to Google Inc., Erdoğan was reported to have tried on the recently developed Google Glass, and as well to have monitored Istanbul from the most popular geographical information program, Google Earth.

**Figure 4.40** Erdoğan in Silicon Valley [May 20th 2013]

In this instance, Erdoğan's aerial gaze assumes a digital medium. From the headquarters of one of the largest technological corporations of the world, the Prime

[355] Ibid.

Minister's aerial investigation of Istanbul, as it may be suggested, locates the city within a global structure of information network. Economically the largest center in Turkey, Istanbul's status as a globally-competent metropolis finds symbolic grounds in Erdoğan's aerial display of the city from Google's headquarters, recognizing it within as part of a grander sphere. As Turkish Prime Minister, Erdoğan's survey over Istanbul's satellite images may bear further connotations in its assertion of a certain degree of mastery and possession over the metropolis: from the heart of an extensively privileged premises where the world's most sophisticated technological companies reside, Erdoğan assumes a stance of power in gazing over his realm of authority through aerial images.

As the Turkish Prime Minister, Erdoğan's elevated gaze over Istanbul not merely utilized means of aviation, but was as well involved in the domain of architecture. Reported on March 5th 2011, Erdoğan with a number of other ministers in his company, is photographed while visiting Istanbul's highest observation deck and up there taking a virtual Istanbul tour—on the topmost floor of Sapphire Shopping Mall, one of Europe's tallest skyscrapers ever built.[356] On the day of the opening, after ascending 236 meters above ground to reach at the deck hovering over Istanbul, the Prime Minister takes the simulated 6-D flight, in the course of which he apparently enjoys himself.[357]

#### 4.2.1.3. Entrepreneur's Gaze

Sapphire Shopping Mall is by far the tallest skyscraper built in Turkey, and has extensively been marketed upon this asset, as most skyscrapers are. Sapphire is by far the highest and allegedly the first ecological skyscraper ever built in Turkey. It is a mixed-used project of shopping malls and luxury residences, rising 54 flours above the ground, reaching at 236 meters in altitude. Founded by the Kiler Holding CEO Nahit Kiler, who is known for the close relationship he holds with the Prime Minister, public opening of Sapphire was realized by the Prime Minister Erdoğan and a number of other governmental figures. The grander association here naturally involves the affiliation of government with private investors, hence the affiliation of

[356] "Başbakan O Anı Gülerek Seyretti," *InternetHaber*. March 5th, 2011. Retrieved from <http://www.internethaber.com/basbakan-o-ani-gulerek-seyretti-332528h.htm> (January2014).
[357] Ibid.

the authority with the capital. For the scope of this thesis, however, Erdoğan's participation in the public opening of Sapphire particularly proves significant in its association of the 'physically-highest' with the 'authoritatively-most-powerful'. By realizing the grand opening of the skyscraper, Erdoğan, being the first visitor to step on the platform, gazes below the cityscape from the highest point of Istanbul, right after which he takes the virtual flight.

It also proves critical here to note the involvement of private entrepreneurs in the act of ascending above, as the Sapphire building proves a most relevant instance. As Kiler Group CEO Nahit Kiler states, "following the greatest cities around the world as New York, Paris, London, Tokyo and Dubai, Sapphire presents Istanbul with a panoramic observation deck that is only worthy of a world metropolis. The deck enables the visitors to monitor the two continents at once and for the first time simultaneously observe the several cultural heritage buildings from over the sides."[358] Kiler further informs the press on the commercial assets of their building as he remarks "we expect to make a 500 to 550 million dollar profit from the total project."

**Figure 4.41** Sapphire Shopping Mall, along the Büyükdere District
**Figure 4.42** Kiler Group CEO on top of Sapphire. [359]

The most advertised asset of the building is the observation deck situated at the roof, providing a 360° panoramic Istanbul view. although shorter than its counterparts throughout the world, Sapphire proves unique in terms of the view experienced, spanning from Black Sea to Marmara, covering the two bridges on Bosphorus and

[358] "Türkiye'nin En Yüksek Binası Bugün Açılıyor," *ntvmsnbc.* March 4th, 2011. Retrieved from <http://www.ntvmsnbc.com/id/25188564> (January 2014).
[359] Ibid.

both continents with historical Istanbul in between.The building has been much criticized for damaging the historical Istanbul silhouette, together with other skyscrapers built in the business district located in Maslak. Nihat Kiler however stated otherwise: "this concern was initially raised by the Municipality Mayor Topbas, and later he was convinced as we worked through physical models and 3D drawings demonstrating that the building would not occupy the historical city silhouette."[360]

Expressing the Group's enthusiasm for establishing the tallest building of Istanbul, Nahit Kiler further announced the Group's future projects for erecting other skyscrapers in the same district.[361] As the major business district in İstanbul, Maslak is a prestigious location where the country's most influential investments reside. Skyscraper as an indicator of capital power and prestige, business districts around the world are marked with ostentatious skylines, just as it is the case with Maslak: the higher the altitude, the larger the capital and the more prestige the investors assume. As the developer of the tallest building in Maslak district, Kiler's statement and his photograph against the city from above signifies the privileged and powerful rank they claim by assuming the highest-perch of the whole city.

The tradition of observation towers is a long-standing asset inherent in the outline of historical cities, emerged upon the necessity of urban surveillance and monitoring of its surroundings. In Istanbul, Galata Tower still stands as the oldest example of its kind—the tallest building of the city by the time it was first erected. Today, for the case of Istanbul, Sapphire has assumed the role of such medieval towers, from which for the first time, the two continents and several other historical assets can be distinguished in a total frame. By that reason, the building has been announced by the Ministry of Tourism and Culture as one of the daily tour visit attraction places, and being intensively (over 50,000 people in first 5 weeks[362]) visited since it was opened on 4th of March 2011.

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[360] "Nahit Kiler: Sapphire Empire State'e 10 Basar," *emlakkulisi.com.* May 5th 2011. Retrieved from <http://emlakkulisi.com/nahit-kiler-sapphire-empire-statee-10-basar/72057> (January 2014).
[361] Ibid.
[362] Istanbul'un Silueti Değişti," *Milliyet,* August 24th, 2011. Retrieved from <http://www.milliyet.com.tr/istanbul-un-silueti-degisti/gundem/gundemdetay/26.08.2011/1431408/default.htm> (January 2014).

The privilege of observing the city from above is thus delegated from the entrepreneur to the residents of such high rise skyscrapers. Far away vistas once accessible only to the pioneering aviators first reached out till the aerial tourist and now to the wealthy having the financial power to reside in these high-rise residences. This analogy of aerial tourist and the aerial resident can be observed in the advertisements of the real estate companies, in an instance of which the window of the residential unit is replaced with that of an airplane cabin, with the caption reading "those who like to be up above meet here."

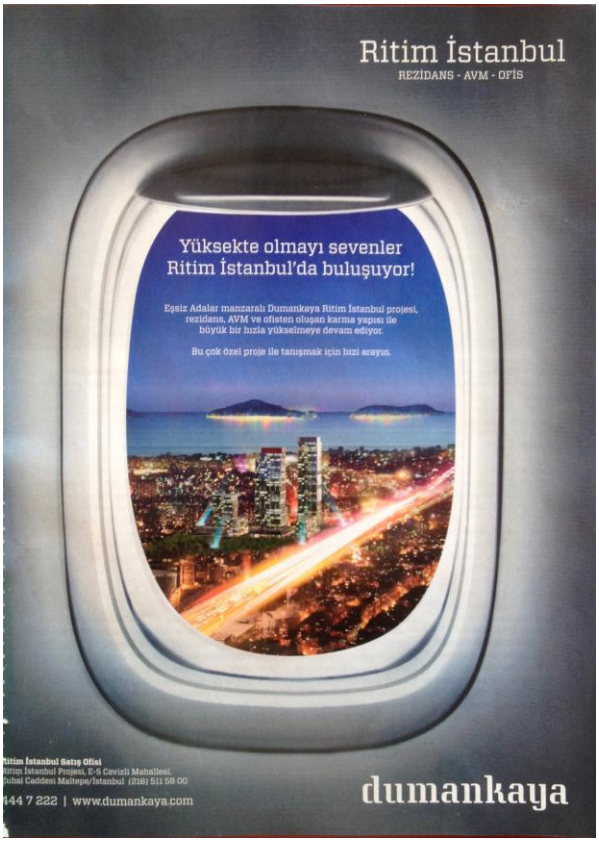


**Figure 4.43** Dumankaya Advertisement of the Ritim Istanbul Residential Project, the caption reading "those who like to be up above meet in Ritim İstanbul."

There exists several other notable figures of private entrepreneurs making use of aerial medium, amongst which Tebernüş Kireçci, the establisher of the web-site Havadan Emlak,[363] constitutes a significant stance. By the course of the many years of professional service in the field of real-estate journalism, Kireçci has undertaken the issue in various contexts—through journals, TV programs, websites, blogs,

[363] Real-estate from the air

editorials and books, his accomplishments of the "firsts" in Turkish market proves at once notable.[364] From 2007 onward, he owns and manages the only real-estate news website ever established in Turkey,[365] followed by the foundation of another, *havadanemlak*, which he formulates with the aerial photographer Kadir Kır.

For the preparation of the material to be published in havadanemlak.com, Kireççi takes helicopter flights with the photographer Kır over the various construction sites around Istanbul, with the main purpose of documenting the progress-status of the projects from the air. In an interview conducted in the early phases of *havadanemlak* project, Kireççi states "every week we are flying over Istanbul, scanning all residential projects. One week we ascend above Anatolia, the next week Europe...Every week the coming year, I'll be flying up at the skies."[366] Kireççi further remarks on Istanbul's dynamic nature that sustains constant transformation, and how "dizzy" one gets in trying to keep up with this progress.[367] Gazing from above, Kireçci claims to bear witness to the emergence of many "giant" projects, along with other design-related aspects that are best distinguished from above, shaping the quality of the residential spaces created.[368]

The main purpose of the website, as stated above, is to construct a chronological line of documentation where potential buyers and current clients can monitor the progress made in the course of the ongoing construction projects. The website not only constitutes an extensive pool of real-estate information, but as well operates as an advertising medium where building contractors can publicize and present their ongoing projects for clients. Kireçci is in turn sponsored by the companies partaking in the *havadanemlak* project.

There remains a significant domain that is only exposed to the viewer by the content of aerial photographs: the surrounding urban context. It is a common tradition of real-estate marketing to commercialize the incomplete projects by means of scaled-down physical models or virtual 3D renderings. The flaw, however, resides in the

[364] Information attained from his personal website <http://www.tebernuskirecci.com.tr/hakkinda >
[365] <www.emlakkulisi.com> "emlakkulisi" meaning real-estate lobby in Turkish.
[366] "Türbernüş Kireçci Havadanemlak.com'u Anlatıyor," *emlakkulisi.com*. August 13th, 2010. Retrieved from <http://emlakkulisi.com/tebernus-kirecci-havadanemlakcomu-anlatiyor/44345> (June 2014).
[367] Ibid.
[368] Ibid.

realization of the neighboring context—as the extents of the physical models are mostly confined to the bounds of the project that is usually depicted in a most idealized scene of a daily instance; while the virtual renderings allow much disguise of the surrounding shortcomings or an overstatement of the actual conditions, which eventually leads to the misperception of any to-be-finalized project. The *havadanemlak* initiative, however, proves unique in its chronological portrayal of the construction projects within their surrounding context.


**Figure 4.44** Instances taken from the website.

The principle behind the formulation of the website is much correlated with the previous discussions conducted in this thesis. As the span of the construction projects maintain a continuous course of expansion, there emerges the urgency to survey their spatial extents from above to be able to grasp the total domain they inhabit, much like overseeing an architectural plan. Kireçci's initiative, in that regard, is much indicative in its conception of real-estate marketing: documentation of the large-scale projects from the air proves much crucial in accurately discerning the spatial assets they hold. In the realization of the projects, Kireçci can be considered to have assumed a professional gaze that seeks to document an urban course as a journalist, while his elevated stance as well holds commercial connotations for the service it provides for real-estate marketing. In either case, aerial medium operates as both an agent of information gathering and as a screen of advertisement.

**Figure 4.45** [left] Ağaoğlu before his private helicopter.
**Figure 4.46** [right] Ağaoğlu on the way to Ağaoğlu My Town Ispartakule site to meet locals, accompanied by Tebernüş Kireççi, real estate specialist and journalist. [June 16th 2011].[369]

Another business figure publicly-publicly –as opposed to Kireççi- is the entrepreneur Ali Ağaoğlu, actively taking part in the Turkish construction sector for the past twenty years. Amongst the much publicized personalities by the Turkish media, Agaoğlu holds the most prominent stance from the sector, for he too often participates in the marketing campaign of the group. The construction company has by far built and delivered more than 30,000 residences, along with 16 large-scale projects that have been completed by 2014.

Ağaoğlu frequently uses a helicopter and a plane owned by the company for the site-inspections of the ongoing projects, and for the investigation of possible locations upon where new projects can be designated.[370] He is one of the publicly-popular figures who have occasionally been photographed before and from inside a helicopter.[371] In Agaoglu's case, considered within the wide-extents of his construction projects that continue to mark Istanbul's silhouette in significant measures, his gaze over the cityscape proves rather telling in its assumption of a privileged stance—powerful enough to interfere with and regulate the urban environment below, as he has been often regarded a land speculator specifically in

[369] Image retrieved from <http://emlakkulisi.com/istanbul-trafiginden-bunalan-patronlar-helikopter-kullanmaya-basladi/251192> (June 2014).
[370] "My-İşgal Harekatı," *HaberTürk Ekonomi*. May 8th 2012. Retrieved from <http://ekonomi.haberturk.com/emlak/haber/740476-my-isgal-harekati> (June 2014).
[371] "İstanbul Trafiğinden Bunalan Patronlar, Helikopter Kullanmaya Başladı," *emlakkulisi.com*. May 4th 2014.Retrieved from <http://emlakkulisi.com/istanbul-trafiginden-bunalan-patronlar-helikopter-kullanmaya-basladi/251192> (June 2014).

the vicinity of Istanbul: the large-scale projects developed by the company are claimed to eventually articulate with the most recent plans of urban development.

Agaoglu Group, as most construction and real-estate companies do, make use of aerial view to publicly introduce the content of their projects within the surroundings, and sometimes to display their positioning within the cityscape. As it has been previously discussed, to be able to grasp the totality of large-scale construction projects, there emerges the requisite to survey their extents from above—either through architectural plans or from the air. Aerial recordings or digital aerial renderings are thus commonly used as a medium of advertisement by most contractors, through which the magnitude of the projects is more effectively emphasized.

**Figure 4.47** Ağaoğlu monitoring the construction sites from his office.[372]

What Ağaoğlu further exercises is a personal discourse associated with aerial vision, watching over the course of the company's projects with a monitoring system they've installed for the constant inspection of the projects under construction.[373] With his domain of jurisdiction under constant surveillance through 36x zoom HD monitoring, Agaoglu's omnipresent gaze here operates rather controlling and decisively from the high-perch of authority—namely his business headquarters for his privileged stance much depends on the capital the company governs. Similarly in

[372] Image retrieved from <http://www.arkitera.com/haber/14029/big-brother-aga-takipte> (March 2014).
[373] Ecem Sarıçayır, "'Big Brother Ağa' Takipte," *Arkitera*. May 13rd 2013. Retrieved from <http://www.arkitera.com/haber/14029/big-brother-aga-takipte> (March 2014).

the company commercials, he is occasionally filmed thoughtfully gazing over the cityscape from a high-rise office floor, as if trying to come up with a unique idea of a residential project that will at once enhance his costumer's living conditions and outstand as an aesthetical urban asset, granting him the Apollonian gaze that is at once elevated from and in control of the earthbound realm below.

### 4.3 Tool of Survaillance: Alternative Interpretations

The last two decades have brought along a novel phase of the view-from-above—the experiencing of which had assumed an interactive medium by the contemporary tools of communication and software programming. As discussed in the previous chapters, following the advent of home-computers and the vast utilization of the world-wide-web, aerial view has become globally available for a wide range of audience. Rapid circulation and facilitated accessibility of the view not only provides the users with the most updated version of the existing aerial imagery, but as well enables a brand new interaction medium through which the user is granted a boundless domain of swing in interfering with the virtual globe. The view-from-above today, in that regard, proves all-the-more accessible by the many channels that are available for public use, as the actors involved in the process vary within an extensive span compared to that of the late twentieth century. The vast archive that mounts upon the operation of satellite imagery, or the footages taken from aircrafts flying over the cityscape, or the instances captured by air photographers who monitor the ground on intervals—all of which present the viewer with different dimensions of the aerial perspective, unveiling a variety of assets in the understanding of the built environment.

In light of the recent technological progress, alongside of the twentieth-century political actors taking part in the act of looking down, the boundless extents of aerial vision has generated an alternative audience that has interpreted and utilized the view in a plenitude of manners, including those that are engaged in the issue within the extents of their professional field, those who are sensitive to the environmental changes, or those who take a personal interest in interpreting or contributing to the aerial data conveyed by the virtual globes. There naturally exists a plenitude of professions that make use of aerial data in the professional assessment of their

research fields— real estate, public health, natural disaster follow-up and analysis, crime mapping, national defense, sustainable development, natural resources, landscape architecture, archeology, regional and community planning, transportation and logistics. In the scope of this thesis, however, the discussion will ground upon the instances most closely related with the representation of the built environment, and complementary examples will be explored.

> "Aerial images go beyond the daily –on-the-ground—perception and challenge the realities that stand side by side or on top of each other; that repeat themselves or get diminished; that explode or get swallowed; that are apparent or hidden…Flying over the city, the scenery changes every few minutes. Istanbul, with its historical city walls, *gecekondus*, typical apartment blocks, and high rise office buildings, speaks to us about all the facts that made it be."[374]

In her introduction to *Tracing Istanbul (from the air)*, Meriç Öner underscores the variety of assets that a city as peculiar as Istanbul reveals when surveyed from the air, and how self-explanatory aerial images prove in exploring the course of urban transformation the city has undergone. As part of Garanti Gallery's *Becoming Istanbul*[375] project, *Tracing İstanbul* brings together an extensive collection of aerial images from the photographer Oğuz Meriç's 17-year-old archive, along with three professionals from the fields of architecture and urban planning who contribute in the assessment of the visuals with their critical approach. Meriç's photographs "focus on documenting the transformation of this huge city, capturing its apartment buildings, office high-rises, gated communities, dockyards, factories, subway construction, excavation pits and highways."[376]

[374] Oğuz Meriç, Meriç Öner, eds., *Tracing Istanbul (from the air)* (Istanbul: Garanti Gallery, 2009) 6.
[375] <http://database.becomingistanbul.org/>
[376] <http://saltonline.org/en/86/tracing-istanbul-from-the-air>

**Figure 4.48** Image taken by Oğuz Meriç, *Tracing Istanbul (from the air).*

The work builds upon the potential of aerial images to unravel the footprints inherent to the built environment through which the discussions of urban policies, authority figures, rising land values, urban fragmentations and architectural practices are conducted, and the structure of the social fabric within the physical realm is explored. As emphasized in the introduction, "a crucial asset inherent to aerial imaging is its documental quality," yet what is aimed in *Tracing Istanbul* is the processing of air photography not merely as an agent of documentation to be utilized in unveiling the current cityscape, but also as a prosperous platform through which urgent questions could be raised on social, demographical and infrastructural domains. The work, considered within the grander project of *Becoming Istanbul*, constitutes a significant instance in which aerial documentation is utilized in questioning the social and physical assets of Istanbul's urban development, as several aspects of the issue are discerned in profound detail.

**Figure 4.49** Oğuz Meriç in helicopter, image retrieved from online interview[377]
**Figure 4.50** Image taken by Oğuz Meriç, *Tracing Istanbul (from the air).*

Recounting his professional stance, Meriç defines his perception of aerial photography as both a most notable medium of documentation and a perspective through which multiple layers of the urban entity opens up, unveiling a variety of connotations intrinsic to the complexity of the built environment. The bird's-eye view, as he further suggests, provides the viewer with an extensive portrait of the cityscape exposed with all its spatial relations and assets, by means of which problems of the larger-scale could be clearly specified, and solutions be posed.[378]

Alongside of air-photographers, there remains a significant lot of artists who exploit the medium in interpreting the built environment, particularly by the application of Istanbul's aerial perspective onto their work. The view-from-above constitutes a distinctive medium from which to derive inspiration, and by means of which artists project their subjective understanding of the cityscape within their canvas. Today, by far the most notable and well-known figure of the genre is Devrim Erbil, a Turkish artist who has been involved in the profession for more than fifty years now. His later work interprets the aerial view of Istanbul in a unique manner that is formulated by distinctive colors and linear contours, engendering an overall impression of an intensively fragmented whole.

[377] "Oğuz Meriç ile Röportaj: Hava Fotoğraflarım," May 5th 2010. Retrieved from <http://www.arsivfotoritim.com/yazi/oguz-meric-ile-roportaj-hava-fotograflari/> (June 2014).
[378] Ibid.

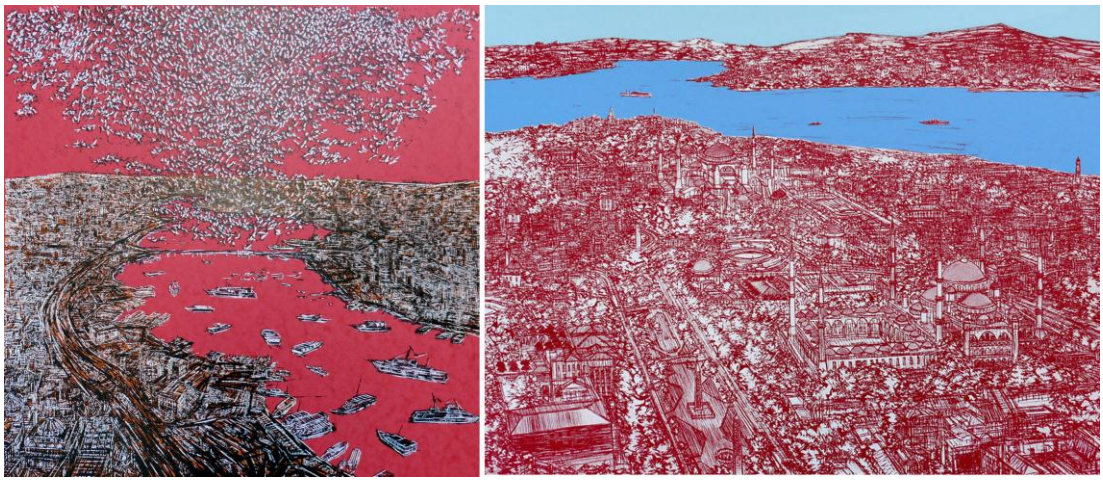

**Figure 4.51** Paintings by Devrim Erbil. Visuals of the paintings retrieved from his personal website.[379]

In Erbil's paintings, aerial view is seen to be utilized in both oblique and orthographic perspectives. It is at once notable that while the oblique framing exploits the unique cityscape of Istanbul by emphasizing the characteristics of its historical silhouette, the orthographic view fixates on the unique morphology –and waterscape- of the Bosphorus outline—interpreting the multiple aspects that are intrinsic to the city's geography.

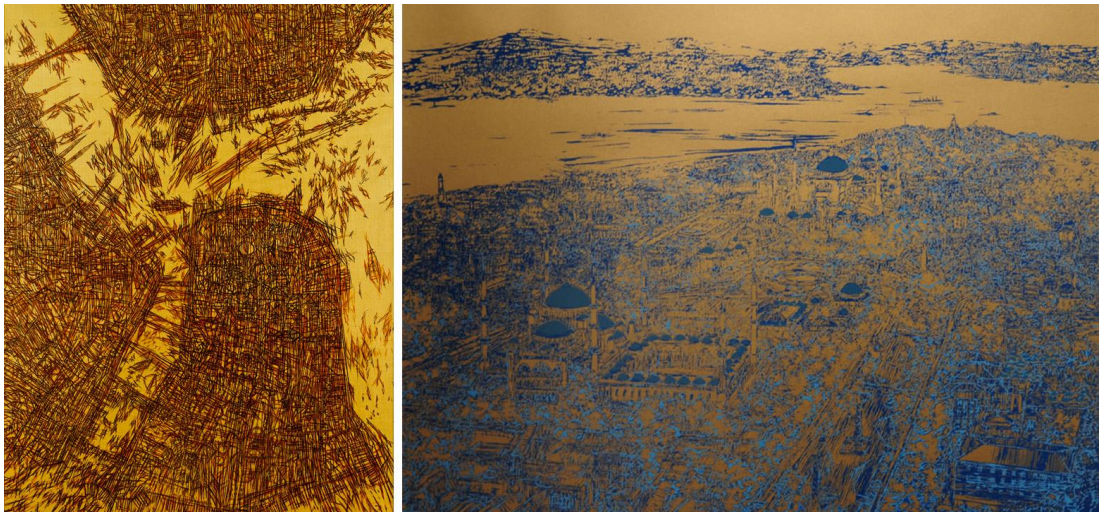

**Figure 4.52** Paintings by Devrim Erbil. Visuals of the paintings retrieved from his personal website.[380]

A Turkish artist of the similar trajectory is Murat Irtem, whose illustrations of Istanbul somewhat correlates with Erbil's in their framing of the city form the air, but entirely differs in technique. In his series of the title "high altitude," Irtem interprets

[379] <http://www.devrimerbil.com/tr_main.html>
[380] Ibid.

the dynamic aspects of the everyday metropolitan-life through which the perceptual extents of Istanbul are gradually transformed. The artist's subjective rendering of the contemporary city-life, by that regard, is mold by the notions of high-rise living and the changing understanding of the professional environment—all constituting significant inputs in his interpretation of the cityscape. Irtem makes use of felt fibers in constructing his compositions.

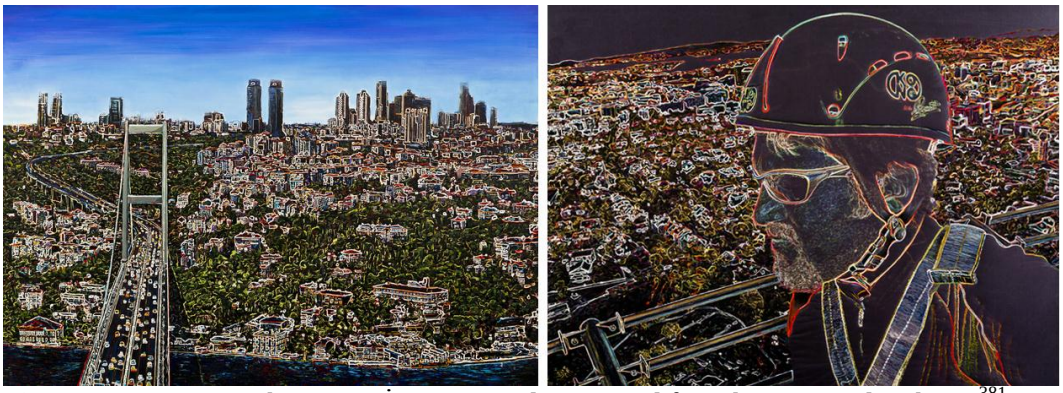

**Figure 4.53** Paintings by Murat İrtem. Visuals retrieved from his personal website.[381]

**Figure 4.54** Paintings by Murat İrtem. Visuals retrieved from his personal website.[382]

Another notable artist interfering with the view is the Turkish painter Seydi Murat Koç, who both utilizes aerial perspective and the tools of aviation as a medium through which to assert his political stance. In his series of collages bearing the title

[381] www.muratirtem.com
[382] www.muratirtem.com

*Teğet,*[383] Koç illustrates several historical landmarks of Istanbul from an aerial point of view, all targeted by some hostile aircraft to be seemingly destroyed in less than a few seconds.


**Figure 4.55** Collages by Seydi Murat Koç. Visuals retrieved from his personal website.[384]

Koç's interpretation of the recent Turkish political scene formulates his work in the sense that the current discourse renders architecture as part of its field of action—in the process of which the architectural monuments are continuously targeted as sites of beneficial urban transformation. The course, however, remains rather a "tangential" one, where the political rhetoric constitutes a destructive treat over the spatial realm but somewhat fails to realize the actual extents of the governmental agenda.

As it has been previously discussed, the constant aerial recordings of the ongoing urban transformation process provide the viewers with the most updated –and hence accurate- environmental data. With the course of the mega-projects that continue to mark Istanbul's landscape today, the sudden impact of the ongoing process becomes at once evident in the photographs captured from the air—engendering a striking body of images that unfold the destructive aspects of urban transformation by all extents. The comprehensive sight captured from the air provides the viewer with the actual magnitude of the operation, triggering vast public reaction in the face of the

[383] Tangency.
[384] <http://seydimuratkoc.com/en/teget.html>

destruction precipitated—as in most instances, the scope of the damage brings along a dramatic sight. This contemporary course of aerial surveillance has generated an environmentalist attitude that has gradually grown all-the-more evident in the face of the projects undertaken within the last decade.

A most-disputed instance recently revealed by aerial recordings is the construction of the third bridge on Bosphorus—part of the grander development program of the Northern Marmara Highway. A mega-operation of over four thousand employees, seven hundred machinery and dozens of other equipment at service, the project comprises of an eight-lane highway and two railways onto which the third airport will consecutively be articulated.[385] In the execution of the project, millions of trees have already been chopped down for the construction of the highway that will be crossing along the third bridge, and more is estimated to be destructed by the end of the process. The aerial photographs captured in the past couple of months reveal a most dramatic scene of intervention that has raised intensive dispute and protest over the environmental aspects of the project, as the images have been circulating through various media since they were first published by Anadolu Agency. The public reaction is at once notable.

**Figure 4.56** Aerial photographs captured from helicopter by Anadolu Agency.[386]

[385] "Üçüncü Köprü Havadan Görüntülendi." *Aktüel*. Retrieved from <http://www.aktuel.com.tr/multimedya/galeri/gundem/3-kopru-havadan-goruntulendi> (May, 2014).
[386] Images retrieved from <http://www.aktuel.com.tr/multimedya/galeri/gundem/3-kopru-havadan-goruntulendi?albumId=64743&tc=21&page=12> (May 2014).

Within the environmentalist approach, several more aspects of the issue have been explored in light of the earlier air photography. A case that proves particularly valid for the cities faced with an intensive program of urban transformation in the past century, there emerges significantly contrasting sights as local images of distant decades are juxtaposed together. Concerns on the issue have been raised regarding the deteriorating context of Istanbul's landscape—for the course of urban intervention is revealed rather explicitly by means of the city's aerial views. Architects have particularly expressed much anxiety in the face of such uncontrolled expansion, as the issue today remains an urgent pathology that grows all-the-more problematic in the face of the rapid urban transformation.

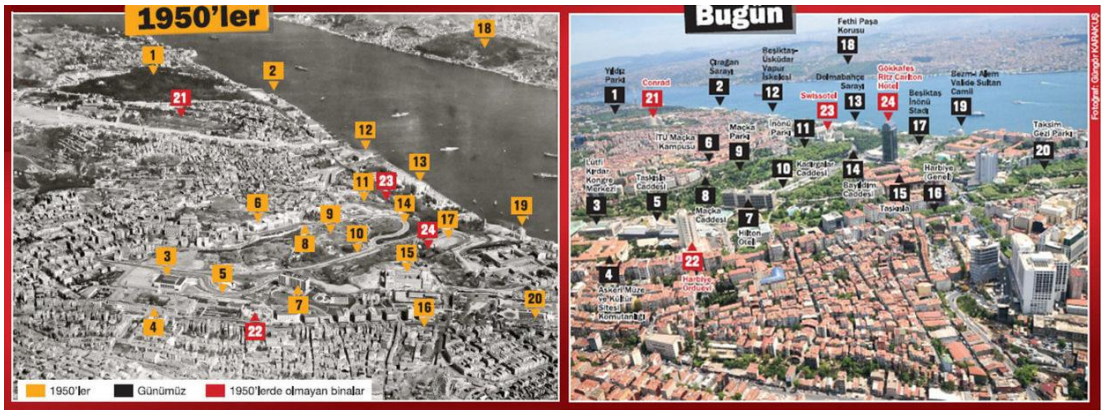


**Figure 4.57** A comparison of Istanbul's aerial images fifty years apart.[387]

Geographical Information Programs, the most popular instance of which is contemporarily GoogleEarth, has exponentially generated a novel platform of data-sharing and discussion for not only professionals, but as well for those who maintain a personal interest on the view. Today, the globe has been rendered available in boundless extents for a wide-scope of audience. Considering the software's operational medium that enables users to zoom in and out along every corner, there appear several instances in which the view-from-above is interpreted in unusual fashions. Regarding the visual assets of the virtual globe, those who interfere with the program engage with the aerial scenery in such a personal aspect that they tend to interpret the existing data in expressive, or rather speculative, manners—trying to

[387] Images retrieved from < http://www.arkitera.com/haber/12235/60-yilda-bu-hale-geldi-hala-bos-yer-var> (December 2013).

specify meaningful outlines within the landscape, which are mostly analogous with silhouettes of human or animal figures. Particularly on blogs or forums in the internet, there exists a broad archive of such instances that claim to have spotted meaningful figures on the surface of the globe—a considerable amount of which include religious figures as Jesus, Ottoman Sultans, or simply praying silhouettes, commonly posed as the evidences of a divine creator.

Turkish author Ferdi Yılmaz's work *Kutsal Şehir Istanbul ve 29 Mucizesi*[388] constitutes a significant instance in exploring the issue upon the landscape of Istanbul. Focusing on the southern shore of city, Yılmaz claims to have detected a coastal line that resembles a facial profile—regarded by the author as belonging to the Ottoman Sultan Mehmet II, the conqueror of Istanbul. Along the shore, Sultan Mehmet II's profile is seen to be verged downward facing south, an analogy for his orientation towards Mecca as he prays for the Muslim World. The same contour considered along with the Anatolian landscape, as Yılmaz further remarks, resembles a man standing and praying, facing to Mecca again.

**Figure 4.58** From the cover of Ferdi Yılmaz's work, *Kutsal Şehir Istanbul.*

[388] The Sacred City Istanbul: 29 Miracles.

# CHAPTER 5

## CONCLUSION

What we see is inseparable from the way we see it: the means in which we experience architecture today prove much dependent on the assets of motion and media. "Not only does the built environment change all the time, but, through technological mediation, so too do its perceptual contexts, coordinates and constraints."[389] For the scope of this thesis, air travel is specified as the medium of investigation through which the built environment is experienced, understood, documented and is subjected to interpretation.

There remain several reasons for framing the discussion within the domain of aerial view, as discussed previously. Central to this study is the question of perceptual transformation with regards to the means of transportation technologies. Aerial view, in its transcending of the earthbound confounds, is believed to pose the most dramatic rapture in perceptual terms, both physically and symbolically.

Today, the view concurrently operates in spatial and digital domains—as commercial airline flight is presently all-the-more accessible; while geographical information programs allow users to freely fly across the globe in a virtually constructed environment. Both media generate its own domain of spatial experience, and both unravel a distinct channel of architectural engagement, multiplying the ways in which the built environment is recognized. As the issue maintains its course of advancement, today it proves all-the-more crucial to be able to locate ourselves within the contemporary dynamics that Schwarzer refers as the "zoomscape." Grounding on this discussion, this study has aimed to examine the various operational media of aerial experience and the connotations it holds, while

[389] Schwarzer, op.cit., 16.

investigating its possible impacts on the practice and discourse of urban planning in Istanbul. For further research, the study might constitute a base for investigating the contemporary dynamics with regard to the historical framework, and for the tracing of the prospective courses of the view that are yet to develop. The framework that has been constructed within this study might constitute a brief historical outline on the issue, and generate further idea of analytical methods for the public operation aerial view.

The span of this study stretches along a course of transformation that originates from the historical depictions in which a variety of imaginary aerial viewpoints have been assumed, further proceeding along the twentieth century photographic medium that had coupled with the emerging tools of aviation, and ultimately reaching out at the most recent twenty-first century platform of virtually simulated globes.

Exploring the historical progress in further detail, certain aspects of the issue are crystalized within each of the three consecutive stages—a most particular of which is the enthusiasm inherent in aerial perspective. By far transcending the earthbound limitations of the human eye, the view had constituted a stance of curiosity and allure for the many centuries before neither aviation technology nor mass-production techniques were mastered, as the circulation of aerial imagery were confined to a restricted set of formats. By the turn of the twentieth century, the advent of aircrafts and photography constituted yet another milestone that unraveled a novel perspective from the air—"a new form of aerial visuality emerged in the late 1920s, which had far-reaching consequences for the contemporary techniques of perception and representation"[390]—an issue that become particularly explicit in the artistic interpretations –and mostly abstractions- of the cityscape, while the fields of urban planning and architectural design were granted urgent attention. The course of aerial visuality today maintains its shift in the face of the contemporary dynamics that was immensely transformed within the past few decades.

The twentieth century discloses the most evident line of transformation regarding the act of looking down. Following the merger of the two technologies of aviation and photography -a coalescence that has substantially emerged and perfected during the

[390] Deriu, op.cit., 198.

course of the two world wars, effectuating the practice of air reconnaissance- the agent of accuracy was articulated in the operation of aerial view. Aerial medium has, from twentieth century onward, became a platform from which systematic data could be procured for further scientific use. Particularly following the advent of air photography and later satellite images, the world from above was revealed in such accurate extents—rendering the view substantially functional, scientific, inspirational and transformative; while facilitating its involvement in a plenitude of spheres.

Through the course of centuries, aerial view has gradually grown into an all-the-more objective medium composing of a multi-layered set of extensively precise data, yet still, there is a certain constituent of the process which is bound to remain subjective: the gaze. Aside from the technical assets of the view which today proves applicable in a variety of fields, the standpoint of the spectator always extends the discussion along the fields of social sciences—an asset that has become evident in the writing of this research.

### 5.1 Contemporary Aspects: Design Practice

In light of the questions raised at the beginning of this study, the particular influence of aerial vision in the transformation of the built environment has been investigated as part of this thesis. Focusing on the case of Istanbul, the three stages of aerial view were briefly outlined, and the contemporary cases were explored with respect to the previous discussions.

In the development of the case study, for further exploration of the view with regard to the realization of the built environment, the focus has been specified as the course of urban transformation in Istanbul—in the process of which, distinct issues have become prominent in different stages. While earlier centuries have pointed to an artistically documented archive of aerial –or rather panoramic– imagery of Istanbul, the first instances of the photographic phase were almost entirely employed for the execution of the post-republican master plan—for which an extensive photographic map of the city was generated by the French architect and planner Henri Prost. The proceeding stages of urban transformation, particularly following the 1950s, were largely structured by the liberal policies of the Western democratic model, through

which the emphasis on aerial actors were more evident compared to the preceding decades.

In responding to the initial questions, it may be asserted that the progress of aerial view has induced dramatic shifts in the understanding of the built environment, but its transformative capacity is rather controversial. Particularly following the advent of air photography, even though much attention has been granted to the sight that opened up from the airplane especially after the destructions of the two world wars, the photographs mostly operated on the verge of displaying the existing fabric, or constituting consensus with the common opinion. Aside from the scientific, educational and professional values these images attained, their extents of input is still somewhat disputable.[391]

Today, geographical information software as Google Earth are the prominent platforms through which urban data is largely retrieved. It is a popularly-used, interactive medium that takes the experience of flight to a virtual medium, and which also proves an influential tool in the education of design.[392] The direct transformative impact here, which is at once in the discussions of urban design and the notion of the "fifth façade," should be regarded as the outcome of a grander process:

> "The implications for architecture and urbanism are many, and although Google Earth is certainly not the central hinge from which design practices have changed, it marks a shift in the way we might consider the distributed mechanisms through which cities are organized and produced, and the architectural practices that are emerging in response…In short, as tools of architectural production are increasingly integrated with those of cultural production, the discipline of architecture is poised to reassert its relevance across a much broader territory of design and making."[393]

Finally, it is of critical importance to note here that the span of aerial view brings forth a highly comprehensive portrait of the built environment, and renders

[391] Hinchcliffe, op.cit.
[392] Aydan Balamir, "Housing Design Studio in the Age of Google Earth: Planimetric Studies Through Superposition of Site with Case Studies," in Beyhan B. Hisarlıgil, Sevgi Lökçe, Oktay Turan, eds., *Flexibility in Architectural Education* (Cambridge: Cambridge Scholars Publishing (forthcoming)).
[393] Wilkins, op.cit., 4-6.

understandable the fragments that make up its whole. The medium is in constant progress, and holds a plenitude of aspects on physical, virtual, symbolic and metaphorical levels—the extents of which engage with and mark the formation of the public realm in different aspects. It is today of significant value to comprehend the nature of this process and make note of the transformative capacity the agents of transportation and media hold in the experiencing and the realization of the built environment.

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