

AERIAL ABSTRACTIONS:

THE ANALYSIS OF AERIAL PHOTOGRAPHS AS A VISUAL ART FORM

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MASTER'S THESIS

IZMIR UNIVERSITY OF ECONOMICS

AUGUST 2012

AERIAL ABSTRACTIONS:  
THE ANALYSIS OF AERIAL PHOTOGRAPHS AS A VISUAL ART FORM

A THESIS SUBMITTED TO  
THE GRADUATE SCHOOL OF SOCIAL SCIENCES  
OF  
IZMIR UNIVERSITY OF ECONOMICS

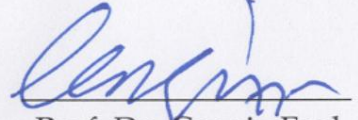
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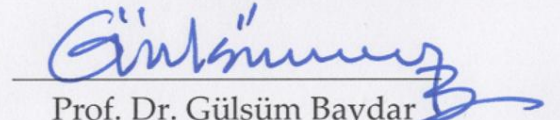
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AUGUST 2012

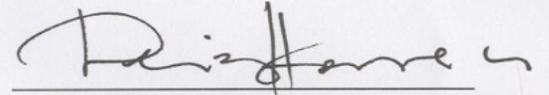
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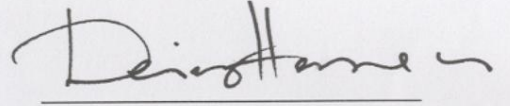
  
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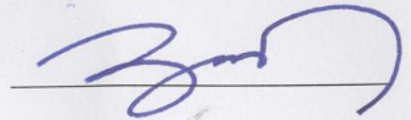
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## ABSTRACT

### AERIAL ABSTRACTIONS: THE ANALYSIS OF AERIAL PHOTOGRAPHS AS A VISUAL ART FORM

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MDes, Department of Design Studies

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August 2012, 113 pages

This study will analyze selected aerial photographs as a visual art form. The abstracted photographs which were taken from air are the main case of the study. This thesis has been written in order to help readers understand how the aerial views can be read as a visual art form according to basic design principles and elements. So that readers can be interpret the aerial photographs with the help of this study. First, the sociological and mythological aspects of “looking from above”, the history of aerial photography, the use of aerial photography in different fields, aerial abstractions, design principles and elements are investigated and then in conjunction with the interpretation of the interviews which are done with the aerial photographers, the selected aerial photographs are analyzed as a visual art form.

**Keywords:** aerial photography, aerial abstractions, design principles, design elements

## ÖZET

### HAVA SOYUTLAMALARI: GÖRSEL SANAT BİÇİMİ OLARAK HAVA FOTOĞRAFLARININ ANALİZİ

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Ağustos 2012, 113 sayfa

Bu çalışma seçilmiş hava fotoğraflarının görsel sanat biçimi olarak analizini kapsamaktadır. Havadan çekilmiş olan soyut fotoğraflar çalışmanın temel konusunu oluşturur. Bu tez okuyucusunun havadan görünümüleri temel tasarım ilkelerine ve öğelerine dayandırarak nasıl görsel bir sanat biçimi olarak okuyacağı konusunda yardımcı olmak için yazılmış olacaktır. Böylece okuyucular bu çalışmanın yardımıyla hava fotoğraflarını yorumlayabileceklerdir. Öncelikle “Yukarıdan Bakma”nın sosyolojik ve mitolojik yönleri, hava fotoğrafçılığının tarihi, hava fotoğrafçılığının farklı alanlarda kullanımı, hava soyutlamaları, tasarım ilkeleri ve öğeleri incelendikten sonra hava fotoğrafçıları ile yapılan röportajların yorumlanması ile birlikte seçilmiş hava fotoğraflarının görsel sanat biçimi olarak analizi yer alacaktır.

**Keywords:** hava fotoğrafçılığı, hava soyutlamaları, tasarım ilkeleri, tasarım öğeleri

This thesis is dedicated to Bush Pilot Oben Oğultarhan who introduced general aviation and aerial photography to me.

## ACKNOWLEDGEMENTS

First of all, I am really thankful to my supervisor, Asst. Prof. Dr. Deniz Hasırcı whose support and guidance is very significant for me. I would like to thank to Prof. Dr. Tevfik Balcıođlu and Assoc. Prof. Dr. Güven İncirliođlu. They both became my supervisor for a while. I would like to thank my committee members Asst. Prof. Dr. Zeynep Tuna Ultav and Asst. Prof. Dr. Mehmet Kořtumođlu for their helpful suggestions regarding my study and participation in my jury. To Prof. Dr. Hakan Ertep, Prof. Dr. řefik Gungör, Asst. Prof. Dr. Fulya Ertem Bařkaya for their support.

Very special thank to Aerial Photographers J. Henry Fair, Robert B. Haas, John Griebisch and Louis Helbig who supported me in this study. I would like to thank my family who have always believed in me and all my friends especially Filiz Uçar Deniz, Aslı Kocamanlar Akçay and Okan Özgen who have supported me throughout this study.

Finally, I would like to thank my fellow passenger Özgür Oruç who stands with me with great devotion ever.

## TABLE OF CONTENTS

ABSTRACT	.....	iii
ÖZET	.....	iv
DEDICATION	.....	v
ACKNOWLEDGEMENTS	.....	vi
TABLE OF CONTENTS	.....	vii
LIST OF FIGURES	.....	ix
CHAPTER		
1. INTRODUCTION	.....	1
1.1. Aim of the Study	.....	6
1.2. Methodology	.....	7
2. AERIAL PHOTOGRAPHY	.....	9
2.1. The History of Aerial Photography	.....	9
2.2. The Use of Aerial Photography	.....	14
2.2.1. Aerial Photography in Military	.....	14
2.2.2. Aerial Photography in Archeology	.....	20
2.2.3. Historical Aerial Photography	.....	23
2.2.4. Aerial Photography in Mapping	.....	25
3. AERIAL ABSTRACTIONS	.....	29
3.1. Abstraction and Design Basics	.....	35
3.1.1. Design Principles	.....	37
3.1.1.1. Balance	.....	38
3.1.1.2. Continuation	.....	41
3.1.1.3. Contrast	.....	41
3.1.1.4. Pattern	.....	43



3.1.1.5. Perspective and Aerial, or Atmospheric Perspective .....	44
3.1.1.6. Rhythm .....	45
3.1.1.7. Scale and Proportion .....	48
3.1.1.8. Unity .....	50
3.1.2. Design Elements .....	51
3.1.2.1. Color and Tone .....	52
3.1.2.2. Line .....	54
3.1.2.3. Shape .....	55
3.1.2.4. Texture .....	56
4. THE ANALYSIS OF SELECTED AERIAL PHOTOGRAPHERS' WORKS .....	58
4.1. J. Henry Fair .....	60
4.2. Robert B. Haas .....	65
4.3. John Griebisch .....	81
4.4. Louis Helbig .....	89
5. CONCLUSION .....	108
REFERENCES .....	110

## LIST OF FIGURES

### FIGURE

<b>1.1</b>	Perseus Releases Andromeda, 1630, painting by Joachim Wiewael .....	3
<b>1.2</b>	Landscape with the fall of Icarus, 1558, painting by Bruegel .....	5
<b>1.3</b>	Daedalus and Icarus, 1799, painting by Charles Landon .....	5
<b>2.1</b>	Nadar caricature by Honoré Daunier. Published in Le Boulevard 25th May, 1862(left) and Nadar's earliest surviving aerial image, taken above Paris in 1866 (right) .....	11
<b>2.2</b>	Lawrence's kites (left), and one of his panoramas of San Francisco taken from kites after the earthquake and fire (right) .....	12
<b>2.3</b>	Neubranner's pigeon mounted camera (left); Aerial photographs taken on pigeon photo flights (center and right) .....	12
<b>2.4</b>	Aerial photograph of the Swedish countryside, taken by Alfred Nobel from a rocket powered camera .....	13
<b>2.5</b>	Hiroshima from aerial view .....	16
<b>2.6</b>	Hiroshima from eye-level .....	17
<b>2.7</b>	Example for before and after photographs Gasometer in Chicago .....	25
<b>3.1</b>	Fabric and paper collage, 1948/54, Anne Ryan .....	36
<b>3.2</b>	Funeral Under Umbrellas, 1895, Henri Riviere .....	39
<b>3.3</b>	Egg vendor along commuter rail tracks in Ghana,1974, Chester Higgins .....	42
<b>3.4</b>	Yosemite Valley from Inspiration Point, 1936, Ansel Adams ...	44
<b>3.5</b>	Goodyear Tires, 1967, Edward Ruscha .....	47
<b>3.6</b>	Changes in scale within a design also change the total effect ...	50

3.7	Lines .....	54
4.1	High altitude reservoir for oil sands processing, inside of tank, 2009, Canada .....	63
4.2	Canadian oil sands, where oil is, 2009, Canada .....	65
4.3	The deep sinkhole of Blue Hole Natural Monument in Lighthouse Reef .....	67
4.4	Green lagoon abuts the white and blue lake bed inside Cerro Azul crater, Isabela Island .....	69
4.5	Solitary cow grazing on the marshland in Lago Ypoa, South of Asunción .....	70
4.6	Dry waterways branch toward blue water across the massive Uyuni salt flats in Southwestern Bolivia .....	71
4.7	Flamingos align in a birdlike formation in a lagoon along the Gulf of Mexico .....	72
4.8	Contingent of nurse sharks patrols shallow waters off Ambergris Cay .....	73
4.9	Black caiman crawls across the rippled surface of a river sandbank .....	74
4.10	Fishermen in backlight gather up gear at day's end .....	76
4.11	Plowing lithium mine fields at the edge of the Salar de Atacama .....	77
4.12	Tightly packed markers engulf a large cemetery in Fortaleza ....	78
4.13	Bubbling water treatment pools beside lumber factory .....	79
4.14	Late afternoon sunlight accents the diagonal grid of adjacent greenhouses north of Bogotá .....	80
4.15	Five Treatment Ponds, Batavia, NY .....	83
4.16	Red Barn and Wye Road , Wyne Country, NY .....	84

<b>4.17</b>	Agricultural Figure, Duncannon, PA .....	85
<b>4.18</b>	Textural Orchard 2, Sodus, New York .....	86
<b>4.19</b>	Wheatfield and Tractor 3 near Yankton, South Dakota, USA ....	87
<b>4.20</b>	Plowed-fields .....	88
<b>4.21</b>	Balloon and Cornfield, N 45.24.40 W 75.38.35, Clarence Creek, Ontario, Canada .....	92
<b>4.22</b>	Highway 63 Bitumen Slick, N 57.00.43 W 111.35.03, Syncrude Mildred Lake, Alberta, Canada .....	93
<b>4.23</b>	Shawville Thaw N 45.35.49 W 75.28.40 Shawville Quebec Canada .....	95
<b>4.24</b>	Camaros - Less N42 & N40 N 43.51.24 W 78.52.05 Oshawa Ontario Canada .....	97
<b>4.25</b>	Wave Pool and Cots N45.18.54 W75.13.43 Limoges Ontario Canada .....	98
<b>4.26</b>	Chair Lift N 45.35.11 W 75.50.18 Mont Cascades Cantely Quebec Canada .....	99
<b>4.27</b>	Pink Lagoon N 45.19.10 W 75.00.26 Casselman Ontario Canada .....	100
<b>4.28</b>	Fallen Tree N 45.44.20 W 75.08.22 Ripon Quebec Canada .....	101
<b>4.29</b>	School Buses N57.19.49 W111.49.38 Canadian Natural Resources, Horizon Project, Alberta, Canada .....	103
<b>4.30</b>	Stelco Steel Mill One N 42.47.50 W 80.05.44 Nanticoke Ontario Canada .....	104
<b>4.31</b>	Sulfur Pile N 57.02.43 W 111.38.42 Syncrude Mildred Lake Alberta Canada .....	105
<b>4.32</b>	Snow Geese in Field One, N 45.19.10 W 74.59.55, Casselman, Ontario, Canada .....	107

# CHAPTER I

## INTRODUCTION

The starting point of this study refers to the concept of looking from above. Looking from above can refer to a variety of meanings in different fields. Sokrates summarizes the reason of being above as, "Man must rise above the Earth –to the top of the atmosphere and beyond- for only thus will he fully understand the world in which he lives" (English, 2003:3). In the act of looking from above, we can ask several questions. For example, "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?" (Morshed, 2002:201) Although these questions can be adapted in different fields, such as philosophy, sociology and psychology as it has a significance in each, this study focuses on the answers related to art and aerial photography.

Humanbeing learned to walk, to swim, to dive underwater but defeated against "fly". People are always curious about flight. There are many

inventions that have been designed like kite, baloon, plane etc. as a result of this curiosity. Humanbeing tried to get rid of the feeling of defeated through these inventions. Sky calls human ever because the God and the angels are there. Humanbeings' two thousand five hundred years of passion for flight can be explained with the struggle of being close to the God and angels (Batur and at al., 2006).

Nevertheless, it is difficult to understand the assurance and creativity of first aerial inventors. Leonardo Da Vinci's expectation from the human flight was, to get snow from the top of the mountains and than bring that snow to the hot streets of the city (Buck-Morss, 2010). People met the first baloon flight in 1783 and the first flight with pilot by Wright Brothers in 1903 with suspiciously (Burkett, 2001). These inventors got the inspiration from the past. In the past, civilizations had many legends about flight. As an example, it will be useful to look into the topic of flight in mythology briefly.

What is a myth? Myths are imaginary stories about natural power and supernatural creatures. For instance, the symbol of Zeus who is the the most known and most amorous god in mythology is a huge-winged eagle which symbolizes power. Zeus controls the weather events and the sky. The template of Zeus is high places and sometimes he was called as Akraios

which means “the elevated” (Estin and Laporte, 2002). Being amorous and being elevated -in other words looking from above- are equal to Power.

The opportunity to be winged gives power. As an example, Pegasus is the best-known winged creature in Greek mythology that is used as a vehicle to reach difficult locations. Pegasus was the flying horse of the Corinthian hero Bellerophon (Cotterell, 2005). Pegasus has been pictured several times by different painters to be showing courage. Pegasus and many other mythological characters have become inspiration for most of the painters.



**Figure 1.1: Perseus Releases Andromeda, 1630, painting by Joachim Wiewael**  
([http://towerweb.net/mythology/art/perseus\\_wiewael.shtml](http://towerweb.net/mythology/art/perseus_wiewael.shtml)) accessed on  
August 23, 2012

For example, we can see Andromeda chained to a rock as a sacrifice to a sea monster then the hero Perseus swooping down on the winged horse Pegasus; he cuts Andromeda free and slays the monster in the painting by Joachim Wiewael, in 1630 (Figure 1.1). However, another myth about having ability to fly is the story of Daedalus and his son Icarus. According to Greek mythology, King Minos wanted from Daedalus to design and build up a labyrinth for the horrible Minotaur at his palace of Knossos in Crete. Later, King Minos imprisoned Daedalus for revealing the secret of the labyrinth. But Daedalus constructed wings of wax and feathers for himself and his son Icarus. Before they took a flight Daedalus warned Icarus to not go closer to the sun. Despite his father's warning Icarus flew too close to the sun and the wax of his wings melted, he fell into the sea and died (Cotterell, 2005).

This story about the passion of flight, being above was painted in several occasions. One of them is "Landscape with the fall of Icarus" painted by Pieter Bruegel in 1558 (Figure 1.2) and another one is "Daedalus and Icarus" painted by Charles London, in 1799 (Figure 1.3).





**Figure 1.2: Landscape with the fall of Icarus, 1558, painting by Bruegel**  
(<http://www.bouwman.com/netherlands/Landscape.html>) accessed  
on December 24, 2011



**Figure 1.3: Daedalus and Icarus, 1799, painting by Charles Landon**  
(<http://ancienthistory.about.com/od/greekartarchaeology/ig/Wordless-Wednesday-Pictures/Daedalus-and-Icarus.htm>) accessed on May 21, 2012

The mythological aspects of “looking from above” can be explained with many other examples. But if we focus on our main subject it will be seen that through the technological developments, aerial photography become more convenient in the field of that notion. Today we have the ability of looking from above and record what we see. In this context, aerial photography is very significant in many fields such as mapping, archeology, anthropological field research or military. There is a strong connection between aerial view, looking from above and aerial photography. In all these three terms, person as a subject stays in a high-level position from the other people, the earth, etc. This opportunity gives power to the subject as it is mentioned in mythological aspects. So, this study focuses on aerial photography, design principles and aerial abstractions.

### **1.1. Aim of the Study**

In Turkey, general aviation is under the shadow of military aviation. Although general aviation as a field is used in many other study case such as archeology, mapping, agricultural spraying, city planning etc., there is very limited studies in aerial photography as an art form. So there is a serious gap in practical and theoretical side. The aim of this study is to raise awareness

about aerial photography as an art form, make a connection between design principles and aerial photography, to make a contribution to the literature and to create a kind of guidebook who are interested in art and aviation.

## **1.2. Methodology**

There is a significant amount of literature on the technical aspects of aerial photography and the importance of aerial view in specific fields such as mapping, archeology, anthropological field research or military. Whereas, it is difficult to find sources that deal with it from the artistic point of view or adopt a cultural perspective while investigating aerial photography.

This study aims to make a contribution to fill that gap with particular reference to the works of selected aerial photographers. The well-known contemporary aerial photographers Robert Haas, Louis Helbig, Henry Fair and John Griebisch are the main references because all of these selected photographers are dealing with aerial photography as an art form and especially aerial abstractions. The methodology is based on theoretical analysis, photography analysis and the interviews. Interviews have been done via electronical mails. The same questions are asked to the photographers. In general, the questions are about the personal experiences,

their point of view to the aerial photography and design principles. The answers that are given to these questions make a very significant contribution to this study.

## CHAPTER II

### AERIAL PHOTOGRAPHY

Humanbeing is dealing with capturing life since the early periods of history and used different techniques as drawing, painting, scraping to capture life on different surfaces. During the Industrial Revolution in 1800's humanbeings met with camera as a vehicle for capturing and photography as a technique. Formal date of meeting with photography is 1827. After that date humanbeing started capturing to the surface through light and camera. First aerial photograph is taken by Nadar in 1858 in Paris from a hot air baloon (Uçar and et al., 2011). So, over a hundred and fifty years, aerial photography is in our lives. In this chapter, how we met with aerial photography, the historical process of aerial photography and the main use of aerial photography will be discussed.

#### **2.1. The History of Aerial Photography**

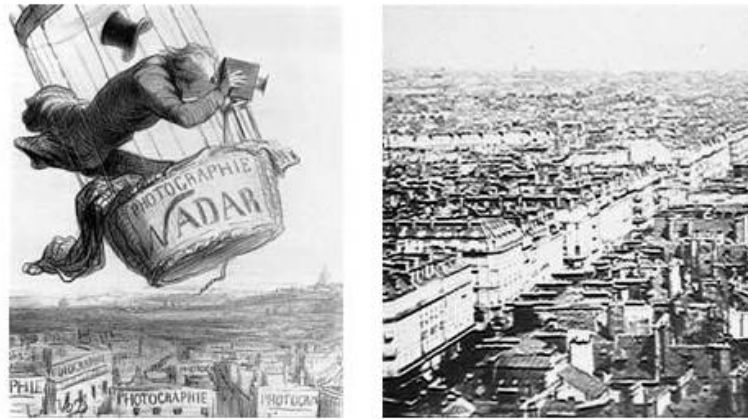
Knowing the journey of aerial photography briefly will help to understand that field as a whole. Aerial photography has been practiced first in Paris during the mid-nineteenth century (Uçar and et al., 2011). Aerial photographer Georg Gerster “references the 1858 photographic balloon flight

of Gaspard Félix Tournachon, alias 'Nadar an event whose historic significance is commonly referenced in works broaching the subject" (Fraser, 2011:71-73).

"Gerster writes: 'in the last few days of December, 1858, Gaspard Félix Tournachon, alias Nadar, embarked on the first successful photographic flight in a captive balloon; as a precautionary measure he had already applied, a few months before, for a patent on the utilization of aerial photography for the production of maps'. Georg was for 10 years a professional aerial photographer who spent over 1,000 hours in the air over 59 countries and territories across the globe" (Fraser, 2011:71).

In other words;

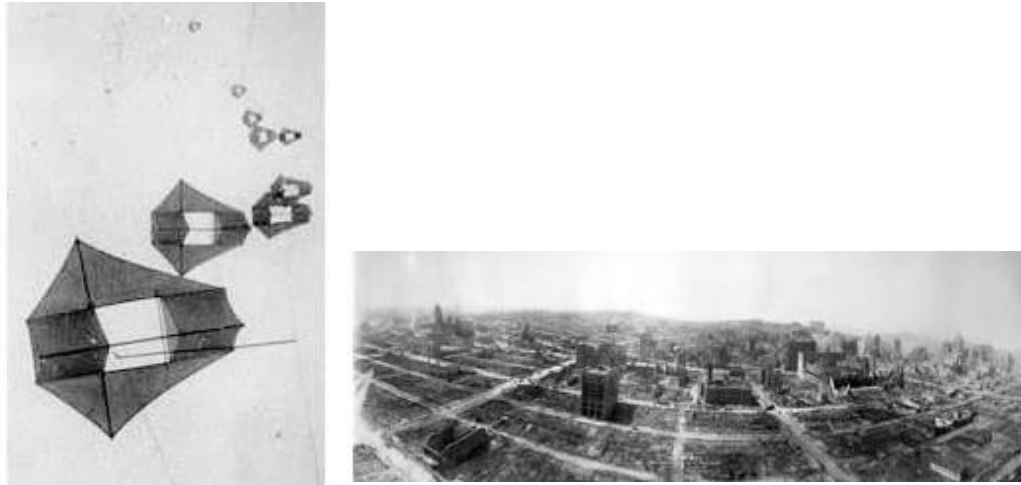
The first known aerial photograph was taken in 1858 by French photographer and balloonist, Gaspar Felix Tournachon, known as 'Nadar' (Figure 2.1). In 1855 he had patented the idea of using aerial photographs in mapmaking and surveying, but it took him 3 years of experimenting before he successfully produced the very first aerial photograph. It was a view of the French village of Petit-Becetre taken from a tethered hot-air balloon, 80 meters above the ground."(Professional Aerial Photographers Association (PAPA), 2001-2011).



**Figure 2.1: Nadar caricature by Honoré Daunier. Published in Le Boulevard 25th May, 1862 (left) and Nadar's earliest surviving aerial image, taken above Paris in 1866 (right)**

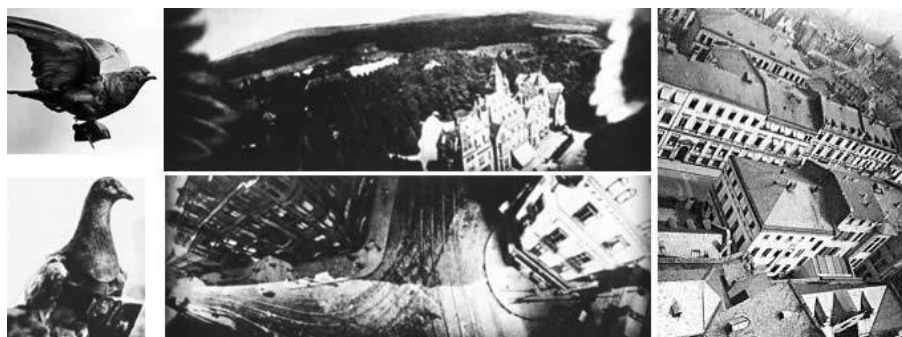
(<http://www.papainternational.org/history.asp>) accessed on September 14, 2011

Through the improvements in technology, it became more easier to put the cameras into the sky. Together with hot air baloon, kites, pigeons, rockets and airplanes are used to carry the camera for taking aerial photographs. The first successful photographs are taken from a kite in 1882 by the English meteorologist E. D. Archibald. He stringed out few kites and put the camera to the last one. George R. Lawrence took an aerial photograph by using a camera attached to a string of kites after the earthquake and fire in 1906 San Francisco high above the city (Figure 2.2). "Lawrence also used ladders and high towers to capture lower level 'aerial' photographs" (PAPA, 2001-2011).



**Figure 2.2: Lawrence's kites (left), and one of his panoramas of San Francisco taken from kites after the earthquake and fire (right)**  
 (<http://www.papainternational.org/history.asp>) accessed on June 14, 2012

“The Bavarian Pigeon Corps used their pigeons to carry messages and for aerial reconnaissance. In 1903, Julius Neubranner designed a tiny breast-mounted camera for carrier pigeons. The camera could be set to take automatic exposures at 30-second intervals as the pigeon flew along” (PAPA, 2001-2011).



**Figure 2.3: Neubranner's pigeon mounted camera (left); Aerial photographs taken on pigeon photo flights (center and right)**  
 (<http://www.papainternational.org/history.asp>) accessed on June 14, 2012



The photographic view of bird's-eye had a significant role and great use in military service in the late-nineteenth century through World Wars I and II and beyond (Fraser, 2011). Additionally, the Swedish inventor, Alfred Nobel took the first successful aerial photograph from a rocket mounted camera in 1897 (PAPA, 2001-2011).



**Figure 2.4: Aerial photograph of the Swedish countryside, taken by Alfred Nobel from a rocket powered camera**  
(<http://www.papainternational.org/history.asp>) accessed on June 14, 2012

Lastly, Wilbur Wright took an aerial photograph in 1909 which was the first aerial photograph taken from an airplane. During the First World War, thousands of aerial photographs were taken. Armies became aware of a new weapon. It was aerial reconnaissance. Pilots became the eyes of military services (Stichelbaut, 2005). During the first months of the war, aerial

photography was considered to be a hobby of a few enthusiastic airmen. From 1915 onwards the new discipline developed and became widely used by the military air services.

Writing of the infamous discovery and photographic documentation of missiles on Cuban soil during the Missile Crisis of 1962, Brigadier General George W. Goddard applauds the practical applications of the medium, saying that: "No one can say how much mankind came to owe to the technological art of aerial photography in the explosive autumn of 1962. Certainly it can be said that without the aerial camera, history would read differently today, or perhaps not at all" (Fraser, 2011:71-73).

The history of aerial photography shows that it begun with curiosity, then quickly turned into a weapon and a tool for archeology, as well as an art form.

## **2.2. The Use of Aerial Photography**

Aerial photography has been used widely in military and archeology. That use will be explained with several examples in this part of the study.

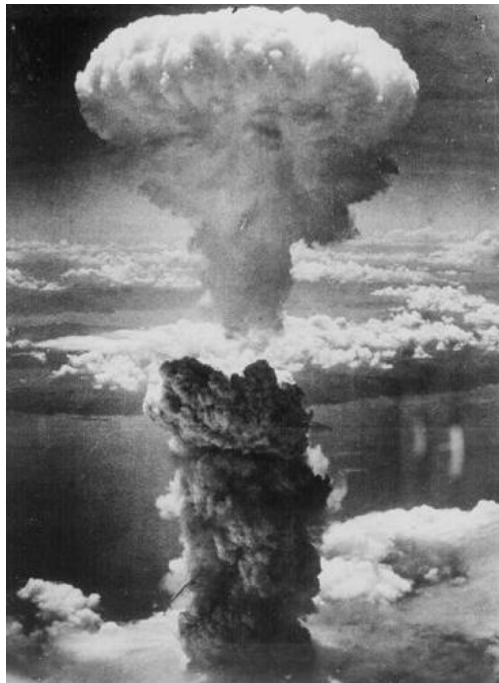
### **2.2.1. Aerial Photography in Military**

Camera has been the main metaphor of the gaze for more than one and half century. In that case Bilder signifies that aerial photography started to be

used in World War I, and a relation between camera/gaze and military was formed. According to Bilder; the bomber pilots' office was the first place that the camera is used to check the performance of the bombers. One of the reasons to put a camera on the plane was to record the explosion of the bomb and the other is to check the performance of pilots. The photograph taken from a bomber had a strong reminder and mortal effect (Silverman, 2006). The development of airplanes increased because of military operations. Cameras and lenses were designed according to the use for air. Among with these improvements an obvious growth occurred in the field of aerial photography. The aerial photographs were used almost for only military. After the war the role of aerial photography did not change. The photographs taken for military purposes were useful sources for many studies (Reeves, 1936).

Looking from above in the case of aerial photography in military can be explained with the example of Hiroshima. U.S.A bombed Hiroshima with the bomber named Enola Gay in World War II; on 6<sup>th</sup> of August 1945. In the photograph (Figure 2.5) that is taken by Enola Gay few seconds later, the explosion we see a cloud like a mushroom and either we or the bomber pilot does not know anything about the tragedy lived there by only looking that

aerial photograph. Looking from above to that moment creates a strong alienation and indifference to the reality. You see the houses as a matchbox, people seems like ants, the earth under you looks like a playhouse. It is not easy to be aware of the lives in there. So it became easier to destroy this “playhouse” with all things in it. Conversely, the other photograph (Figure 2.6) that is taken from eye-level shows us the real tragedy lived in Hiroshima. We see a man standing desperately in front of the dogs of war and that frame shows the reality. The impression that these two photographs taken from different levels give us feelings with a very huge difference.



**Figure 2.5: Hiroshima from aerial view**  
([http://en.wikipedia.org/wiki/File:Atomic\\_bombing\\_of\\_Japan.jpg](http://en.wikipedia.org/wiki/File:Atomic_bombing_of_Japan.jpg)) accessed on February 18, 2012



**Figure 2.6: Hiroshima from eye-level**  
(<http://kuzeyli48.blogspot.com/2010/08/hirosima-hiroshima.html>)  
accessed on March 28, 2012

The bombers remind the Leonardo Da Vinci's expectation about human flight. Today's bomber planes are dialectic antithesis of Da Vinci's utopic expectation. Technology continues to terrorize the humanity (Buck-Morss, 2010).

The strategy of military is always dealing with invisibility and visibility. The war in Iraq showed us that the weapons have electronical eyes. The air forces as American F-15E and English Tornados are decked out with visualization systems which provide them to fly low altitude, lighting the objects with infrared rays and to find the target in desert nights. These high technology

systems totally change our perception of war. We know that the weapons are dangerous but we do not feel or touch the other's pain. A citation from *Skyward: A Ballad of the Bomber* by Robert Cromwell may be explains this better:

"I am the bomber 17-  
Proud machine –sleek and powerful,  
Made by man to kill his foe,  
Made of steel and wood and metal,  
Built to fight and drop destruction" (English, 2003:69).

As it is mentioned before; after the World War I, armies have become aware of a new weapon. The strength of aerial reconnaissance has been realised. The army started to see with the eyes of pilots. In the beginning of the war aerial photography was just a hobby for some airmen. Then, since 1915 aerial photography become a new discipline and have been used widely by the military air services. Aerial photography has also been used in military to get information about the enemy's trenches and their preparation for an offense. While finding weak spots, thinking about strong defensive positions, the aerial photograph was a useful tool. Aerial photographs were also useful documents to find any other possible targets and to see the results of bombardments (Stichelbaut, 2005).

The photographs that were taken for military purposes were used in most studies. For instance; the aerial photographs taken by the Royal Air Force in Mesopotamia during the war show the traces of ancient cities (Reeves, 1936). National, regional and local institutions have many archives in Europe. After Cold War aerial reconnaissance is a process that does not end but for the future it has to be as the interpretation and mapping from aerial photographs (Bewley, 2001).

To summarize, during the war, aerial photographs were used to make trench maps to show trenches schematically, and marked with conventional symbols. These photographs were often taken by the pilots (Stichelbaut, 2005). After the use of aerial photography in military, archaeologists were able to more effectively use the technique to discover and record archaeological sites. Large sites could for the first time be viewed easily by the use of aerial photography. Apart from this functional use, aerial photography in military created a literal and psychological distance between the people taking part in the war, alienating them from one another and making actions acceptable.

### 2.2.2. Aerial Photography in Archeology

Archaeologists, landscape historians and illustrators have been dreaming to experience the bird's eye view of the landscape for centuries. The late nineteenth century is important for both photography and flying to see the effects of new techniques. By the invention of powered flight, the development of aerial reconnaissance has become faster in the early twentieth century. During the twentieth century, millions of aerial photographs were taken and collected for future use for archaeological purposes (Bewley,2001).

Interpretation of aerial photograph and photogrammetry are related to each other closely. "Photogrammetry is concerned with obtaining exceptionally precise quantitative measurements from aerial photographs, whereas photographic interpretation focuses more on the recognition, identification, and significance of features on photographs" (Morgan, Gergel and Coops, 2010:49). In archaeological investigation, aerial reconnaissance is a useful technique to get information about river valleys and archaeological sites. However these discoveries done by aerial reconnaissance become useful after getting information with the interpretation of aerial photographs (Bewley, 2001).



The art of interpreting aerial photographs owes a great deal to the war. While many features on photographs are distinct enough to be recognized, minor details appear very small on pictures taken from a considerable height. To add to the difficulty, extreme efforts were made during the war to camouflage or conceal ground installations and activities. This challenge was met by developing a special technique for the examination of aerial photographs, including the use of the magnifying glass and the stereoscope. As a result, the accuracy with which an experienced interpreter could identify minute detail was almost unbelievable to the uninitiated. An adaptation of this same technique has proven valuable in the study of air views of archaeological sites (Reeves, 1936:103-104).

Before interpretation, the sites should be recorded and classified systematically. Thus, this process helps to provide an understanding of sites within a landscape context based on size, shape and location (Bewley, 2001).

The relation between aerial photography and archeology is quite strong. The significance of aerial photography in the mapping of archaeological sites both terrestrial and under the sea can not be ignored (Whittlesey, 1974).

In traditional archaeological aerial photographs, most sites are detected as water, snow, crop and soil marks, and refer to events from past periods. In this case, the majority of the features being studied belonged to the First World War and were of similar date to the photographs that had captured them. The photographs had potentially captured information of three kinds: environmental features, prehistoric and historic sites, and structures and

relics related to the First World War. The photographs made a contribution to environmental history by showing the extension of the dunes, land rise and afforestation areas (Stichelbaut, 2005).

Since 1880; aerial photographs were in use in the field of archaeological work. Although the value of aerial photographs were understood clearly, the techniques will be improved after the invention of the airplane. The quality of cameras was another determining factor. As a result; aerial photography was applied to archaeology after the World War I (Reeves, 1936). Advanced photographic techniques such as photogrammetry as it is mentioned before, photo interpretation, and spectral analysis are used in archeology with the combination of aerial observation to record and survey (Whittlesey, 1974).

Aerial photography is a fundamental way to discover the unknown archeological sites. Aerial photography gives an opportunity to see sites that cannot be seen from the eye-level on earth. Through looking from above it is possible to see details clearly. "This is due to the fact that the earth on the site of a ditch or embankment usually differs slightly in color from the surrounding area" (Reeves, 1936:104).

Another significance of the use of aerial photography shows itself in the field of mapping archaeological remains, especially earthworks. There are numerous archeological sites that have not been mapped and more other researches are unfinished. Through the technical and methodological improvements in the field of aerial photography the scientific value becomes higher. Although aerial photography is a new discipline, the donations of aerial photography to the other disciplines can be seen obviously (Reeves, 1936).

### 2.2.3. Historical Aerial Photography

Aerial photography has an important role in various fields. One of them is historical aerial photography. By the use of historical aerial photography, a unique perspective occurs to the natural, economic and cultural history. According to Gavish; aerial photograph gives an opportunity to see the landscape in visual language. This visual language which is created by aerial photograph is easy to understand, universal and direct. A map also has its own visual language which is explained by cartographer but aerial photograph "includes no topical selection, no intervention by man, and no erased and empty areas. The scene that appears in a single aerial photograph

is a link in the chain of the landscape's ever-changing and ever-evolving history; there is a story that preceded it, and another one that followed it" (Booth, 2005:25-26). Historical aerial photography presents us a perception of time and place. The explanation of place by the 1994 Geography Education Standards Project is:

People's lives are grounded in particular places. We come from a place, we live in a place, and we preserve and exhibit fierce pride over places... Places are human creations and the geographically informed person must understand the genesis, evolution, and meaning of places. Places change over time as both physical and human processes operate to modify the Earth's surface. Knowing how and why places change enables people to understand the need for knowledgeable and collaborative decision-making about where to locate schools, factories, and other things and how to make wise use of features of the physical environment such as soil, air, water, and vegetation (Booth, 2005:25-26).

In this context, historical aerial photographs are used for a variety of purposes as follows:

- The soil patterns in historical aerial photographs are being determined for archeologists. By looking at the photograph a researcher can determine significant sites.
- Before and after aerial photographs are significant to show the changes and distortions in the natural environment (Figure 2.7).

- Historical aerial photographs can be use to ascertain the reason of pollution. For instance if there is a factory or a fuel storage tank which pollute the area can be detect by the use of aerial photographs.
- Historical aerial photographs are also a reference for an oral historian to find out the people’s locations, habitats, businesses (Booth, 2005).



**Figure 2.7: Example for before and after photographs Gasometer in Chicago**  
 (Image is taken by Booth, Arlyn. 2005. *A Digital Archive of Illinois Historical Aerial Photographs*. Map Librarian at the Illinois State Library; Additional contributions by Don Luman, Senior Scientist, Illinois State Geological Survey. Vol.85. No.4. P:1)

#### 2.2.4. Aerial Photography in Mapping

During the decades the changes on landscapes and cultural changes were captured and documented by aerial photography. “Each set of aerial photographs provides a ‘snapshot’ of the area in its time” (Booth, 2005:26).

Mapping agencies became aware of aerial photography as a new tool very quickly in topographic mapping. Innumerable areas were photographed for mapping purposes. These developments in photographic mapping were caused a birth of new science called as science of photogrammetry (Reeves, 1936). Since 1920 aerial photography became a gripping field especially in Egypt, Palestine, Mesopotamia, South America, Central America, and the United States. Lieutenants A. C. McKinley and H. R. Wells were taken one of the first aerial view of prehistoric earthworks of the Cahokia Mound in October 1921. In 1930, just about 700 photographs were taken for prehistoric studies in the area of Gila River Valley (Reeves, 1936). The photograph shot with the camera in a upended part with the lens axis right to the earth is more profitable type of photograph called 'vertical' (Reeves, 1936).

When the aerial photographs are investigated, it will seen that they have two properties. First one is geometrical properties such as angles, coordinations, distances and the second one is the details that the photographic image has. Because of the geometrical properties, an aerial photograph can be compared with maps (Sesören, 2006).

The use of aerial photography to assess and map landscape change is a crucial clement of ecosystem management. Aerial photographs are ideal for mapping small ecosystems and fine-scale landscape features,

such as riparian areas or individual trees, because they often possess a high level of spatial and radiometric detail. Aerial photographs also provide the longest-available, temporally continuous, and spatially complete record of landscape change, dating from the early 1930s in some cases. As a result, aerial photographs are a source of valuable historical information on vegetation cover and condition. Aerial photographs can reduce costs involved in mapping, inventorying, and planning, and, as such, are used for applications ranging from forest inventories, disturbance mapping, productivity estimates, and wildlife management. Thus, many important management decisions are routinely made on the basis of maps derived from aerial photographs (Morgan, Gergel and Coops, 2010: 47).

Aerial photographs carry many answers which are given to ecological questions and different knowledge of ecological information for decades. Archived aerial photographs can give information about the *historic ecosystem conditions* (Morgan, Gergel and Coops, 2010). Aerial photographs give the possibility to reach the historic information for following the changes in ecosystem and landscape.

“The search for sensory completeness is clearly what has long encouraged the development of three-dimensional photography, of color processes, of the motion picture and of the sound that goes with it. But in general, new sensory dimensions, new technologies have been added to the photography” (Robinson, 1975:11). Three-dimensional photography is one of them and it is totally used in aerial photogrammetry especially in mapping.

We expect that such information per parcel, for all properties of a city, will be useful for a broad range of applications in city administrations, commercial location-based services and searches on the Internet. There will, however, be concern about the cost of data creation. An economically favorable approach would build first of all on the wealth of already existing routine aerial photography justified by other applications, not insignificantly in connection with innovative location-aware global Internet sites such as Google Maps and Microsoft's Bing Maps, or the innumerable regional sites. Secondly, such property-descriptions will need to be developed automatically, with little manual support (Meixner and Leberl, 2011:722).

In this context, two-dimensional maps and three-dimensional urban models is developed rapidly with the help of internet search. Photographic texture taken from ortho photos is very useful for developing street maps for car navigation (Meixner and Leberl, 2011). During that process of aerial photography, photographers became aware of aerial photographs as a new art form.

As a summary; first aerial photography was taken in 1856 with a balloon by Nadar. Then, aerial photography became a useful discipline during World War I for surveillance. It became common most of other fields such as archeology, anthropological research, mapping and city planning. Eventually, photography artists begin shooting the earth from sky for aesthetic reasons.



## CHAPTER III

### AERIAL ABSTRACTIONS

Abstraction as a notion, design basics that help abstraction will be discussed in this chapter.

Let's begin with an aerial view of an aerial view. Presently we are standing on the entry level, having come in to the building from the Thames path, and are now looking down through a void toward the large scale photomap – a satellite image of London – that forms the surface of the basement-level floor...The City Hall building is thus presented as being organized around two aerial views of London: the first is the high level vertical satellite image of the city, which one paradoxically descends to examine, and across which one walks; the second is the low level oblique prospect of the city as viewed from the distanced vantage point of the observation area at the top of the ascending ramps. Between these levels hovers the chamber, somewhere 'in the air', although given the representational complexities of the situation, it is not clear – at least conceptually – exactly what that location is" (Dorrain, 2009:83-84).

Sometimes it is horrible to see that the aerial photography became an instrument for professions in various fields for those who saw aerial photography as an art form (Fraser, 2011). Gerster explains the city planners, geologists, archeologists, cartographers and foresters, agricultural and civil engineers point of view to aerial photography shortly.

Although these people have been working in their fields by using aerial photography, they do not think that there is a relation between aerial photography and feelings. The aerial photograph is a unique instrument for different feelings as joy, wonder, wrath. Aerial photographer Yann Arthus-Bertrand's introduction text titled as 'The State of the World in the Year 2000' in volume of bird's-eye views, titled *Earth from Above* does not address aerial photography at all. It does not mention the production conditions or how organizing their aesthetic or cultural meaning. Authors do not write about aerial photographs as cultural production (Fraser, 2011).

As an example, Gerster, draws attention about a problem of aerial photography practice:

Man's worst offenses are aesthetically upgraded by sufficient distance. The automobile scrapyard in a natural setting is an eyesore on the ground, but even from kiteflying heights it is transformed into an attractive multicolored design. And as for the profuse, untidy settlement growth that eats into field, forest and meadow: at jet altitudes, if not lower, the eye begins to recognize a gratifying order in the chaos. This phenomenon of redemption through distance is the one drawback of an approach that otherwise has only advantages (Fraser, 2011:72).

According to Fraser, Gerster points out the most important part of the matter. If aerial photography itself is not under debate only as a medium it is

necessary to read the aerial photograph as a cultural product. He has “found it useful to draw upon a variety of disciplines—from philosophy to geography to photographic criticism and both tourism and urban studies” (Fraser, 2011:72-73).

The aerial view is frequently associated with a serene transcendent and magisterial subjectivity, one lifted above the immersion in things while still holding them in purview... Furthermore, descriptions of immensity, an immensity of things, even in what is close-to-hand, frequently in turn take on an aerial character as evident in, for example, William Blake’s ‘To see a World in a grain of sand’. It is this interplay of detachment, discernment, immensity and even infinity that is embedded in the idea of the aerial view as a ‘God’s-eye view’... We may be above things, but at the same time we are among them in a new, disconcerting way. It is not that we are looking simply into a void, a radical annulment in which nothing counts anymore (Dorrain, 2009:87-88).

Antoine de Saint-Exupery wrote his experiences in *Pilote de Guerre* (Flight to Arras), he wrote about the differences between the terms vertical and oblique as an aerial view. Saint-Exupery’s aerial view from cockpit is a general view. He sees mountains, rivers, sun etc. in a very general view, such a picture. On the other hand, he military observer who is with Saint- Exupery on his flights, sees many things such as lorries, tanks, railway stations, trains with a vertical angle. There is a difference between seeing one thing and lots of things (Dorrain, 2009). In this context; aerial photographs can be classified as either vertical or oblique.

Vertical photographs are taken parallel to the ground, with the optical axis of the camera situated directly downward. Because of the variable conditions during photograph collection (wind, turbulence, etc.), true vertical orientation is rarely achieved, and photographs almost always contain some degree of tilt. Tilted images are obtained on an angle, meaning that the optical axis of the camera diverges more than 3 degrees from the vertical, shifting the normally central focus of a photograph to another location, and thereby shifting the positions of certain features. In contrast, oblique photographs are acquired with a deliberate deviation from a vertical orientation. Although oblique landscape photographs can predate aerial photographs by decades and can often provide rare historical information, they are more challenging to analyze systematically. Therefore, our discussion is limited to the use of vertical aerial photographs (Morgan, Gergel and Coops, 2010:48).

Additionally; art educators started to use photography in art education in 1930's and in the next decades. "A theoretical construct of a category system for interpreting photographs is presented as a means to add specific considerations about the unique medium of photography to existing instructional art criticism formats, and to current research in art criticism questioning strategies" (Barrett, 1986:52).

The aerial photograph holds us back from this venture at the time that it holds a mirror up to our thought and makes this venture possible. It is itself a contradiction. Let us see how the aerial photograph holds us back from this venture. Barthes once famously extolled the view from atop the Eiffel Tower for having the power to permit us to 'transcend sensation and to see things in their structure.' To the marvelous mitigation of altitude the panoramic vision added an incomparable power of intellection: the bird's-eye view, which each visitor to the Tower can assume in an instant for his own, gives us the world to read and not only to perceive; this is why it corresponds to a new

sensibility of vision". Barthes heralds what he calls 'the advent of a new perception, of an intellectualist mode.' But perhaps in his relentless desire to praise structure he exaggerates. How new is this perception? He writes that every visitor to the tower 'makes structuralism without knowing it'. But this activity of what Barthes calls 'decipherment', this process of separating and grouping, this act of what he calls intellection, is better understood, not as a privileged act, but rather in the context of the quotidian process of perception (Fraser, 2011:73).

"Looking down from the top of the Eiffel Tower, the viewer does not so much receive the flood of the past but rather is encouraged to see the city as a static thing. Not surprisingly, the troubling part of Barthes's characterization of the view from above is in fact his suggestion that this view is less distancing than the ground level view—and not more distancing as Gerster asserts (above)" (Fraser, 2011:74).

The intellect, Bergson writes, sees real movement only through discrete poses, reduces mobility through static images, sees only space where there is time. It sees the concrete world of our everyday life only through abstraction. Although Barthes inflects the bird's-eye view with an active quality as a 'deliberate act', suggesting that the viewer must 'construct' the object of Paris, he ignores the limitations of this distanced view... The reconciliation between theoretical knowledge and life, between static ideas and dynamic forces, requires a more conscious approach to the everyday process of abstraction. In this context, the structure of the city that can be gleaned from a bird's-eye view from above must be seen, not as the view of a superior being, but rightly as tending toward an abstraction. Consider famed anti-urbanist Jane Jacobs's statement that 'A city sidewalk by itself is nothing. It is an abstraction'. Whether on the street or far above street level there is the tendency to see the process of city-life only through static abstractions—unchanging poses and immobile structures" (Fraser, 2011:74-75).

Through the technological developments in recent years, for instance Google Earth and such like applications people reach the panoramic views of planet from above just using their internet. This experience is different from the view on the ground, abstraction comes out through this experience. According to Roland Barthes; the one who looks from Eiffel Tower feels that s/he stays outside of the world and become the owner of the world. For the tourists who are living that experience, *the city becomes a thing* and through distance all the movement in the city is perceived (Fraser, 2011).

Before interpretation it is also necessary to understand the qualities of the pictures which are the product of the photographic activities: tonal contrasts, the sharpness of images, parallax characteristics, and the amount of exaggeration of apparent height of features during stereoscopic viewing. The causes of variations in the first three items have been described and much has been written on the fourth... Analysis of photographic quality often is especially necessary. Much photography is used for mapping rather than for interpretation. Some commercial photos appear quite distinctive because they were taken with special equipment for a specific purpose. Military cover is sometimes poor because of unusual requirements (e.g., nighttime observation) or because of difficulties resulting from imperfect conditions... An air photo often appears to be quite complex because of the great variety of features included; if vertical single-lens photos are used and the view is unfamiliar, there is additional confusion (Stone, 2005:319).

### 3.1. Abstraction and Design Basics

In art, there are two aspects in the center of the arguments in art such as content and form. Content refers to what the artist wants to say to the viewer, the subject matter or the story. Conversely, form refers to visual part, the way of how the artist communicates with the viewer. To summarize; content is what is said and form is how it is said. There is a communication, relation between the artist and the viewer in art (Lauer and Pentak, 2005). "In art, form is distinguished from space as the three-dimensional aspect of an object-it describes the way the object occupies space" (The Art of Photography, 1975:27).

Sometimes the aim of a work of art is purely aesthetic. Take, for example, adornment-subject matter can be absent and the only 'problem' is the one of creating visual pleasure. Purely abstract decoration has a very legitimate role in art. Frequently, however, problems in art have a purpose beyond mere visual satisfaction. Art is, and always has been, a means of visual communication (Lauer and Pentak, 2005:5).

The artist tries to express ideas or feelings with the help of shapes, color and abstract lines. Abstraction can be defined as a special type of 'artistic distortion'. Basic features of natural figures, shapes are shown in a simple way without details through abstraction. According to Lauer and Pentak,

abstraction level is changable. When simplification is evident visually abstraction appears (Lauer and Pentak, 2005). Abstraction is a technique that artists have used for centuries.

Figure 3.1. might be an example of 'abstraction' according to general use.



**Figure 3.1: Fabric and paper collage, 1948/54, Anne Ryan**

(Image is taken by Lauer, David A. and Pentak, Stephen. 2005. *Design Basics*. 6th ed. USA: Wadsworth/Thomson Learning. P:152)

In this study in Figure 3.1, there is an artistic simplification but forms of the shapes are not natural. They do not give reference to an object and they are geometric forms that we see. Similar paintings as Figure 3.1 with just geometric shapes, "as Plato said, free from the sting of desire" (Lauer and Pentak, 2005:152). Designers need some guides called as design principles and elements to create interactively design on a plane (Öztuna, 2008). The



relation between design and photography can be explained briefly. "In photography, design is the process of organizing ingredients so that they achieve a purpose. What makes a photograph work is also complicated. A picture is something that works by being perceived. Good design in photography is any structure –any organization of visual elements- that enables the beholder to grasp all that the photographer wanted to communicate" (Art of Photography,1975:62).

Starting from that point, design principles and elements will be explained to make the analysis more understandable in the next sections.

### **3.1.1. Design Principles**

The organization of visual information is done by design principles. Visual composition is created by the use of design principles and elements. Designers need design principles to control the design elements (Öztuna, 2008). The main purpose is to achieve consistency and order and to convey visual effect (Erdal, 2006). Design principles can be listed such as balance, continuation, contrast, pattern, perspective and aerial perspective, rhythm, scale and proportion and unity.

### 3.1.1.1. Balance

Color, texture and pattern, position and eye direction are significant to create balance. Balance is a part of human life. If there is no balance, this creates uncomfortable situation (Lauer and Pentak, 2005). Imbalanced design disturbs the viewer with incomprehensible hump (Öztuna, 2008). Conversely this does not mean that imbalance never be a part of art. Artist can use purposeful imbalance. “An artist may, because of a particular theme or topic, expressly desire that a picture raise uneasy, disquieting responses in the viewer. In this instance imbalance can be useful tool” (Lauer and Pentak, 2005:84).

*Funeral under Umbrellas* (**Figure 3.2**) is a striking picture. What makes it unusual concerns the principle of balance or distribution of visual weight within a composition. Here all the figures and visual attention seem concentrated on the right-hand side. The left-hand side is basically empty. The diagonal sweep of the funeral procession is subtly balanced by the driving rain that follows the other diagonal. The effect seems natural and unposed. The result looks like many of the photographs we might see in newspapers or magazines (Lauer and Pentak, 2005:82).



**Figure 3.2: Funeral Under Umbrellas, 1895, Henri Riviere**

(Image is taken by Lauer, David A. and Pentak, Stephen. 2005. *Design Basics*. 6th ed. USA: Wadsworth/Thomson Learning. P:82)

“Some designs achieve their effects with very formal and obvious balances— an image with two identical halves, for instance. Other pictures have a subtle, asymmetrical balance that is produced by interactions of visual components” (Art of Photography, 1975:68). Symmetrical balance is one of the simplest type of balance. This balance originates static effect in designs. Symmetrical balance is used in state-building commonly to make Power more magnificent. The aim is to emphasize that the people working there are balanced and impressive (Öztuna,2008). In symmetrical balance, like shapes are repeated in the same positions on either side of a vertical axis. This type

of symmetry is also called bilateral symmetry. One side, in effect, becomes the mirror image of the other side” (Lauer and Pentak, 2005:86).

“The second type of balance is called asymmetrical balance. In this case balance is achieved with dissimilar objects that have equal visual weight or equal eye attraction” (Lauer and Pentak, 2005:90). Designers use asymmetrical balance to externalize energy, action, movement with visual connections (Öztuna, 2008).

The third type of balance is called radial balance. It is possible to see radial balance in nature frequently. The sun with its radiating rays or the wheel of a bicycle can be good examples for radial balance. “Here all the elements radiate or circle out from a common central point. Radial balance is not entirely distinct from symmetrical or asymmetrical balance. It is merely a refinement of one or the other, depending on whether the focus occurs in the middle or off center” (Lauer and Pentak, 2005:100).

“In assessing pictorial balance, we always assume a center vertical axis and usually expect to see some kind of equal weight (visual weight) distribution on either side. This axis functions as the fulcrum on a scale or seesaw, and

the two sides should achieve a sense of equilibrium” (Lauer and Pentak, 2005:82).

#### 3.1.1.2. Continuation

Human eye is an organic structure that has continuation behaviour. The viewer’s eye moves onto the surface of design according to some design principles (Erdal, 2006). Starting from this, continuation means that something continues usually a line, an edge, or a direction from one form to another. The viewer’s eye is carried smoothly from one element to the next (Lauer and Pentak, 2005). As it is mentioned, continuation is achieved through visual unity.

#### 3.1.1.3. Contrast

Red, green and dark blue are the main light color that creates the basis of all colors. When these colors come together, they generate a certain contrast. For instance, when red and blue or dark blue and yellow come side by side, there is a strong color contrast is occurred (Hedgecoe, 2002).

The photograph in Figure 3.3 shows a contrast between the smooth eggs and the rough stones. It also shows the effect of scale on our visual impression of texture. At close range we might observe an individual rock or stone. At a further distance a textural pattern takes over. At an even further distance the pattern becomes finer and textural contrasts apparently soften. When seen from an airplane, a hillside cloaked in trees may appear to be soft in texture" (Lauer and Pentak, 2005:165).



**Figure 3.3: Egg vendor along commuter rail tracks in Ghana, 1974,  
Chester Higgins**

(Image is taken by Lauer, David A. and Pentak, Stephen. 2005. *Design Basics*. 6th ed. USA: Wadsworth/Thomson Learning. P:165)

"Shadows may either help feature identification, by providing information about an object or feature's height, shape, and orientation, or hinder classification, by obscuring parts of the landscape. Shadows provide profiles or silhouettes of certain objects and are particularly useful for small feature

identification, topographic enhancement, or features otherwise lacking tonal contrast” (Morgan, Gergel and Coops, 2010:54).

#### 3.1.1.4. Pattern

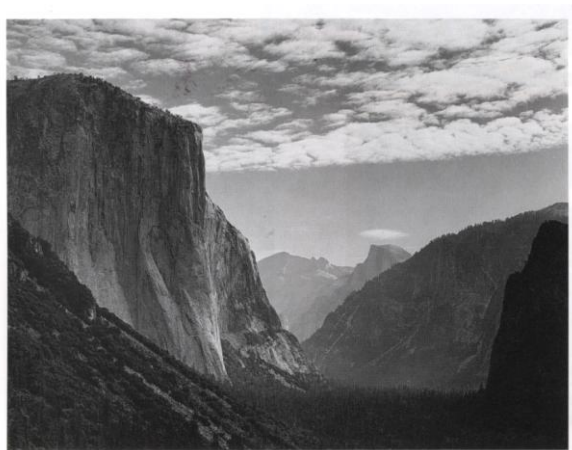
Texture and pattern are words which are close to each other. Printed fabrics for instance with flowers, pictures, dots come to mind when the word pattern is used. “Pattern is usually defined as a repetitive design, with the same motif appearing again and again. The essential distinction between texture and pattern seems to be whether the surface arouses our sense of touch or merely provides designs appealing to the eye. In other words, although every texture makes a sort of pattern, not every pattern could be considered a texture” (Lauer and Pentak, 2005:174).

“In contrast to texture, which focuses on tonal variation at a fine scale (the pixel level), pattern is concerned with the spatial arrangement of features or patches over coarser scales” (Morgan, Gergel and Coops, 2010:54).

### 3.1.1.5. Perspective and Aerial, or Atmospheric Perspective

“Perspective, by making objects appear to shrink with distance and by making parallel lines seem to converge toward a point on the horizon, creates the illusion of three-dimensional space in a photograph” (Art of Photography, 1975:74).

Additionally, color or value is used for showing depth. Value means the use of dark and light. That usage describes aerial, or atmospheric perspective. The objects and the information about these objects can not defined only by geometrical informations. Some conditions, the relationship with the objects can change according to the meteorological facts such as cloud, fog, etc. (Kılıç and et al., 2011). Figure 3.4 is an example for aerial perspective.



**Figure 3.4: Yosemite Valley from Inspiration Point, 1936, Ansel Adams**  
(Image is taken by Lauer, David A. and Pentak, Stephen. 2005. *Design Basics*. 6th ed. USA: Wadsworth/Thomson Learning. P:188)



The value contrast between distant objects gradually lessens, and contours become less distinct. Greater contrast advances, diminished contrast retreats. The color would change also, with objects that are far away appearing more neutral in color and taking on a bluish character... We ordinarily think of aerial perspective and value changes to show distance as applied to vast landscapes with distant hills. (Lauer and Pentak, 2005:188).

#### 3.1.1.6. Rhythm

The origin of the word rhythm comes from Greek and the meaning of it is 'to flow'. "Rhythm is created whenever similar pictorial components are repeated at regular or nearly regular intervals" (Art of Photography, 1975:72).

"Rhythm is a basic characteristic of nature. The pattern of the seasons, of day and night, of the tides, and even of the movements of the planets, all exhibit a regular rhythm. This rhythm consists of successive patterns in which the same elements reappear in a regular order. In a design or painting, this would be termed an alternating rhythm, as motifs alternate consistently with one another to produce a regular sequence" (Lauer and Pentak, 2005:110).

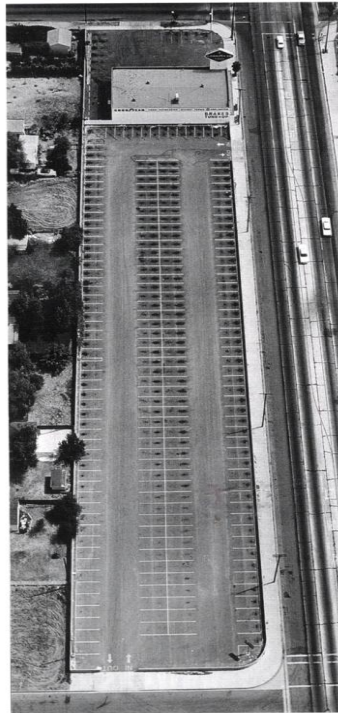
Life is full of rhythmic events and it gives the feeling of movement, confidence and determination. Visual rhythm is everywhere in daily life. For instance; cars in the otopark, books in the shelves, people standing in the

queue. In that situation every person is a positive rhythm and the space between them is called negative rhythm and visual rhythm is created by the repetition of positive shapes separated by negative spaces. (Öztuna, 2008).

While writing about rhythm as a design principle, repetition comes out. Generally repetition is a part of art and connected to visual unity. It is possible to say that about the rhythm is the repetition of same elements. Rhythm could be the repetition of textures and colors or the organization of shapes or objects (Lauer and Pentak, 2005).

Visual rhythm has different types such as random, progressive, regular, flowing and alternating. Random rhythm is a rhythm that is created by the irregular repetition of visual motif. Autumn leaves covering the ground is an example for random rhythm (Öztuna, 2008).

Another type of rhythm is called progression, or progressive rhythm. Again, the rhythm involves repetition, but repetition of a shape that changes in a regular manner. There is a feeling of a sequential pattern. This type of rhythm is most often achieved with a progressive variation of the size of a shape, though its color, value, or texture could be the varying element. In Figure 3.3 the rhythmic sequence of lines moving vertically across the format is immediately obvious. A more subtle progressive rhythm appears when we notice the dark shapes of the oil stains in the parking spaces. These change in size, becoming progressively smaller farther away from the building. In this photograph from an aerial vantage point, a rhythm is revealed in the ordinary pattern of human habits (Lauer, and Pentak, 2005:112).



**Figure 3.5: Goodyear Tires, 1967, Edward Ruscha**

(Image is taken by Lauer, David A. and Pentak, Stephen. 2005. *Design Basics*. 6th ed. USA: Wadsworth/Thomson Learning. P:112)

Regular rhythm is another type of rhythm. In this type of rhythm there is similar motifs and equal intervals. Regular repetition is used for organizing things in this type of rhythm. Office letter boxes can be a good example. Flowing rhythm is created by using the repetition of curly lines. Curve shapes such as ocean waves creates flowing rhythms. The last type of rhythm is alternating rhythm. This type of rhythm means to change motifs at regular intervals (Öztuna, 2008). Black and white squares on a chess board can be an example for alternating rhythm.

### 3.1.1.7. Scale and Proportion

Scale and proportion is significant principle of design. Although both terms are related to size, there are some differences between them. Scale is related to stable and normal size. When the word 'large scale' is used this means big and when the word 'small scale' is used that means small (Öztuna, 2008). "One way to think of artistic scale is to consider the scale of the work itself-its size in relation to other art, in relation to its surroundings, or in relation to human size. Unfortunately, book illustrations cannot show art in its original size or scale. Unusual or unexpected scale is arresting and attention-getting. Sheer size does impress us" (Lauer and Pentak, 2005:66).

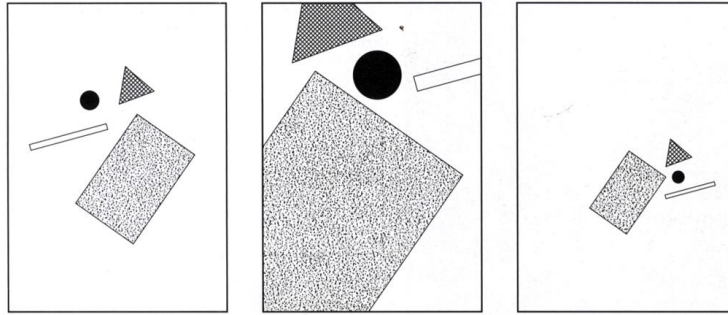
Conversely, proportion is related to the size relations between two or more items that achieve the whole. Size relation between an object and the values related to the environment around that object achieve proportion (Öztuna, 2008).

Proportion is linked to ratio. That is to say, we judge the proportions of something to be correct if the ratio of one element to another is correct. The ancient Greeks had a desire to discover ideal proportions, and these took the form of mathematical ratios. They found the perfect body to be seven heads tall and even idealized the proportions of the parts of the body. In a similar fashion they sought perfect proportions in rectangles employed in architectural design. Among these

rectangles the one most often cited as perfect is the golden rectangle. While this is certainly a subjective judgement, the golden rectangle has influenced art and design throughout the centuries (Lauer and Pentak, 2005:76).

“When a line is divided into two parts, the ratio between them is a proportion. Similarly, a ratio can be struck between in a picture, providing a relationship that may depend on qualities as objective as size, number and color, or as subjective as tone or interest” (The Art of Photography, 1975:71).

The second way to discuss artistic scale is to consider the size and the scale of elements within the design or pattern. The scale here, of course, is relative to the overall area of the format a big element in one painting might be small in a larger work. Again, we often use the term “proportion” to describe the size relationships between various parts of a unit. To say an element in a composition is “out of proportion” carries a negative feeling, and it is true that such a visual effect is often startling or unsettling. However, it is possible that this reaction is precisely what some artists desire. The three examples in Figure 3.26 contain the same elements. But in each design the scale of the items is different, thus altering the proportional relationships between the parts. This variation results in very different visual effects in the same way that altering the proportion of ingredients in a recipe changes the final dish. Which design is best or which we prefer can be argued. The answer would depend on what effect we wish to create (Lauer and Pentak, 2005:70).



**Figure 3.6: Changes in scale within a design also change the total effect**  
 (Image is taken by Lauer, David A. and Pentak, Stephen. 2005. *Design Basics*. 6th ed.  
 USA: Wadsworth/Thomson Learning. P:70)

### 3.1.1.8. Unity

The artist controls and plans the unity of design. Also we can talk about the term composition as a kind of organization in design and photography. Unity achieved by knowing that each element is related each other. The aim of unity is to achieve consistency and readability of design. Unity as a design principle looks like an invisible glue which makes the separate items unitary. This principle helps to focus on design (Öztuna, 2008). "Another term for the same idea is harmony. If the various elements are not harmonious, if they appear separate or unrelated, your pattern falls apart and lacks unity" (Lauer and Pentak, 2005:24).

Visual unity means that the whole is dominant over the parts. Each individual element has a meaning but each element helps to achieve the

whole pattern. First you must see the whole pattern than you can see each item otherwise visual unity does not exist (Öztuna, 2008).

Visual unity is achieved by using devices such as repetition, simplicity, rhythm, continuation and closeness. Rhythm is about the harmony between the items in a work. It is a kind of merge factor. Color can achieve rhythm in a work of art (Öztuna,2008). "A valuable and widely used device for achieving visual unity is **repetition**. As the term implies, something simply repeats in various parts of the design to relate the parts to each other. The element that repeats may be almost anything: a color, a shape, a texture, a direction, or an angle" (Lauer and Pentak, 2005:32).

### 3.1.2. Design Elements

In the language of main visual symbols are named as design elements. Designers create their work by bringing these visual parts together (Öztuna, 2008). Design elements can be listed such as color and tone, line, shape and texture.

### 3.1.2.1. Color and Tone

Color is one of the most important communication tool for designers. It is a kind of music for visual arts. The human eye sees the light uncolored. (Öztuna,2008). Nevertheless,

Color is a product of light. Therefore, as light changes, the color we observe will change. What color is grass? Green? Grass may be almost gray at dawn, yellow-green at noon, and blue-black at midnight. The colors of things are constantly changing with the light... Related to the idea of color changing with the light, one other color phenomenon is important: Our perception of colors changes according to their surroundings. Even in the same light, a color will appear different depending on the colors that are adjacent to it (Lauer and Pentak, 2005:238-240).

Between color and perception of depth there is a direct relation. Human eyes focus on different colors and the perception is different according to the colors.

Warm colors as red, yellow and orange are more evident than cool colors as blue and green. While warm colors seem in front, cool colors seem in the back. "Another aspect of the relationship of color and spatial illusion is that the dust in the earth's atmosphere breaks up the color rays from distant objects and makes them appear bluish. As objects recede, any brilliance of color becomes more neutral, finally seeming to be gray-blue" (Lauer and Pentak, 2005:256).



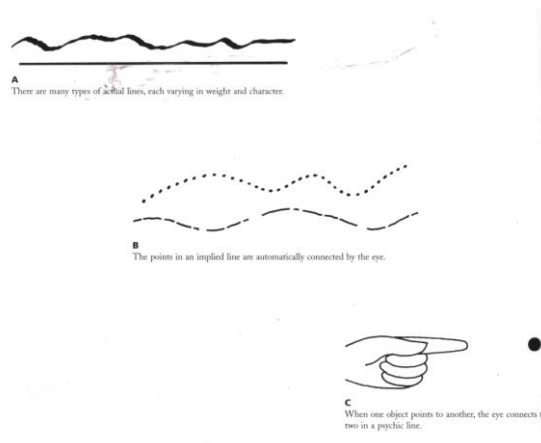
Respectively, hue, tone and intensity can be explained as the physical properties of color. Hue designates the place of color in color circle. As a simple explanation hue is the name of color such as red, orange, green (Öztuna, 2008). “Although the words ‘hue’ and ‘color’ are often used as synonyms, this is a bit confusing as there is a distinction between the two terms. Hue describes the visual sensation of the different parts of the color spectrum. However, one hue can be varied to produce many colors. So even though there are relatively few hues, there can be an almost unlimited number of colors” (Lauer and Pentak, 2005:242).

Tone is a design element known as darkness and lightness. Color tone value is about the light amount that the color reflects. All colors in spectrum have different tone values. For instance, while yellow is more bright color, purple is darker (Öztuna, 2008).

The last property of color is intensity. It “refers to the brightness of a color. Because a color is at full intensity only when pure and unmixed, a relationship exists between value and intensity. Mixing black or white with a color changes its value and at the same time affects its intensity” (Lauer and Pentak, 2005:246).

### 3.1.2.2. Line

Line has a significant role for centuries while achieving visual communication. Line is always used to imitate nature and to shape objects. Many artists and designers are affected by 'lines' such as Picasso, Matisse, Pollock and Klee in the historical process. Line is significant for the designer because by the use of lines objects become recognizable. Line is the combination of two or more dots that are close to each other. However, the artistic definition of line is moving dot. Lines are everywhere in nature. The most natural line is the line of human body (Öztuna, 2008).



**Figure 3.7: Lines**

(Image is taken by Lauer, David A. and Pentak, Stephen. 2005. *Design Basics*. 6th ed. USA: Wadsworth/Thomson Learning. P:124)

The direction designates the characteristic of line. According to the direction of a line the types of lines can be summarized as horizontal, vertical, diagonal, curved and zigzag line (Öztuna, 2008). "A horizontal line implies quiet and repose, probably because we associate a horizontal body posture with rest or sleep. A vertical line, such as a standing body, has more potential of activity. But the diagonal line most strongly suggests motion" (Lauer and Pentak, 2005:126). Diagonal lines create an impression such as falling down or moving up. Curved lines change the direction, they are active. Finally, zigzag lines create an impression of confusion. Zigzag lines are active and reflect the feeling of excitement and anger (Öztuna, 2008).

### 3.1.2.3. Shape

In this context, how can shape be defined? "A shape is a visually perceived area created by either an enclosing line or color or value changes defining the outer edge. A shape can also be called a form; design, or composition, is basically the arrangement of shapes" (Lauer and Pentak, 2005:142).

The art of photography, being a visual art, depends on the act of seeing raised to a high level of acuteness and discrimination... In the case of most seeing there are four traditionally useful approaches to visual information. In the terminology of the artist, they are defined as: shape, that is the two-dimensional outline of an object; texture, its

surface characteristics; form, its three-dimensional aspect; and color. The photographer considers all four... Of the four elements, shape is the logical starting point because it is, for the photographer's purpose, the simplest component, suggesting only vertical and horizontal dimensions. How should the photographer use shape? He can shoot at an unexpected angle to make the viewer look twice at the subject (The Art of Photography; 1975:22).

Shape is particularly useful for identifying cultural features, which usually have a specific geometry and obvious edges, as well as many other natural features with distinctive forms. "In particular, shape can be used to identify various geomorphic features such as fluvial landforms (e.g., fans or oxbow lakes), glacial landforms (e.g., drumlins or cirques), or organic landforms (e.g., swamps or fens), and disturbances such as landslides" (Morgan, Gergel and Coops, 2010:51-52).

#### 3.1.2.4. Texture

Texture is about the surface and it is perceived through touch and visual sense. Texture can make the composition more interesting. There is two types of texture. One of them is physical texture and the other one is visual texture. Physical texture is about the surface illusions of water, glass, fabric, etc. It can be felt by touching. However, visual texture is organizing line, shape and color for a composition. Visual texture is the illusion of real texture (Öztuna,

2008). Because texture gives information about the surface of an object, it gives realistic quality to the photograph. Texture can be used as an expression form (Hedgecoe, 2002).

Through the information is given in this chapter about aerial abstraction and design basics aerial photographs will be analyzed in the next chapter.

## CHAPTER IV

### THE ANALYSIS OF SELECTED AERIAL PHOTOGRAPHERS' WORKS

According to the information is given in the previous chapter about abstractions and design basics, the selected aerial photographs will be analyzed with the contributions of the photographers. In every image there is a way of seeing. Even photographs. Because photographs are not just mechanical records. It has been realized that the photographer chooses that view through infinite view options (Berger, 2009).

In analyzing a picture, the skillful photographer performs three different sorts of exploration. He examines his feelings and thoughts about the subject-in short, its meaning to him. He examines all the visual attributes of the scene, seeking those that will best convey his sense of the meaning. And he considers various ways in which the chosen visual elements can be arranged in the picture, so that the meaning can be efficiently grasped (Art of Photography, 1975:19).

Four aerial photographers are selected for this study. These selected photographers are well-known aerial photographers and they are working on especially aerial abstractions. First biographical information and the interview answers will be interpreted by the author and then the analysis of the photographs will be discussed referring to the design basics and the

photographers' point of view. Here are the questions that have been asked to the selected photographers:

**Interview questions:**

1. Would you briefly tell us about yourself?
2. When have you been started to shoot photo from the sky?
3. Which air vehicle do you prefer to make aerial shootings?
4. Does your camera has special features? What kind of equipments do you prefer?
5. For your point of view; the artistic qualities or documentary qualities are decisive in your aerial photography?
6. How do you pay attention to while taking an aerial photograph? What is technically important?
7. In terms of composition, how do the basic design principles effects your aerial photographs?
8. What is the distinguishing quality in your aerial photographs? Could you tell us about that quality? Are these conscious choice?
9. What comes to your mind when I say aerial abstractions? How does it shape in your mind?

10. Can you establish a relation between your aerial photographs and aerial abstractions?

11. How can you interpret your photographs which are attached at the e-mail in terms of composition and abstraction?

#### 4.1. J. Henry Fair

J. Henry Fair is an American photographer from NYC and an environmental activist. In general he works on portraits and environmental photography. Fair met with aerial photography in 2000. According to Mr. Fair helicopter is best for aerial shootings but it is too expensive. Because of that he generally prefers a Cessna 172 or 182. These kinds of small planes have high wings and opening windows. Mr. Fair uses digital cameras with high resolution and tries to get both a wide angle view and abstract images. According to Fair, both artistic and documentary qualities are decisive in his aerial photographs. The documentary images are needed for any evidentiary purposes, but the abstract/artistic images are more important to affect people's opinions.

“While taking photographs from the sky, things happen very quickly. The plane is only over the right spot for one second. There is no time to think about technique. It must come automatically. The



photographer must know his/her equipment. Also, the plane is often bumpy, especially over a heat-generating industrial site, making framing very difficult, which often requires multiple circles over the same spot to get the shot" (Fair, 2012).

He utilizes the rules of color and composition while making his images. Usually he has pre visualized what he wants to get and then just need to get the plane in the right spot at the right time of day to get it. He said that sometimes it takes months to do this. Creating "beautiful" images of horrible things causes a dissonance in the viewer, making her reflect on the issues that are the subject in the image. Fair made a project named as "Industrial Scars".

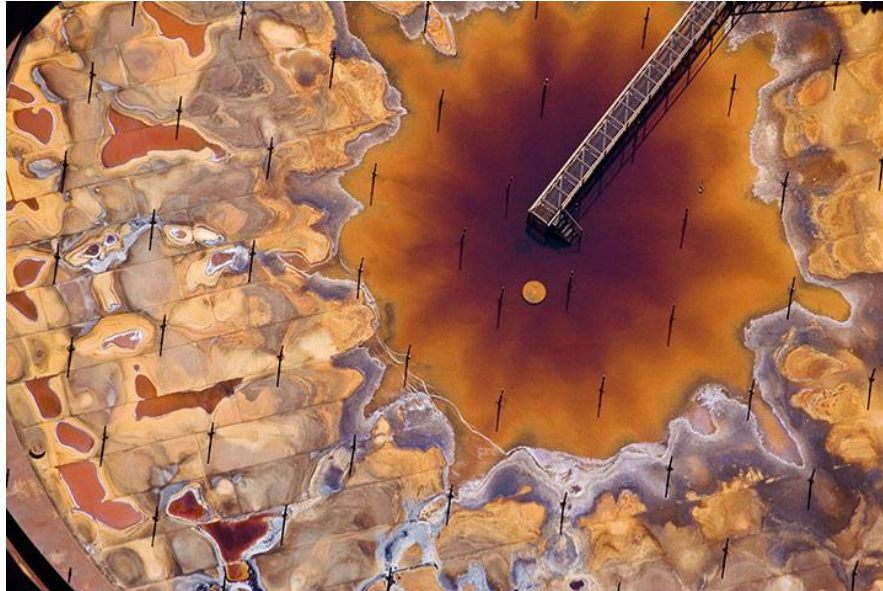
"Industrial Scars is an aesthetic look at some of our most egregious injuries to the system that sustains us in hopes that the viewer will come away with an innate understanding of her complicity and a will to make a difference. As an artist with a message, one asks oneself: how do I translate my message to my medium such that it will effect the change I want? At first, I photographed "ugly" things; which is, in essence, throwing the issue in people's faces. Over time, I began to photograph all these things with an eye to making them both beautiful and frightening simultaneously, a seemingly irreconcilable mission, but actually quite achievable given the subject matter. (Fair, Industrial Scars, 2012)"

Nevertheless, definition about aerial abstraction according to Fair is :

"An abstraction is an image without specific references which give the viewer clues about the exact nature of the subject. As such, if the image is compelling, it stimulates the interest of the viewer" (Fair, 2012).

Logistically, the things he wants to photograph are often sequestered behind fences, hidden from view, or in distant places. Also, the "bird's-eye-view" is inherently fascinating to a land-based animal. In doing this work, one researches the environmental issue, decides on a location, gathers all the available info about it, and then makes the logistical arrangements for the job. Often the logistics are the enemy of the ideal, for instance if the location demands a dawn shoot, but the pilot is not available till later. As much as one might study the site with satellite imagery etc, one never knows what will make the great photo till one is in the air above it. Also one is only in the right spot for a second, so there is no time for contemplation or symbolic imagination. One acts automatically, depending on years of experience and intimate familiarity with the equipment. Also, the nature of shooting from a jostling, fast-moving platform makes precise composition extremely difficult. The rules of composition and color are utilized innately, instinctively, and immediately. If the 'shot' was not captured, one circles and tries again.

The photograph in Figure 4.1 is looking straight down at the top of a large oil tank could not have been planned in advance. This photograph is taken in the Alberta Tar Sands.



**Figure 4.1: High altitude reservoir for oil sands processing, inside of tank, 2009, Canada**

*(Copyright Henry Fair. No reproduction of this image is permitted without the consent of Henry Fair)*

“The Alberta Tar Sands defy comprehension on many levels, starting with the fact that most people do not even know of their existence. Located north of Edmonton, Canada, it is the second largest oil reserve in the world, and the largest environmental disaster. The impact is systemic, affecting every facet of the environment: air, earth, and water, and causing everything from global warming to cancer in the people that live in the vicinity. The issue is all the more egregious because the authorities are ignoring the law and allowing this travesty to continue operation. As is so often the case, the public is unaware of the colossal damage done to provide the calories we crave. The tar, or oil sands, are in one of the largest estuarial systems in the world where there is a large volume of bitumen, a tarry hydrocarbon, trapped in the earth. Extraction involves the strip-mining of vast regions that are both valuable Boreal Forest habitat and precious water resources, rendering them desolate lifeless moonscapes for eternity” (Fair, Industrial Scars, 2012).

If that information is not given it is too difficult to guess about what it is or where it is. First impression about that photograph is it looks like a caramelized honey, a painting which is done onto water or a mass of amber. Additionally, as an aerial abstraction, Fair let the interpretation to the viewer. The most determining element is balance in that photograph. The photographer communicates with the viewer through the effect of radial balance. As it is mentioned before color, position and eye direction are significant to create balance in this photograph.

In this photograph, all the elements circle out from a common central point from the right up side of the frame. The viewer focuses on the common central point because of the dark tone. In the light tones there are almost diagonal lines are passing. There is one more diagonal line that is coming from the right up corner. That lines give action to the composition. All the surface, there are short vertical lines such as human body. Briefly, in that photograph, abstraction achieved by the help of color, tone, lines and radial balance.

On the other hand, in Figure 4.2 there is another aerial abstraction. The two-dimensional surface is filled with dimmed yellow color and a strong red color looks like blood creates a movement with curved lines. The red color

that is spreading slowly attracts the viewer's attention suddenly. However in reality, this is one of molten sulphur being pumped on top of a pyramid of sulphur.



**Figure 4.2: Canadian oil sands, where oil is, 2009, Canada**  
(Copyright Henry Fair. No reproduction of this image is permitted without the consent of Henry Fair)

#### 4.2. Robert B. Haas

Robert B. Haas is a photographer and since 2002 he has focused on aerial photography. Haas has series of nine books and five of them are published by National Geographic: *Through the Eyes of the Gods: An Aerial Vision of Africa* (2005), *Through the Eyes of the Condor: An Aerial Vision of Latin America* (2007),

*African Critters* (2008), *Through the Eyes of the Vikings: An Aerial Vision of Arctic Lands* (2010), and *I Dreamed of Flying Like a Bird* (2010). Both *Through the Eyes of the Gods* and *Through the Eyes of the Condor* have been translated into 17 languages and reached to the people with more than 100,000 copies. His tenth book is *Miracle Man: 100 Days with Oliver*.

Haas' aerial photographs have been exhibited in several countries all around the world such as U.S.A., Japan, Germany, Mexico, Peru, China, the Czech Republic, Spain, Ecuador, Australia, Venezuela, Serbia, Hungary, and Slovenia.

Haas's compositional preference— aerial photographs of largely rural landscapes—even squares with the neoliberal image of a borderless world. There are no borders here. There are no nationalities. For all the wars that have been fought below, for all the human suffering that still plagues the continent, the view from the air is serene and neutral, and the land beneath us seamless and whole (Fraser, 2011:81).

Besides the book named as "*Through the Eyes of the Condor*", Robert Haas open an exhibition named as the same. That is the aerial view of Latin America. The name comes from the similarity between the photographer and a Condor. Because while Haas was taking photographs, he was connected to the helicopter or small aircraft just with a harness and capturing the

photographs like a Condor spots his prey. The title gives many information to the viewer so the title is so significant to give clues about the art piece.

As it is presented in *Through the Eyes of the Condor*, the aerial perspective diminishes movement, flattens dialectical struggle, and encourages a superficially objective view of living processes. Just as in Barthes, structure and intellection reign supreme, yet they give us not a view into temporality, but an escape from the concrete and complex into the generalized and deceptively false abstract notion of the universal. Ultimately, the comfortable image of a global village, supported by Haas's simplistic views and Arana's over-use of the term "we" to evoke a false unity, trumps the differential production of space that unfolds unevenly over the geography of the Earth. Movement is frozen by the static frame; relations are presented as things (Fraser, 2011:82).



**Figure 4.3: The deep sinkhole of Blue Hole Natural Monument in Lighthouse Reef**

*(Copyright Robert B. Haas. No reproduction of this image is permitted without the consent of Robert B. Haas and National Geographic Society)*

“Certain images take on their most vibrant and dramatic tones only from above. As in the case of the dynamic Blue Hole in the Barrier Reef off the coast of Belize (Figure 4.3), a sink hole that plunges over 400 feet against the backdrop of shallow turquoise waters” (Haas, 2012).

As a first impression, a question mark comes to mind when look into the photograph. There is a big blue circle in the centre of the frame that attracts the viewer. Blue tones, texture of the ground that circles the blue circle and geometrical shape with a large scale achieve the abstraction.

“The aerial lens has the ability to plunge us back in time to images that have not changed in thousands or even millions of years, as with this picture of the emerald green waters of a crater inside the Cerro Azul volcano on the Galápagos Islands, where we were afforded unprecedented access to a jealously-guarded part of historic Latin America”.

This photograph (Figure 4.4) is similar to the previous photograph. However, this photograph is taken more right angle than the previous one. There is a large scale green circle in the centre of the frame and around that circle there are small scale green and white circles. This composition is



detached from the reality. By looking that image many imaginary characters come to mind. There is a visual connection between the elements in the composition. Unity comes out by this harmony.



**Figure 4.4: Green lagoon abuts the white and blue lake bed inside Cerro Azul crater, Isabela Island**

*(Copyright Robert B. Haas. No reproduction of this image is permitted without the consent of Robert B. Haas and National Geographic Society)*

“We soon learn that the background of an aerial image is an essential part of the canvas. A single cow grazing against a bizarre marshland pattern south of Asunción, Paraguay (Figure 4.5), is just the accent we needed to enliven this artistic background”.



**Figure 4.5: Solitary cow grazing on the marshland in Lago Ypoa, South of Asunción**

*(Copyright Robert B. Haas. No reproduction of this image is permitted without the consent of Robert B. Haas and National Geographic Society)*

That photograph in Figure 4.5 continuation is the dominant pinciple. The viewer's eye goes from one green shape to the next one smoothly. While following that shapes and curved lines a small white shape with shadow gives a dynamic effect to the image. The viewer's eye focus on that shape and continuation is cut for a while.

As Haas has wandered around the globe in his travels as an aerial photographer, what he's come to realize is that each continent has its own distinctive character – its own center of gravity – that beckons to travelers from near and far. For Africa, that force is the animals, a timeless magnet that distinguishes that place from any other on Earth. For Latin America, that force is the land itself. It is a surface dominated by the Andes, a massive line that threads its way across the

entire length of South America and spawns both frigid glaciers and hot-blooded volcanoes. As an artist, your work must reflect the essence of your subject matter and in Latin America, that essence is the diverse and powerful landscape itself. In the southwestern corner of Bolivia, the largest salt flat in the world the Salar de Uyuni offers the bizarre patterns that emerge from a dry lake bed that no longer boasts a lake. It is a very abstract canvas that offers an infinite set of artistic choices.

Figure 4.6 looks like a painting. Because of the tones and the atmospheric perspective it achieves a peaceful feeling. The curved lines meeting with the blue at the top of the image give a movement. Repetition of curvilinear lines create flowing rhythm in that photograph.



**Figure 4.6: Dry waterways branch toward blue water across the massive Uyuni salt flats in Southwestern Bolivia**

*(Copyright Robert B. Haas. No reproduction of this image is permitted without the consent of Robert B. Haas and National Geographic Society)*



In contrast to ground photography, there is still a scarcity of aerial images of wildlife. And thus there is the potential to grasp the “holy grail” of photography. The ability to bring back an image that has never been taken before and share that image with your audience. If you have the discipline to stay far enough away so as not to affect the action below, the aerial theater is a great vantage point for watching the dramas that are staged by wildlife. As with any form of photography, your greatest asset in the aerial world is patience. The patience to observe your subject change gracefully and naturally. In this case, we had been photographing this large flock of flamingoes shift from one shape to another as it moved along a lagoon in the Gulf of Mexico, when all of a sudden it collected itself in the uncanny outline of a bird and we knew we had something very special and very memorable.



**Figure 4.7: Flamingos align in a birdlike formation in a lagoon along the Gulf of Mexico**

*(Copyright Robert B. Haas. No reproduction of this image is permitted without the consent of Robert B. Haas and National Geographic Society)*

In this photograph, the viewer sees the whole pattern onto the dark smooth surface and then when look to the photograph carefully the viewer sees each flamingo as an individual element. Here, the flamingos come together and creates a big pattern of a flamingo. The repetition, direction and color of each item achieve a very strong visual unity. This picture move away from abstraction into a figurative representation through the movement of flamingos. This photograph is different than the other ones in that sense.

Having never photographed a shark before, my pulse was racing when we stumbled across this group of nurse sharks in the very shallow waters off the coast of Belize even though the reflection of the water lent an abstract cast to this image, there is still something rather ominous about recording a squadron of large sharks when you are skimming the surface barely above this master predator.



**Figure 4.8: Contingent of nurse sharks patrols shallow waters off Ambergris Cay**  
(Copyright Robert B. Haas. No reproduction of this image is permitted without the consent of Robert B. Haas and National Geographic Society)

In Figure 4.8, the texture and the color gives a perception of frosted glass. As if the life forms are hidden at the back of a frosted glass or mint jelly. On the other hand, in the context of design basics there is almost symmetrical balance is achieved. The shapes are repeated on the other side of a vertical axis. Static effect occurs by that type of balance.

“Emerging from darkness into light, we caught this caiman as it climbed aboard a rippled sandbank in the Pantanal of southern Brazil, the most renowned haven for exotic wildlife in South America” (Haas, 2012).



**Figure 4.9: Black caiman crawls across the rippled surface of a river sandbank**  
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Contrast is achieved through the dark and light parts. The frame is divided into two with a curvilinear line. There is a peaceful atmosphere occurring with the color and the texture. The viewer is focused on the crocodile without knowing that it is a crocodile. The subject is in the centre of the frame and the line. The back of the subject achieves a mystery by staying in the dark part of the frame. Some kind of visual weight is composed by the tones so pictorial balance comes out. Through the position of the subject a movement is noticeable.

Being able to photograph the footprint of man from above the Earth is an opportunity to place man as a key element but just one element inside the canvas of your photographic work. And if that work is to become a fair representation of Latin America or any continent, the scenes in which man appears should be ones that capture the essence of how man fits into that canvas. While mankind may dominate the world from the ground, we are only a very small portion of what we see from above. With Latin America surrounded on all sides by oceans and seas, fishing has always been essential to the way of life in this part of the world. At the very end of the day and with the melancholy glow of backlight, a group of fishermen gather up their gear after a long day at the office in this case, in the coastal waters off Costa Rica.





**Figure 4.10: Fishermen in backlight gather up gear at day's end**  
(Copyright Robert B. Haas. No reproduction of this image is permitted without the consent of Robert B. Haas and National Geographic Society)

The repetition of the whole pattern achieves symmetrical balance (Figure 4.10). If the frame is divided with an invisible diagonal line it will be seen that the body forms are repeated in both sides. With a angled and large view the bodies become just short vertical lines. It can not be understood where is the sky or if there is sky. The texture and homogeneous tone is determining cause of abstraction.

“Even the mining activities that are littered throughout South America may give rise to unusually artistic images. Here, a worker plows through lithium



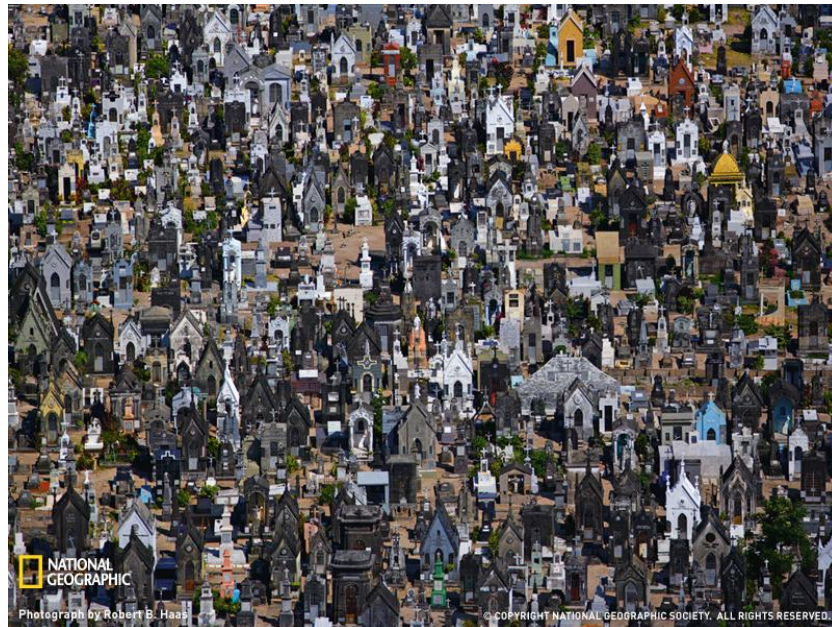
fields in northern Chile in a scene that is quite reminiscent of snowplows in the north clearing the streets after a winter blizzard”.



**Figure 4.11: Plowing lithium mine fields at the edge of the Salar de Atacama**  
(Copyright Robert B. Haas. No reproduction of this image is permitted without the consent of Robert B. Haas and National Geographic Society)

Diagonal lines create strongly motion, a movement in this photograph such as moving up (Figure 4.11). The whole picture is filled with white color and through the dominant diagonal lines, green color appears. The viewer’s eye continues the track and by this continuation in the mind a symmetrical balance is achieved. Flowing rhythm completes the composition through the indistinct curvilinear lines on the snow.

“The isolation of the Indians along the edge of the rainforest in Venezuela contrasts sharply with how the city of Fortaleza in coastal Brazil has built a virtual metropolis of graves where each monument to the deceased is almost literally in contact with its neighbors”.



**Figure 4.12: Tightly packed markers engulf a large cemetery in Fortaleza**  
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In this photograph (Figure 4.12), the repetition of similar objects create a visual unity. The viewer look at the general pattern first and then look at the each element. The same motif is repeating again and again so that texture makes a sort of pattern. That makes the composition interesting.

According to Haas,

in the aerial world, the greatest surprise of all is how often abstract shapes down below trigger our thoughts about concepts or objects that we are more familiar with from our ground-based existence. He thinks that has a great deal to do with why so many people are fascinated with aerial photography. It allows our senses to see something very new and unusual and yet connect it to images that are already part of our earthbound psyche. Haas told that when he first saw this pool of water beside a lumber factory in Chile, he thought immediately of a skillet of fried eggs. In reality, the water from the lumber mill is being recycled as it is forced through spigots at the center of each “fried egg”.

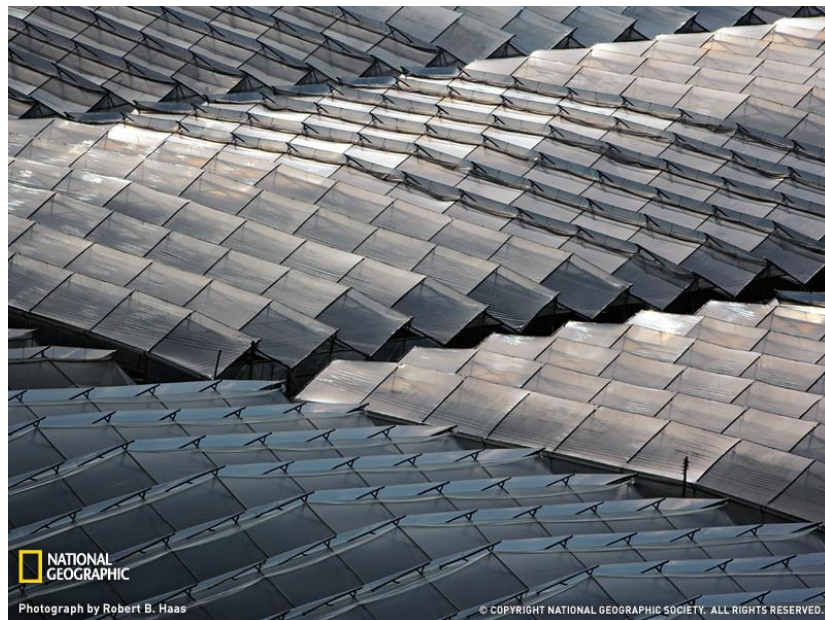


**Figure 4.13: Bubbling water treatment pools beside lumber factory**  
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This photograph is very interesting example for an aerial abstraction. If the viewer does not any information about what it is, s/he can think that it is fried egg as Haas mentioned. The diagonal line in the centre of the frame



creates the direction of motion and the eye follows that motion. A symmetrical balance and the repetition of the regular shapes achieve a regular rhythm. Each element is related to the other element, all of them are harmonious so this creates the unity. The color, texture, direction and angle of the elements make the visual unity stronger.



**Figure 4.14: Late afternoon sunlight accents the diagonal grid of adjacent greenhouses north of Bogotá**

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The repetition of the shapes with similar direction, angle, color and scale achieve a pattern and visual unity. Dark and light parts, shadows and the diagonal lines creates an attractive composition. Each look, the perception of the viewer changes because of the different elements as it is mentioned

before such as lines, tones and color, direction that creates the photograph. The visual unity is achieved by the continuation between the elements.

“Tightly-packed greenhouses have always been a fascination of mine but it took a long time to photograph one that I thought captured the beauty that he saw from above in the town of Chía, Colombia, the late afternoon sun highlighted this geometric pattern with different shadings of light from the greenhouse roofs” .

As a summary, Robert Haas photography can be analyzed by the design basics such as visual unity, texture and pattern, color and tone and balance mostly.

#### **4.3. John Griebisch**

As an aerial photographer John Griebisch deals with aerial photography as an art form. Griebisch started to take photographs in the 1970's. He owns a sixty year old Cessna 170 which is almost the perfect camera platform from which to photograph. Balancing abstraction and realism, his work is a depiction of familiar landscapes, as seen from an alternative viewpoint; the earth as seen from above. His series of aerial photographs, *AERIAS*, show grand scale, fine

detail and often, a painterly sense of composition. His work with ambiguity of scale and the strong graphic quality of nature, and with the hand of man on nature. A native of New York's Adirondack Mountains, he has logged nearly a quarter of a million miles in my vintage single engine Cessna in pursuit of aerial photography as a fine art. His images present a sense of selective design applied to an extremely small but significant area of the vast landscape over which he flies. Griebisch finds the need to make geographical sense of the earth, as well as the need to make visual sense of a photograph.

The work has been exhibited in numerous solo and group shows; was awarded recognition in 2011 in the Palm Springs, California exhibition, *Earth Through a Lens*; and is in a host of corporate and private U.S. collections. According to John Griebisch, the design/ graphic qualities are most important in the the art photography nevertheless in the commercial work the documentary aspects become more important. The technical aspects of the photograph are usually determined before he leaves the ground, the rest of it is placing the camera in the right place and then taking the photograph at the right time. The design of the composition is based on the totality of his exposure to every design element that he has ever been exposed to. It is important to pay attention to every element of design within the photographer reach and bring it to her/his work. Aerials abstractions are

simply an aspect of the process of photographing aerial art. The process is one of selecting that which seems to work and rejecting that which does not. The photographs all have an aspect of a slice of reality. The difference is that of the intent of the photograph, document or not (Griebsch, 2012).

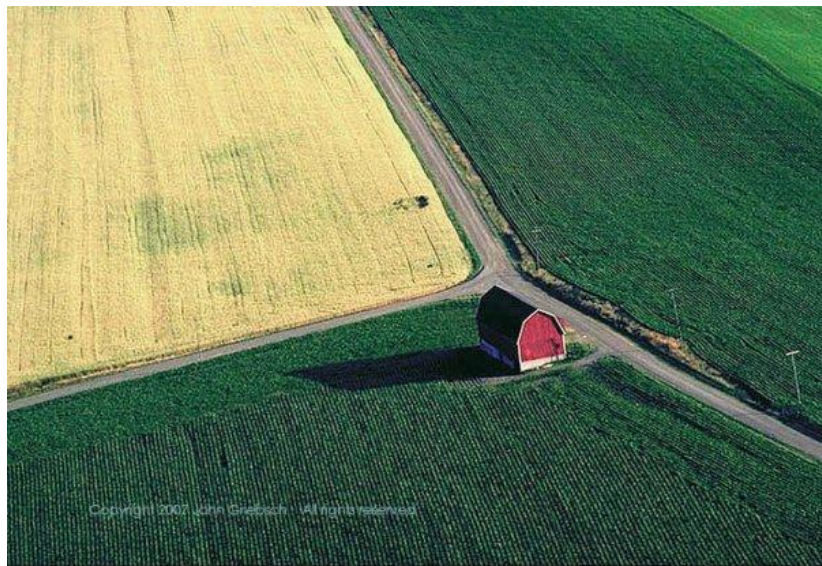


**Figure 4.15: Five Treatment Ponds, Batavia, NY**

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In Figure 4.15 in different hues of green color, geometrical shapes creates the composition. The sensation of different hues attracts the viewer's attention. That composition looks like a drawing with a programme in computer or a painting. It is detached from the reality through the diagonal lines and especially green parts. The surface is velvety smooth. The viewer's eye

follows the diagonal line that goes out from the frame at the right side. These lines achieve falling down and moving up effect to the viewer. Nevertheless, the curvilinear lines into these diagonal lines affirm the action. There is a piece of light green on the right side and that gives a clue to the viewer that this is only a part of a whole. The relationships between various parts of a unit in that composition, in other words an aesthetic proportion is achieved.



**Figure 4.16: Red Barn and Wye Road , Wyne Country, NY**  
*(Copyright John Griebisch. No reproduction of this image is permitted without the consent of John Griebisch)*

The composition in this photograph (Figure 4.16) is achieved similar to the previous one (Figure 4.15). There are lines that divide the frame into three parts. Because of the intensity of the yellow color, first the attraction focuses



on the left corner side of the frame, then the contrast color red to the green catches the attraction. This photograph is not taken with a right angle, this is an angled photograph and the lines give movement perception. The scale of the colored parts and the red house is detached the composition from reality and creates abstraction.

In Figure 4.17, the angled capture of the fields looks like an abstract painting. Clear warm colors and the geometrical shapes achieved by these colors attracts the viewer. A visual impression of depth is occurred.

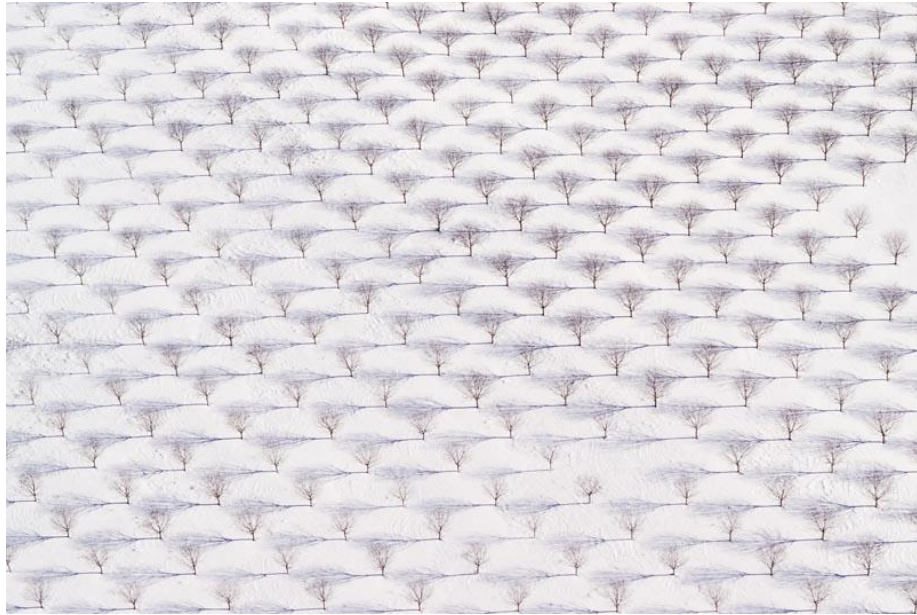


**Figure 4.17: Agricultural Figure, Duncannon, PA**

*(Copyright John Griebisch. No reproduction of this image is permitted without the consent of John Griebisch)*

Visual unity occurs with the color, texture and the relation between each other. The green rectangular in a vertical dimension creates a static effect.

Radial balance is dominant.



**Figure 4.18: Textural Orchard 2, Sodus, New York**

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The same element is repeated again and again and thus a pattern is achieved. The image looks like a pattern of a fabric, it does not look like a part of reality. As a first impression digital system comes to mind. In the right corner there is a space such as system error. The rhythmic repetition of trees with their shadows presents a perfect composition. The light and dark contrast

takes the viewer inside the photograph. This is a kind of hypnosis. Same elements are repeated in equal intervals achieve regular rhythm.



**Figure 4.19: Wheatfield and Tractor 3 Near Yankton, South Dakota, USA**  
(Copyright John Griebisch. No reproduction of this image is permitted without the consent of John Griebisch)

The photograph is taken from close to right angle makes abstraction more easier. Here, in this photograph (Figure 4.19) the angle makes the texture more understandable. Different types of lines such as curvilinear, vertical and diagonal lines achieve the static and active impression together. The eye follows and continues the action. The clear texture and color gives a peaceful feeling.





**Figure 4.20: Plowed-fields**

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In Figure 4.20 dark and light contrast is the determining element. Dark part is such as the mirror image of the other side. This helps to achieve symmetrical balance. Regular rhythm is another determining element. Regular rhythm is created through the vertical lines with equal intervals. Additionally, the diagonal line in the center of the frame makes movement and continuation.

#### **4.4. Louis Helbig**

Louis Helbig is an aerial art photographer and pilot based in Canada. He was born in Toronto, Ontario to German immigrants, he grew up in Williams Lake, British Columbia a small lumber or logging town. His background is probably a little unconventional for an artist. In his late teens and early twenties he was on Canada's national cross-country ski team traveling to World Cups and the like. Then he spent two years in his mid-twenties traveling the world, in particular South Asia where he shot thousands of slides with a manual camera. He does not think these photographs are good but by the way he had a chance to see the world in a different way. When he went back to school after his travels, he had to choose photography school or conventional university studies. Helbig had an undergraduate degree from McGill University in Montreal Quebec and a Master of Science from the London School of Economics in the UK.

Helbig returned to photography in 2006. He did commercial works on the ground and from the air. Because Helbig is a pilot, that makes the things more simple. He sometimes flies with other people, but most of the time he uses his own or a rented aircraft. His own plane is a 1946 Luscombe, with no

electrical systems. He supposes the artistic qualities are simply derived from the form and composition of whatever is being interpreted (Helbig, 2012).

There were times when he goes up in his airplane to photograph, but no matter what he tries he could not photograph an image he was satisfied with. If he is in the wrong space, if he is agitated or otherwise distracted, he just can't force the imagery to happen. At other times when he is in a good space it seems that he can simply do no wrong. He seems to find meaningful imagery everywhere, even in places that he has seen many times before but never really "saw"s. The pilot needs first and foremost to aviate safely. That is he needs to fly the plane safely, look out for other aircraft and do the different things required for flying an airplane.

As for actual technique he likes to be as portable and flexible as possible so that he can quickly and handily manipulate the composition by rotating the camera and changing the focal length to move in and out of whatever particular composition. As it is a high "noise" environment with lots of airframe vibration as well as macro-movement with aircraft being bounced around by air currents he always shoot at very high shutter speeds, at shutter priority. As Helbig is working in a fluid, dynamic environment, that is a moving aircraft that must continue to move if it is to continue to fly, he is

forced to act quickly and intuitively to whatever he is photographing. According to Helbig, he does not capture his aerial photographs considering design basics because he does not have much time to think about the composition or design basics. He let his intuition to guide him and captures what he sees but actually what he explains later shows he has a sense of abstraction. He supposes it is the abstraction of the otherwise familiar by zooming into the patterns he sees from above. One of his memory, the horizon is removed then it might only be an incremental process of further refining the image, further into the subject so that all or most sense of the scale and proportion is removed and one is just left with a simple, beautiful shape or pattern that is intriguing and attractive just for its own form and shape. He has discovered that these abstractions usually speak more readily and more meaningfully to the whole of what they are a portion of, than an image of the whole thing in its entirety and with the horizon (Helbig, 2012).

Although aerial perspectives afford great sweeping views, they also afford the opposite. Removing context provokes wonder, thought and reflection. He believes the relationship is absolute. The aerial environment, once one has overcome what he calls the gee-whiz factor of the "great view," is conducive to the playing with perspective that makes effective abstraction possible. He supposes one could do the same thing by pointing one's camera at what one

sees at one's feet on the ground or what one sees directly above if one were to point it vertically into the sky but that is not as "natural" while on the ground.

Twelve of his aerial photographs are being selected for analyzing as an aerial abstraction.



**Figure 4.21: Balloon and Cornfield, N 45.24.40 W 75.38.35, Clarence Creek, Ontario, Canada**

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This image (Figure 4.21) was about timing. He saw this and another balloon being readied for flight and knew that they would soon be drifting across the landscape. As a first impression, a circle with a bright yellow and green color



catches the attention. The viewer's eye focus on that geometrical shape and then the other side of the frame another geometrical shape, a rectangular achieves the balance. The vertical lines onto the rectangular creates one type of rhythm and on the other hand the curved shapes onto the circle creates another rhythm.



**Figure 4.22: Highway 63 Bitumen Slick, N 57.00.43 W 111.35.03, Syncrude Mildred Lake, Alberta, Canada**

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This image (Figure 4.22) too, was he thought at the time also going to be about timing. As it turned out there were so many buses going by below that he had a whole number of opportunities to photograph this most remarkable

scene of a row of white buses driving along a highway which is more or less a viaduct between two huge tailings ponds associated with the tar sands in Northern Alberta. Here he was just trying to compose the line of the road, the white bus and the bizarre and huge mat or plume of bitumen floating on the surface of a tailings pond. He realized immediately that he was with his composition playing with scale, small bus against huge bitumen plume, to dramatize the size of the plume. What he did not realize until later when he analyzed the image is that not only is there a sense of scale, but that two phenomena make the plume appear closer than it actually is: by some trick of light the plume becomes gradually lighter near its top; and by its proportion which bulges and converges inconsistent with the natural lines of a disappearance point. These illusions of perspective seem to trick the eye/mind into believing that the plume is somehow standing vertically and certainly not receding to a vanishing point as it normally "should".

At first look, that plume looks like a sailing boat. Horizontal lines at the bottom of the frame achieves quiet atmosphere and the other side the contour of plume creates movement. Through the color, shapes and lines a balance is created. The color and the tones of the upper part makes the abstraction stronger.



**Figure 4.23: Shawville Thaw N 45.35.49 W 75.28.40 Shawville Quebec Canada**  
(Copyright Louis Helbig. No reproduction of this image is permitted without the consent of Louis Helbig)

This photograph (Figure 4.23) was quite straight-forward. Helbig likes flying around during the transition between seasons when the snow is melting after winter in the early spring. There is often a very interesting interplay between the snow and elements of the landscape. This is an image of a line between two fields where a hollow extending across the linear border of these fields still has snow in it. When this image has been exhibited some people have told him that they see the image as though it were of the two brown fields,

but that he or someone else had ripped the photo paper to create effect. This indicates that people are relating to the image in their own way in a manner that they can relate to and understand of a paper being ripped (Helbig, 2012). It is clear that the frame is divided into two parts with different tones of brown color and with a same texture. This creates a symmetrical balance. In the middle of the vertical line there is a white diagonal spot that gives a movement to the composition. If we do not have any information about that photograph it could be possible to think about it as a macro shot of a table with a white spot on it.

According to Louis Helbig, he thought of this photograph (Figure 4.24) as his answer to Andy Warhol. Brightly coloured pop colour objects arranged symmetrically at a car factory. The composition is straight forward, as it works by its being linear with a little empty space to act as a counterpoint. Though he does get considerable interest in this photo, he is a little frustrated with it for he was not able to capture what he really wanted: a properly linear composition. He supposes the subject matter, its bright colours and familiarity overcome some of the shortcomings and it still has enough parallel lines to still work.



**Figure 4.24: Camaros - Less N42 & N40 N 43.51.24 W 78.52.05  
Oshawa Ontario Canada**

*(Copyright Louis Helbig. No reproduction of this image is permitted without the consent of Louis Helbig)*

The cars in that photograph look like toys and it has similarities with the photograph in Figure 4.18. The repetition of the same elements although they are in different colors achieve a pattern. There is the same system error at the right upper corner. Otherwise, there is a strong regular rhythm.



**Figure 4.25: Wave Pool and Cots N45.18.54 W75.13.43 Limoges Ontario Canada**  
*(Copyright Louis Helbig. No reproduction of this image is permitted without the consent of Louis Helbig)*

Detail of a wavepool and cots not yet put away for the winter at a water recreation park. He has photographed that pool, its curve of blue, concrete, a sidewalk and sometimes the lawn beside it many times during its construction and after. He keeps on being drawn back, a place of “weird, bright plastic tunnels, channels, slides, etc.” and his greatest muse seems to be this pool.

Most of the part is blue in that photograph (Figure 4.25). That blue color and smooth shape gives the impression of peace. Curved lines support that impression. On the other side, there is a regular rhythm is achieved through the small scale horizontal rectangulars that are repeated regular and equal intervals.



**Figure 4.26: Chair Lift N 45.35.11 W 75.50.18  
Mont Cascades Cantely Quebec Canada**

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Helbig worried this scene, flying past this ski hill perhaps ten or fifteen times to achieve this composition of lines, shadows, and background ski hill pattern with its hatching of ski tracks while trying to time the ascent of skiers in the chairs just right. He said that he never did get it lined up. He eventually need to crop one of the images to get what he was seeing in his mind's eye. He stated that, if he remembered correctly, in the original the people in the chair in the right spot but the lines are sideways ruining the composition.



In Figure 4.26, random rhythm is achieved through the irregular repetition of elements and the shadows of these elements. Vertical lines supports the action.

Helbig found the opportunity for this photograph, one day just flying around an agricultural area near Ottawa. This is an example of really moving in to the subject to parse it from the context of the lagoon of which this is a detail. He was attracted by the bizarre pink colour and from there he circled around and tried to compose that basic background with the few details that were floating in the pond (Helbig, 2012).



**Figure 4.27: Pink Lagoon N 45.19.10 W 75.00.26 Casselman Ontario Canada**  
(Copyright Louis Helbig. No reproduction of this image is permitted without the consent of Louis Helbig)



Smooth pink surface creates a calm atmosphere in this composition (Figure 4.27). The viewer cannot imagine that this is a pink lagoon. It is more looks like a candy rather than a lagoon. The color is very homogeneous. Among this calmness, a vertical and a little bit oblique line divides the frame into two equal parts. This line gives an action to the composition with the contrast of a turquoise shape on it.



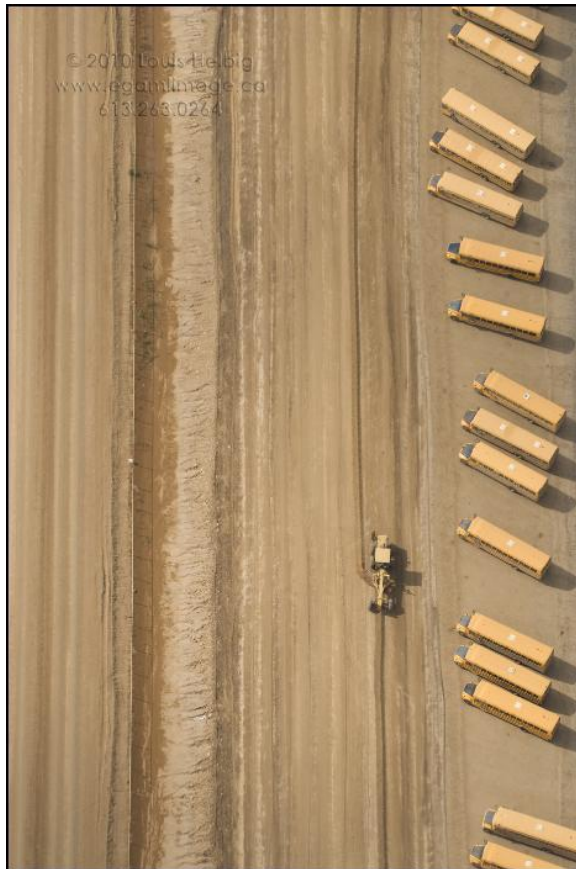
**Figure 4.28: Fallen Tree N 45.44.20 W 75.08.22 Ripon Quebec Canada**  
(Copyright Louis Helbig. No reproduction of this image is permitted without the consent of Louis Helbig)

Helbig's favourite image is this one (Figure 4.28). It combines a contrast in colour, linearity, detail rendered by shadow of an object rather than the object itself, timing as per time of day casting shadows perfectly proportionality, and great luck the dead, fallen tree lying perpendicular to

the fence line and opposite its neighbour's shadows. As Amelia Earhaert said; "You have not seen a tree until you have seen its shadow from the sky" (English, 2003). He found this scene on an early morning flight hoping to find scenes that took advantage of warm light and shadow cast by a low morning sun. Initially drawn to the scene by the line of trees along the colour boundary between green field.

This photograph (Figure 4.28) can be named as the abstraction of life and death. The frame is divided into two, the shadows of the trees at the bottom of the frame and the death body of the tree is at the upper of the frame achieve a balance in the whole composition.

Straight forward linear composition (Figure 4.29) : segmented or repeating subject matter (buses) as a pattern set against a counterpoint of different machine (a grader) set within the same colour palette and against vertical lines that reinforce the composition (with the grader itself creating one of these lines). This might be an example where a close up composition, though not really abstract in the sense that one can understand what the subjects specifically are (Helbig, 2012).



**Figure 4.29: School Buses N57.19.49 W111.49.38 Canadian Natural Resources, Horizon Project, Alberta, Canada**  
(Copyright Louis Helbig. No reproduction of this image is permitted without the consent of Louis Helbig)

However, all these elements seem to be detached from the reality. This is not a colorful photograph, yellow and brown tones are dominant. Vertical lines and yellow rectangulars are creates the composition. There is a contrast between the positioning of the vertical lines and horizontal rectangulars. Finally, the grader provides dynamism in the composition.



**Figure 4.30: Stelco Steel Mill One N 42.47.50 W 80.05.44 Nanticoke Ontario  
Canada**

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Louis Helbig)*

At first look, one and zero as a number appears in that photograph (Figure 4.30). Again, a vertical line divides the frame. The huge geometrical shape in the right hand side seems so close to the viewer. The colors around that shape makes the shape more attractive.

A uniform color palette from iron oxide, a roundish element set against the linear creating a segmentation of the image perhaps like the panels in a triptych, some minute detail truck tires tracks in particular that suggest the presence of something not in the image, natural patterning the cascading material in the pile and an illusion where by its shadow one can see the pile

of material either as a pile or as a depression. The subject is a bizarre element in a bizarre landscape, namely a monstrous pile of sulfur deposited in wonderful geometric form in the utterly destroyed landscape of the Alberta tar sands.



**Figure 4.31: Sulfur Pile N 57.02.43 W 111.38.42 Syncrude Mildred Lake Alberta  
Canada**

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Louis Helbig)*

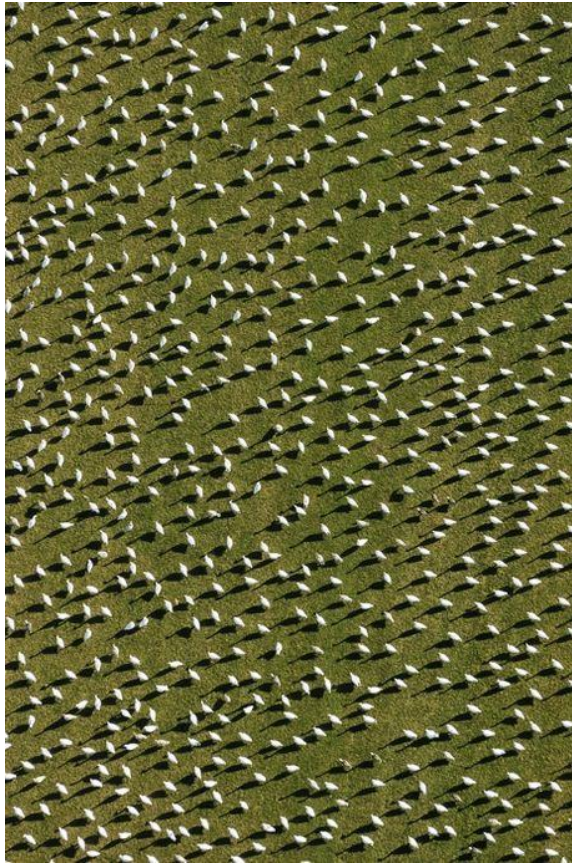
This might be a mixed example (Figure 4.31) of partly being an oblique so that one sort of has a sense of the thing as almost being a structure, but because no one has ever seen such a thing one does not know what it is. Its mystery lies in the odd colour and its geometry. The actual composition then is one of proportionality around its lines within and its lines against the land



around it. He has a tighter composition of just the geometrical end of that pile where an optical illusion of whether the thing is in or out begins to appear, but it does not work as well as this mix of “reality” and bizarre.

The layers in this photograph give a feeling of depth. It reminds a sliced cake with lemon. The texture and the color are the dominant elements.

In the last photograph (Figure 4.32), a straightforward composition around a straight forward problem, how to convey a sense of the immense number of snow geese sitting in field. A repeated pattern of animals doing what animals do, though randomly situated they virtually all respect a certain natural distance between each individual to create a consistent pattern. The composition is simply to remove as much context and focus on these creatures and the pattern they quite naturally were creating. The composition is greatly reinforced with the shadows cast by each goose, the contrast between the white of each bird and its shadow and the diagonal patterning of these shadows.



**Figure 4.32: Snow Geese in Field One, N 45.19.10 W 74.59.55, Casselman,  
Ontario, Canada**

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Louis Helbig)*

In addition to these, random rhythm comes out because of the random organisation of the elements. They look like beads that spread to the ground. After a careful look it is possible to see a pattern of flower again, a figurative, not abstract image.

## CHAPTER V

### CONCLUSION

Aerial photography is very significant in many fields such as mapping, archeology, anthropological field research or military in the world. There is a strong connection between the philosophy of "Looking from Above", aerial views to be used in different fields and aerial photography. This study thus starts with the notion, "Looking From Above" and passes to short history and usage of aerial photography in different fields.

As a summary; the history of aerial photography shows that it begun with curiosity, then quickly turned into a weapon in the military field, and a tool for archeology, as well as an art form. Aerial photography became a useful discipline during World War I for survaillance. After the use of aerial photography in military, archaeologists were able to more effectively use the technique to discover and record archaeological sites. Additionally, historical aerial photography presents us a perception of time and place. Mapping agencies became aware of aerial photography as a new tool very quickly in topographic mapping. Having being used for a variety of functional



purposes, aerial photography gained another significance and photography artists begin shooting the earth from sky for aesthetic reasons.

This study focuses on art and aerial photography as aerial abstractions and with particular references to the well-known aerial photographers Robert Haas, Louis Helbig, Henry Fair and John Griebisch. The analysis of aerial photographs through design basics as a visual art form aims to be a guide for those who are interested in aerial photography.

After the analysis of the selected aerial photographs, it has been seen that some design basics stand out more than the other ones. Visual unity, texture and pattern, lines, balance, contrast and color are the most useful ones while analyzing aerial photographs as a visual art form. Additionally, the photographs are taken from close to right angle, and this makes abstraction easier to see and analyze.

This study aims to fill the gap about aerial photography specifically about the artistic point of view. This study can be a guide for the young photographer, pilots or the people who are dealing with aviation about the aerial abstractions and the design basics that affect aerial photographs.

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