

TO THE CLOUDS AND BACK:  
THE JOURNEY OF THE BODY

Tuğyan Kepkep

MA History and Critical Thinking  
Architectural Association School of Architecture

2013

## Table of Contents

Detachment From Ground	6
One Mile	14
Above The Clouds	22
The Fall	30
Endnotes	35
Bibliography	38

For Prof. Dr. Şevket Tuncel...

## DETACHMENT FROM GROUND

The relation of the body and the space surrounding it depends on the sensual experiences as well as the physical conditions. Human's newest and probably one of the strangest environment is the sky. In seventeenth century Hezarfen Ahmed Celebi, a inventor living in Istanbul was obsessed with the idea of flying. He secretly executed detailed inspections on both human and bird carcasses to understand the anatomies of the two species and discover the secret behind flying, even though it was forbidden and believed that these kinds of acts were to be the work of evil. Finally he constructed bat-like wings, and after several experimental attempts, Celebi achieved a flight departing from Galata Tower, where he passed over the Bosphorus, and landed in the Dogancilar Square in Uskudar. After this successful attempt that was almost 3.5 kilometres long, emperor Sultan Murad Khan (Murad IV) granted him a sack of golden coins, and declared "This is a scary man. He is capable of doing anything he wishes. It is not right to keep such people." Later he was exiled to Algeria where he eventually died. Celebi was neither the first nor the last person who tried to realise the dream of flying, detaching the body from the ground and 'being free like a bird'. The land and the sea were already conquered by man long time ago, so why shouldn't the sky be too? However the trouble with the sky was that it was the place where Icarus was condemned to death, the people of Babel Tower was cursed, Jesus was raised after his death, Adam and Eve were exiled from... If 'the creator' wanted the humans to fly, he would have given them wings. So humankind was belonging to the ground where one can freely experience the life. One could touch the ground, see his/her surrounding, smell the flowers, hear the sounds of his environment and taste the food; and the sky was meant for birds. Fortunately there were people who kept on challenging the limitations of the body and mind. Mankind was not a fish but he could swim

---

<sup>1</sup> The reference on Çelebi was mentioned by Evliya Çelebi in seventeenth century in his 10 volumed *Seyahatname*, which he documents his travels.

and cross the seas, so one could very well raise the body to the sky even though it was not equipped with the necessary equipment.

The association of the sky and the clouds with deific phenomenon was the main obstacle that restrained people engaging with flight. From fifteen to seventeen centuries, in the Age of Discovery when the man had conquered all the seas and the lands, the world became the auspices of man. However the sky was still out of reach, still belonged to birds and angels. Meanwhile an Italian scientist was dropping balls from the top of the Pisa Tower, trying to enlighten the mystery behind this force that draws things to the ground while he was giving a fight against inquisition by claiming that the earth was moving around the sun. Almost a century later an English scientist –legend has it that- revealed this mysterious force by the help of an apple falling from the tree and published a book in 1687 named *Principia* where he explained the three universal laws of motion by using the word *gravitas*<sup>1</sup> to describe this force. Now there was no 'underworld' as described in Dante's *Divine Comedy*, but a core in the centre of the world that draws objects to itself. However resisting the gravity and detaching from it was still a mystery, so did the human flight. Flight of the body was a phenomenon that was linked with either sorcery (the evil), the divinity (the angel) or simply madness. It was commonly believed that for one to fly, first one had to die, because only soul could fly, not the fallen and mortal body. And that death was inevitable as the result of an attempt of flying. English physician Robert Fludd claims in his book *Utriusque Cosmi Historia* (*The History of Macrocosms and Microcosms*, 1617) that if a person dies, the weight of the body would increase because the soul that lifts the body high leaves it. So as an example, if a person weights 90 kilos, the dead body would weight 118 kilos.

However these common judgements on human flight were not obstacles for some people to make studies and researches on birds and flight. Thus it was inevitable for people to relate and try to find possibilities that allows human to fly too. Swedish poet Lars Gustafsson has written a poem in one of his book<sup>1</sup> named "Dreams, 1960":

*I dreamt of some medieval people  
Who invent the hot-air balloon, cloud ships,  
But keep the secret to themselves.*

---

<sup>1</sup> Gravitas means weight in Latin.

*Nightly journeys above the tops of the lowest clouds*

*As the medieval moonshine glimmers.*

*Everyone pretends not to notice.*

As the title of the poem is sufficient to describe the Gustafsson's intention, it wouldn't be unreasonable to relate the idea with history. In 1638, bishop of Chester John Wilkins, who was also a natural philosopher, published *The Discovery of a World in the Moone*<sup>2</sup>. The book is about –as he mentions- “a discourse tending to prove, that ‘this probable there may be another habitable world in the moon.” He states his argument based on Kepler's and Galileo's works on astronomy. He thoroughly explains his idea of ‘finding an habitable world in the moon’ where in the end of the book he points out the possible ways of achieving flight. First he states “It is not perhaps possible, that a man may be able to fly, by the application of wings to his own body”, giving the unsuccessful example of *a Turk in Constantinople*<sup>1</sup>. Later he talks about the possibility of attaching oneself to a big-winged bird and flying with it, like a kite can lift up a mouse or as Ganymed, a mythical character, does upon an eagle. Finally he reaches his final idea for flying; a flying chariot. “In which a man may fit, and give such a motion unto it, as shall convey him through the air. And this perhaps might be made large enough to carry diverse men at the same time, together with the food for their viaticum, and commodities for traffique.” is the way he explains it. Perhaps this can be the most accurate way of describing a balloon or a plane without even knowing the concept of the mechanisms. Although there was more than a century for the first human to detach from gravity, the idea had existed in the mind of people from a very long time ago.

The occupation of mind with ‘flying body’ can be traced back to the oldest stories and myths in the history. It is one of the most common characteristic feature of ancient man-like gods and goddesses to have wings. For example Nike, the goddess of victory in Greek mythology was portrayed as a woman with wings, or Isis, the personification of the throne as ‘the mother of the pharaoh’ and goddess of life and magic in Egypt mythology was also portrayed with

---

<sup>1</sup> Wilkins cites Busbequius, the Austrian ambassador to Constantinople during 1554-1562, on the account of Çelebi. However the original document mentioning about Çelebi was written by Evliya Çelebi during seventeenth century. Because of lack of any further references, the exact date remains unknown.

wings. Additionally winged animals, like Pegasus were part of the myths and legends. Similar to what they represent, the stories that they are a part of have mainly a moral message of power, divine justice, greatness or sovereignty. The sky and the clouds were not a place for ordinary man, a low-life creature filled with greediness, like Icarus who was not satisfied with just escaping from the labyrinth or like Adam stealing the forbidden fruit. However in history, besides the deific characters, some of the important figures have a some kind of myth of achieving flight, such as the flying throne of Persian king Kai Ka'us or flight of Alexander the Great with a carriage that is lifted to the sky by the griffins. In these stories the raised body of great leaders whom have important achievements also associated with similar morals with gods; great power, impeccable sense of justice and military supremacy. However in these stories, probably because no one had ever been to the clouds, the experience of the detachment of the body from the ground is a missing part. They do not exceed the limitations of the moral of the story, and the experience remain as an out of context subject. However the legend/myth of the Sumerian king Etana that is mentioned in Babylonian poems and takes place circa early 3000 BC has a relatively different story.

The tale of Etana, 'a shepherd who ascended to heaven', starts with the gods building a city for human race. While the lesser gods are doing the work, the greater ones makes the plans. After the construction is done, Enlil, the god of destinies and responsibilities of other gods, chooses Etana and makes him the first king of the god-made city. Etana takes over the mission of being the architect and continues to build. After he builds a temple for Adad, god of thunderstorm and rainfall, a tree grows next to it. From this point the myth turns into a fable. A serpentine and an eagle settles on a tree and take an oath to live peacefully. However one day the eagle kills the serpentine's children to feed his own children. The serpentine, filled with desire of revenge, cries for help to sun-god Shamash<sup>1</sup>, the patron of truth, justice and divination who suggests him to set a trap for the eagle. After the eagle is caught and crippled by the serpentine, he finds himself in the depth of a pit, left to die of hunger and thirst. Meanwhile Etana was dealing with his own problems. The childless king was desperately in search of 'the plant of birth' which grows only in the heavens. The sun-god Shamash feeling

---

<sup>1</sup> Shamash, the sun-god of Sumerians was the god of justice and his symbol was a sun with wings.

sorry for the eagle, advises Etana to rescue the eagle and fly with it to the heavens. Etana following the advice, saves the eagle from the pit and asks for help. The grateful eagle decides to help its saviour, takes him on his back and raises him to the sky. However frightened and terrified, Etana loses his nerve and starts to fall down. The eagle catches him and lands on the ground safely.

The interesting part of this tale is the conversation taking place between the eagle and Etana.

As they rise toward the heaven, Etana looks down to the earth and sees how it is:

*"Look, my friend, how the land [is now]!"*

*"The land's [circumference?] is become  
one fifth of (its size).*

*"The vast sea is become like a paddock."*

*[When he had borne him aloft] a second league,*

*"Look, my friend, how the land [is now]!"*

*"The land has become a garden plot [ ].*

*"And the vast sea has become a through."*

*[When he had borne him aloft] a third [league],*

*"Look, my friend, how the land [is now]!"*

*"I looked, but could not see the land!*

*"Nor were [my eyes] enough to (find) the vast sea!*

*"My friend, I won't go up to heave!*

*"Set me down, let me go off to my city!"<sup>3</sup>*

When it is considered that these writings are older than 5000 years, the description of the earth from Etana's point of view is surprisingly realistic. In the first two parts, it is as if he is in a plane and looking down from a window while the plane is ascending. What is more intriguing is that the way the earth is described in the third part. As also Bayla Singer mentions that this is a very "strange preview of the Earth's actual appearance from space, the 'big blue marble', mostly water!<sup>4</sup>", especially when it is considered that the story takes place in Mesopotamia, in the middle of modern Iraq, a geography where even the closest sea can not be seen from top of the highest mountain. Also what was centuries later going to be expressed by the balloonist can be seen in this tale, the sublime feeling of being away from the ground. Etana's fear of height, maybe the feeling of –what is called today- aviator's vertigo is expressed

despite no one had ever such an experience. He is longing to get back to his city, the place where he belongs to...

As the story of Etana was lost in the ancient history, the sky and clouds remained as the place of gods – later in history the one god that created all. Man continued to reach all around world, travel on the lands and seas while god is watching them from above the clouds. As Julian Barnes points out that the eye in the sky was god's security camera, watching, judging and sentencing the acts of man<sup>5</sup>. Even in the literary works, the flight of one could only be achieved by the soul, not the earth-born body. In the very well known Faust of Goethe, Faust wants to die in order to be able to fly. "When Faust first talks about flying he does so with death on his mind. He dreams about being able to soar above the ground, but not, in a material sense, not in some sort of flying machine. The body can die, but the human spirit does not die. It rises up above the earthly landscape and moves on to completely different worlds." write Nilson and Hartman<sup>6</sup>. However small inventions like kites and balloons allowed man to dream of the day that one can fly. The recordings on the first time kites started to be used is as old as 5<sup>th</sup> century in China<sup>7</sup>. When western culture had met with far eastern culture, even though a similar tool was used by Romans, it was the first time they had seen a kite. By the time Marco Polo was in China around 1285, according to his description, man-lifting kites were in common use. In his scriptures Polo mentions how sea captains used man-lifting kites to see if their voyages would be prosperous or not<sup>8</sup>:

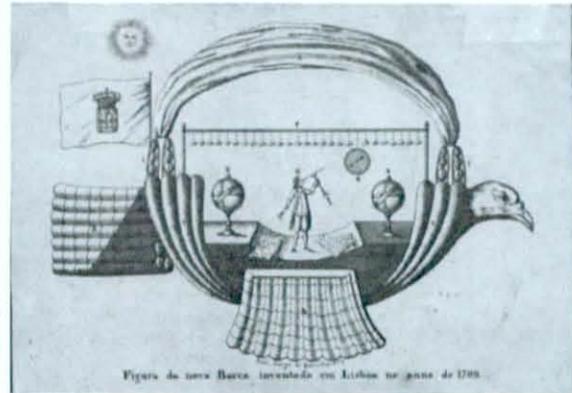
*And so we will tell you [he says] how when any ship must go on a voyage, they prove whether her business will go well or ill. The men of the ship will have a hurdle, that is a grating, of withies, and at each corner and side of this framework will be tied a cord, so that there be eight cords, and they will all be tied at the other end to a long rope. Next they will find some fool or drunkard and they will bind him on the hurdle, since no one in his right mind or with his wits about him would expose himself to that peril. And this is done when a strong wind prevails. Then the framework being set up opposite the wind, the wind lifts it and carries it up into sky, while the men hold on by the long rope. And if while it is in the air the hurdle leans towards the way of the wind, they pull the rope to them a little so that it is set again upright, after which they let out some more*

*rope and it rises higher. And if again it tips, once more they pull in the rope until the frame is upright and climbing, and then they yield rope again, so that in this manner it would rise so high that it could not be seen, if only rope were long enough. The augury they interpret thus; if the hurdle going straight up makes for the sky, they say that the ship for which the test has been made will have a quick and prosperous voyage, whereupon all the merchants run together for the sake of sailing and going with her. But if the hurdle has not been able to go up, no merchant will be willing to enter the ship for which the test has been made, because they say that she could not finish her voyage and would be oppressed by many ills. And so that ship stays in port that year.<sup>9</sup>*

Without doubt, the scene Polo had witnessed was a frightening and benighted one. Nevertheless, apart from the irresistible curiosity of detaching from the ground, one of the main reasons why man wanted to reach and understand the sky and clouds was scientific curiosity. Understanding and analysing the weather and climate would lighten many unknowns in people's life. And without a doubt the relation of navigation and climate could not be disregarded, understanding it would save many lives, ships and goods. Also it would even mean military superiority in the sense of both financial and tactical. All these motives were commonly used by visionary researchers to justify their work in the eyes of their kings and silence the arguments of religious pedants. Bartholomy de Gusmao would be an appropriate example who convinced the king John V of Portugal to support his mission to invent a flying machine. In 1709, when he designed a bird shaped lighter-than-air airship, Gusmao asked from the king to be granted an original patent. In the letter he states:

*By this instrument one can deliver important messages to distant countries and troops almost at the same instant in which they are prepared, which interests us more than it does other sovereigns on account of the great extent of our possessions; one can avoid thereby the great distances of colonies, the news from which we always received too late; and furthermore, we can obtain all the necessities from said colonies much sooner and with greater speed; business men can exchange documents and capital with the same speed; all the beleaguered places can be assisted, with men as well as with provisions at any moment; those who desire can be taken out from them without interfer-*

The airship design of Bartholomy de Gusmao; a bird-shaped balloon with a tail and wings.



*ence from the enemy; and one can discover the lands adjoining the two poles of the earth.*<sup>10</sup>

His letter clearly illustrates that the advantages of flying was well understood. Also as Adrian von Muffling<sup>11</sup> points out that with the acceptance of the king, lighter-than-air travel achieved its first official recognition. Unfortunately, even the king's permission couldn't save him from the charge of sorcery. All of his documents on air travel and airship were publicly burned and he was sentenced to spend the rest of his life in a dungeon. Although he later escapes to Spain, he died shortly afterward.

Gusmao had written in his letter "The glory of this discovery shall revert to the Portuguese nation, a discovery which foreign nations shall vainly attempt to imitate." He was not wrong, though the first to achieve flight were two French pioneers. It was not long after Gusmao, merely 74 years later the first achievement of detaching from the ground was successful and the rousing feeling of flight was felt. Up until that point the idea had always remained a dream, and the sky and clouds were the Gods resided. Beside the advantages of flying, it is intriguing that not much thought was not given to the personal experience of being in the sky and above the clouds. What one would see, hear, feel, smell and maybe even taste; how would this experience affect the perspective of one towards one's own environment and what the consequences of this change and movement of the body were in terms of experience and perception. Was it the fear of divine status that people wouldn't dare to imagine, or was it the fascination of the dream that the experience was overlooked? Or maybe simply people couldn't translate their aspirations to words and that the experience couldn't find a place in the history.

## ONE MILE

When Jacques-Etienne Montgolfier successfully achieved flight in a hot-air balloon that he designed with his brother Joseph-Michel in 1783, the dream was almost a reality. It was a tethered flight that there were people holding the ropes on the ground. But not long after, just a couple of months later, a chemistry and physics teacher Jean-François Pilatre de Rozier and an army officer Marquis d'Arlandes realized the very first free flight. Finally the body was freed from the ground within the basket of a balloon, floating in the sky like a ship on the sea; and finally, maybe one of the biggest dream of man-kind was accomplished. It was a huge furor, and in a very short period of time everyone – everyone that can afford it was lining up to experience this magnificent voyage to the heavens. It was everywhere, on newspapers, on in small talks, and even ornaments of balloons were appearing on chairs, toys and crockeries. With ambitious professional and amateur aeronauts and wealthy supporters, the technology of flying advanced; became more stable, safe and enjoyable. What was once God's eye view, was now human's eye view. And it was not just the visual perception that was changed and transformed, but also the whole perception of the space; being in the sky and detached from the ground, feeling as if almost in a divine state where the perception and sensation of space becomes converted into an integral and total experience.

The experience of the lifted body differs from any other ways of perceiving the environment. Everything that constructs the daily experiences of life changes, transforms into another reality. The body becomes exposed to many unfamiliar external factors; low pressure, decreasing temperature, different altitude and weather conditions, changing effect of light and sound. French philosopher Henri Bergson describes the relation between the body and external objects as:

*I note that the size, shape, even the colour, of external objects is modified as my body*

*approaches or recedes from them; that the strength of an odour, the intensity of a sound, increases or diminishes with distance; finally, that this very distance represents, above all, the measure in which surrounding bodies are insured, in some way, against the immediate action of my body. To the degree that my horizon widens, the images which surround me seem to be painted upon a more uniform background and become to me more indifferent.*<sup>1</sup>

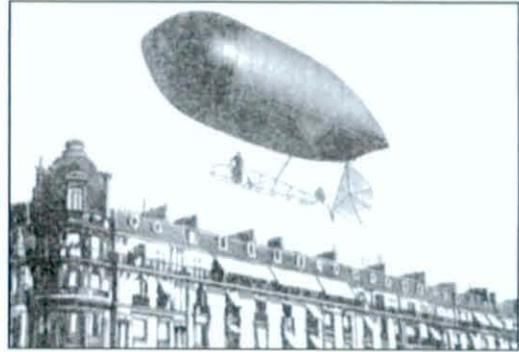
In the case of perceiving the external objects from the air -in a vertical distance- the well-accepted relationship of the body to the world exceeds the daily-based understandings, and the world it-self becomes a total object; an object that is alienated from bounds and limitations of traditional perceptions. Alongside this physical distance, the internal factors that affect the body also add another aspect to the voyage; excitement, fear, the feeling of sublime, anxiety and fascination. Thus it is inevitable to see the various descriptions of people's own experiences, no matter which time period or which geography it belongs to, describes a the similar sensation, the sensation of being one with their own environment, regardless of the boundaries and admiration of what they witness with all of their senses. Perhaps Alberto Santos-Dumont, a Brazilian aviator, puts it in the most simplest words: All is pure<sup>2</sup>.

As a son of a wealthy family, Santos-Dumont was one of the most enthusiastic aviators of the time. When he moved to Paris with his family for his father's medical treatment in 1891, he was amazed to see that his childhood dream was the reality itself. At age 24, he was the pilot of the balloon that was his own design. Nancy Winter described him as an *aerial promenader*<sup>3</sup> because of his habit of using his little runabout No. 9, *La Baladeuse*<sup>1</sup> as if he was driving a sports car, landing in the places he liked to visit or dropping into his favourite place for lunch. In his book which Santos-Dumont writes about his life which is almost entirely dedicated to ballooning, he states that 'air-ships' belongs to low altitudes. It is interesting that there weren't many people supporting this idea. His main reasoning for it was that the concern of safety, that if one flew lower and closer to the ground but high enough to not to touch the trees and roofs, one would be able to perceive danger afar off. He adds that in order to travel in higher altitudes one should have a good cause to justifies them. However, even though he doesn't clearly mentions it in his writings, safety was not the only reason why he preferred

---

<sup>1</sup> La Baladeuse means the stroller in french.

Santos-Dumont during one of his daily excursions above Paris



to fly in lower altitudes. He enjoyed to travel above the city, observe and watch people, see their amazements with his balloon. He points out that while one is in a balloon and moving horizontally, it feels as if the balloon is standing still, and that “the earth that sinks down and away” and “flies past under” the balloon. Even from this little anecdote, it can be understood that the flying body, freed from the earthly bounds, can relate it-self as an external observer, an outsider, looking and experiencing the earth from a different perspective. In his book he continues to mention about almost every detail that his sense organs are effected, and that the ‘purity’ surrounds him. About his first balloon ascent, he describes his first lunch in the air:

*I had brought up with us a substantial lunch of hard-boiled eggs, cold roast beef and chicken, cheese, ice cream, fruits and cakes. Champagne, coffee and Chartreuse. Nothing is more delicious than lunching like this (...) No dining room can be so marvellous in its decoration. The sun sets the clouds in ebullition, making them throw up rainbow jets of frozen vapour like great sheaves of fireworks all around the table. Lovely white spangles of the most delicate ice formation scatter here and there by magic, while flakes of snow form moment by moment out of nothingness, beneath our very eyes, and in our drinking glasses!<sup>5</sup>*

Although it is a fact that Santos-Dumont was a wealthy man and his lifestyle can be identified as a prosperous one, it doesn't effect the reality that any other man would feel almost the same way while having a lunch in a balloon, clouds covering above and the city lying beneath. He believed that anyone should participate into this privileged experience. The symbol of Icarus on his balloon may well be considered as a sign for it.

Like Santos-Dumont, many who have experienced a balloon flight were delighted to share their both knowledge and memoirs. English meteorologist and balloonist James Glaisher and his 3 fellow balloonists, Camille Flammarion, Wifred de Fonvielle and Gaton Tissandier<sup>1</sup> published a book named *Travels In The Air*, which gives an extensive insight to both the technical and sensual world of being in the air. Similar to Santo-Dumont's writings, the feeling of purity is also a prominent feature of this book. However being scientifically minded people, their experiences differ from Santos-Dumont as in the sense of being more 'adventurous' and 'intense' and so the 'purity' of air gets defined by more of being in a different state and exposed to sensual factors. According to Glaisher, "the most timorous lose their sense of fear as the balloon ascends and the receding earth is replaced by the vaporous of the air; and I refer this confidence chiefly, as has been suggested, to the consciousness of isolation by which the balloon-traveller feels more like a part of the machine above the world below."<sup>6</sup> As the feeling of detachment from the 'terrestrial influences', one reaches to a level that isolates itself from daily concerns and feels no longer as a part of the world but a part of a bigger integrity, and by so develops a different and perhaps a more total understanding of this collectivity.

Sound, being one of the most important medium that defines the relation of space and body, seems to not lose its importance, but somehow becomes more of a vague or deceptive element in air. It would be assumed that in the sky, being away from all the noise and crowd of the ground level, one would hear nothing but the companions' voices and the movement of air. However the reality is a lot more perplexing. In the book Tissandier notes that in one of his excursion he experiences an extraordinary circumstance where he and his friends were not able to hear each other that they had to talk louder in order to understand each other. In another case, Flammarion mentions about the small experiments he had done; he shouts out while he was in balloon and after six seconds his voice returns as an echo. "I was struck by the vague depth of the echo; it appears to rise from the horizon, and has a curious tone, as if it came from another world."<sup>7</sup> In a similar case, Flammarion repeats the same experiment, but this time instead of an echo, he hears "a sharp ironical accent from the envelope of the balloon itself."<sup>8</sup> On the other hand, the air is not completely isolated from the sounds of the

---

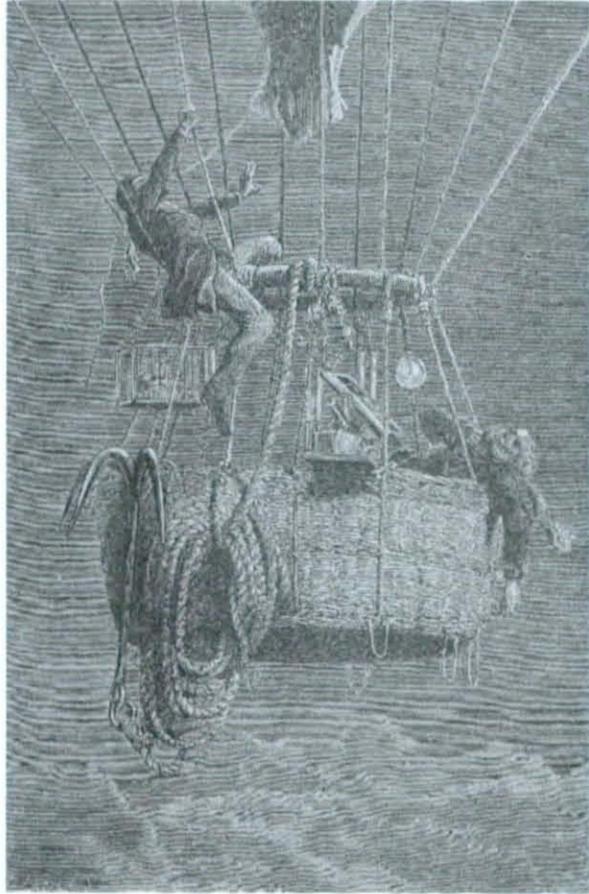
<sup>1</sup> Flammarion and Fonvielle were authors, Tissandier was a French chemist and had interest in meteorology.

ground. Just like return of one's own voice, the sound of the ground has the ability to confuse one's understanding of the space. Glaisher writes his interesting findings on sound under the title 'On the Propagation of Sounds', "When in clouds at four miles high, I heard a railway train; but when clouds were far below, no sound ever reached the ear at this elevation. (...) The barking of a little dog has been heard at height of two miles, whilst a multitude of people shouting has not been heard at 4,000 feet."<sup>9</sup>

The sense of smell, as being one of the least significant one in aerial excursions, is mostly described to mention the purity and beauty of the experience. In his writings about his second excursion that takes place in France, Flammiron mentions "the odour of the green woods rises up to us and forms the sweetest of perfumes."<sup>10</sup> However the change in the smell during the excursion doesn't necessarily indicate purity but danger. When the odour of gas is being sensed, it would indicate that there is an uncontrolled loss of gas, which can lead to a disaster. Beside the smell, the changes in the environmental factors such as temperature and pressure, what they indicate and their effects on the body are the ones that have a significant effect on the experience of aerial excursions. Tissandier points out that change in pressure, in some cases, causes pain and even deafness. Also in case of change in temperature in the air, Glaisher mentions that he couldn't determine any constant law on it. In one of the events he had gone through, he writes his experiences:

*At height of three miles and a half Mr. Coxwell said my face was of a glowing purple, and higher still both our faces were blue. At heights exceeding three miles, our feet and the tips of our fingers were very cold. The sky was of a deep Prussian blue. When three miles high, on descending, Mr. Coxwell, forgetful of the fact that the grapnel had been exposed to a temperature of zero, incautiously took hold of it with his naked hand, and cried out, as in pain, that he was scalded, called on me to assist in dropping it. The sensation was exactly that of scalding.*<sup>11</sup>

Glaisher complains about insufficient amount of experiments relating to study the temperature changes in different altitudes and geographies. Certainly with today's technology, these kinds of accidents can be easily prevented, however the reality of being in the air and freed from the earthly bounds means being open to any kind of circumstances.



“Mr. Glaisher insensible at the height of Seven Miles”  
(Glaisher et. al., 1871)

Then comes the most powerful and influential sense; sight. Visuality, as being perhaps the most attractive element for a body detached from its familiar environment, constructs the basis of the body’s relation to this new and unusual space and perspective. Bergson defines the influential relationship of the external images and the body as the mutual transmit of movement and he adds “All seems to take place as if, in this aggregate of images which I call the universe, nothing really new could happen except through the medium of certain particular images, the type of which is furnished me by my body.<sup>12</sup>” In the state of being detached from the ground and surrounded by nothing but the air, the transition of movement becomes suspended and the visual perspective of not just the ground but also the sky and the horizon puts the body in the center of the universe. Glaisher writes:

*They attained an elevation no higher than sufficient to view the landscape of the earth spread out beneath them like an open map, and were not therefore subject to the test of physiological sensations. The idea of unlimited freedom conveyed by the sense of*

*floating in the invisible medium which surrounds the aeronaut; the total unconsciousness of movement, and the sudden sinking away of the earth and the people on it...*<sup>13</sup>

It is inevitable to become an outsider and feel freed from the world lying beneath one's feet; the changing scale and light, fading of the movement on the ground, and expanding perspective. One feels abstracted from the earth, entering to a new medium of emptiness and unconsciousness. Flammiron describes his excursion on Paris as:

*The works of man are soon reduced to nothing in such a vision. The grandest places, the highest monuments, towns which have withstood the storms of centuries, all are levelled to the ground. (...) The whole town of Paris is reduced, after a little while, to the size of one of those maps (...) Seen from above, the perspective of the town is entirely modified; the long avenues and large groves are reduced to small cottages and little gardens. (...) as we mounted higher all the statues and columns were levelled to the ground – pointing to the fact that glory is, after all, equal to nothing!*<sup>14</sup>

At a certain height, the features on the surface of the ground, such as buildings and roads, start to transform their meaning and what they stand for; the medium of air becomes an isolator and enables one to see nothing but a whole layout of the world of mankind and nature without any distinction or boundaries. Jeanne Haffner defines this perspective *vue d'ensemble* – view of the whole<sup>15</sup>. This new and fresh perspective became a muse, William Sharpe and Leonard Wallock points out that “Wordsworth to Baudelaire and beyond, the city seen in its entirety, from a distance or above, has been compared to a body or some other natural object.<sup>16</sup>” The city had been started to be expressed as an organism, like any other living creature.

French photographer Nadar was the first person who tried to use this visual advantage of aerial perspective and take pictures of Paris from a balloon. His great admiration of flight had led him to write a book, named *The Right To Fly*. In the book he calls out to his readers as “To The Passer-By”, and continues “There is no science here, since it is I who speak to you. (...) If you do not SEE, if you do not KNOW, if you do not BELIEVE, then never fly, - and continue to walk, simpleton!<sup>17</sup>” With this he openly shows his intention; to address everyone, calling them to be open-minded about this miracle and inviting them to be a part of it. He adds, “How

different from our aerial voyages, without shock, without concussions and free from noise, dust, fatigue and danger.<sup>187</sup> He glorifies the science of flight and wants to make sure that it is science that anyone can participate. Thus it can be concluded that the detachment of the body from the ground did not just open a new way to perceive and experience the world but also seen as a medium for people to detach themselves from the problems and complications on the daily-life. In the air everyone and everything was equal, it was an invisible medium where –under safe conditions– one could only enjoy the purity of it. Now, after the seas and lands, man had conquered the sky. It was no longer a place where God would watch over humanity but man would watch over his own glory with all clearness. However along with this fresh perspective, a new layer was introduced; a new layer that had been seen as a symbol of glory or doom: The Clouds.

## ABOVE THE CLOUDS

*"Men like us have no choice but to try to see the world the way God does and to resign ourselves to His Justice," he said. "And here, among these pictures and possessions, I have the strong sensation that these two things are beginning to converge: As we approach God's vision of the world, His justice approaches us. See here, the needle Master Bihzad blinded himself with..."<sup>1</sup>*

These are the words a miniaturist was told by his master in Orhan Pamuk's novel "My Name Is Red," set in sixteenth century Istanbul. In the art of miniature the aim is to give "the vision of the world from a minaret", how God would see the world. However the master, after seeing western paintings, realises that what they have been doing was actually putting themselves in the place of God, becoming his eye and unwittingly committing a great sin. Thus he starts to believe that god has begun to punish them. In the novel, Pamuk draws attention to an interesting point in miniature art, which is the contradiction of art and its ultimate purpose of not being formalist. However it is also another fact that these illustrations were failing to represent the clouds. Similar to many visual arts, from Chinese drawings to western paintings, historically the clouds have been used mostly as an element of background but never as a main subject. In early Christian art and in Byzantine art, Hubert Damisch points out that cloud and cloud of light, representing almost the same thing, were used to as a tool for divinity by isolating the sky and the ground; sky representing a medium which the figures on the ground would witness the "manifestation of the sacred."<sup>2</sup> Before the dream of flight became a reality, in the visual representations of the clouds were associated strongly with the divinity. In the cases where they were used as a background element, as in landscape or cityscape drawings, they were the medium of movement. Damisch points out that in Chinese drawings, "where the composition is too cluttered, cloud would make it possible to articulate it and abbreviate



"Icon of the presentation of the Virgin in the temple"  
(The Ashmolean Museum of Art and Archeology)



A Turkish miniature  
(Karataş, 2009)

it. Where, on the contrary, there is mostly emptiness, cloud serves to introduce movement.<sup>39</sup>

The lack of detailed knowledge on the nature of a cloud and the difficulty on observing and capturing the visuality, led the clouds to be used only as an element of decoration. Although the techniques and materials to represent them were varied and advanced, their symbolic meaning could not go further than a representation of divine power or a romantic ornamentation. Even on scientific investigations, the same problems of being an 'unreachable' and 'unexplainable' objects effected the methodical approach to related subjects, as meteorology and navigation. However, as Richard Hamblyn points out, ironically the flight of the body "would finally be achieved by imitating not a bird but a cloud."<sup>40</sup>

In 1802 a young scientist gave a lecture which has since taken its place in the history of nephology and meteorology as an event of great importance. Luke Howard, the 'namer of the clouds', was presenting his analysis on clouds and categorising them in simple and universal latin terms. Even though he was not the first to attempt to do it, his success lay within the simple approach. From science to art, many were deeply interested in his work, which

“opened up the clouds to view so now they could be seen for what they were: the visible signs of the otherwise hidden movements of the atmosphere.”<sup>5</sup> Goethe wrote a letter to Howard and asked to personally meet with him, which Howard was so surprised at he critically thought the letter was a hoax. Later Goethe had planned to write a series of poems, with titles such as *Atmosphere* and *Cumulus*<sup>1</sup>, which were deeply influenced by the work of Howard.

*The world which is so great and spreading  
The sky so high and distant,  
All this my eyes can take in  
But not my thoughts.*

*To find your way in infinity,  
You must first distinguish, then gather things together  
That is why my winged song gives thanks  
To the man who distinguished between the clouds.*<sup>6</sup>

Though neither Goethe nor Howard had the chance to go into the sky and experience them, the clouds were finally breaking their reputation as *furnishing picturesque*<sup>11</sup> objects and becoming an object of study.

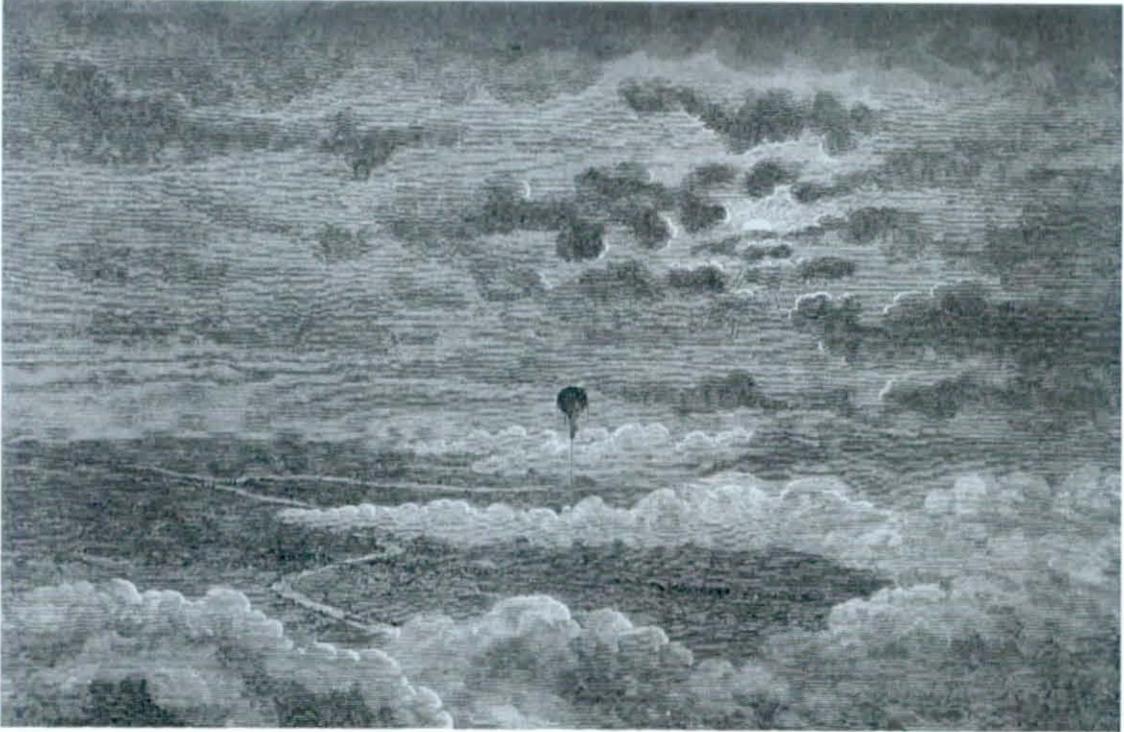
If one feels as an outsider in the sky, then above the clouds one should feel as a stranger in a new world. A white layer of clouds are like an infinite carpet lying beneath the feet of man, creating a border between the body and the earth and detaching all senses from any kind of familiarity. Glaisher describes this phenomena:

*Above the clouds the balloon occupies the centre of a vast hollow sphere, of which the lower portion is generally cut off by a horizontal plane. This section is in appearance a vast continent, often without intervals or breaks, and separating us completely from the earth. No isolated clouds hover above this plane. We seem to be citizens of the sky, separated from the earth by a barrier which seems impassable. We are free from all*

---

<sup>1</sup> Cumulus, meaning ‘heap’ or ‘pile’ in Latin, was the name Howard had given to a type of cloud.

<sup>11</sup> In the article ‘The Life of a Cloud’ published in *Recreative Science* magazine in 1874 by J.J. Fox writes “Clouds, one popular scientific journal felt it necessary to remind its readers in 1874, were ‘something more than furnishing picturesque objects for Turner to paint and Ruskin to write about’. Both these circumstances - the visual innovations of weather science and the art tradition - were critical to the development of Victorian meteorology.”



"The Seine and The Marne As Seen From The Car in M. Flammiron's Second Ascent" (Glaisher et. al., 1871)

*apprehension such as may exist when nothing separate us from the earth. We can suppose the laws of gravitation are for a time suspended, and in the upper world, to which we seem now to belong, the silence and quiet are so intense peace and calm seem to reign alone.<sup>7</sup>*

These new *citizens of the sky* were introduced to a world of complete emptiness. And contrary to what was expected – the clouds being an obstacle that can not be controlled and interfered – it was not possible to experience the ground as an open map, a view of the whole. The clouds restrain, frame and control the senses, making the body lose the sense of space and time. In this timeless non-space one's experience is transformed from an inclusive to an exclusive one. What one can sense and relate it to the body and the space, with the entrance of the clouds into experience, becomes more personal. The way the body reacts and attaches it-self to this new layer depends on the person's way of perceiving the space.

In September of 1785, Vincent Lunardi, a pioneering aeronaut, lent a balloon to Thomas Baldwin for his excursion from Chester. Baldwin was so enthusiastic about this event that within months he wrote a book on it named *Airopaidia*, describing every single detail such as the measurements of height, colours of the thunder clouds and weight of materials in the bal-

loon. In the book he describes his vision of the world:

*The spectator is supposed to be in the car of the balloon, suspended above the center of the view: looking down on the amphitheatre or white floor of clouds, and seeing the city of Chester, as it appeared throu' the opening: which discovers the landscape below, limited by surrounding vapour, to something less than two miles in diameter.<sup>8</sup>*

Baldwin's understanding of the city below becomes more dependent on the maps he has, and less on the sensual experience. His perception of the ground becomes dependent on the clouds, and this situation leads a new way of perceiving the ground. However what made *Air-ropaidia* significant was not the text but the illustrations that Baldwin made during the flight. He brings up the maps of his route of flight, and while he was up in the sky he drew what he witnessed with the guidance of these maps. The map-like illustrations clearly reveals how one can see, or rather *not see* the ground. The clouds form an obstacle between *the spectator* and the landscape below, only revealing the ground partially, centering the sensation of watching a theatre where one doesn't have any control over it. And the movement of the balloon, following just like the clouds, the wind and air currents, makes it almost to lose them from sight.

In case of Baldwin, an enthusiastic amateur balloonist, this condition does not effects his way of perception because it is what he was expecting. As his first excursion, he admires this fresh point of experience. He wants to share his feelings and technical knowledge with everyone to show them this magnificent event, and perhaps invite them to be a part of it. However the reality of the clouds goes beyond this. Not being just a visual obstacle but also a wall-like layer in the sky, the clouds mislead the senses. And as they do not cover and surround the sky and thus the ground in the same way, the experience differs under different circumstances. Perhaps this anecdote from Tissandier gives a better idea on being above the clouds:

*The clouds seem to be getting thinner (...) A thousand brilliant rays illuminate the sky, and throw our shadow upon the distant valley of clouds which spread around us... Where can we be now? Has the wind carried us on towards the interior, or driven us a second time out to sea? It is seven o'clock.*



Aerial View of Chester by Baldwin



Aerial photograph of Moscow during World War II

*Our companion Barret draws our attention to a kind of vague murmur which he hears below the clouds. A continuous and melodies sound reaches our ears, but it is both menacing and terrible... Can it be ocean?*

*By allowing a little gas to escape we soon sink through the clouds, and we perceive below, not the earth and green country, but an immense expanse of sea!<sup>9</sup>*

The unknown, causing an uncertain and anxious environment, misleads both physical and sensual experience. The purity of flight becomes a deceptive one, where no solid evidence can be obtained on spatial experience and the sensuality loses its meaning of defining the space. Depending on the density and the volume the clouds, the transparency changes. The clouds form a second ground: "On looking over the top of the car the horizon appeared to be on a level with the eye; the image of the balloon and car, in descending, was very distinctly visible on the clouds.<sup>10</sup>"

The clouds, breaking the continuity of the vision and thus the ground, create a multi-layered and disordered way of perception. James Gibson claims that "a visual space should be conceived not as an object or an array of objects in air but as a continuous surface or an array of adjoining surfaces. The spatial character of the visual world is given not by objects in it but by the background of the objects."<sup>11</sup> He exemplifies this with the airplane pilot's space that is determined by the ground but not the air. However contrary to what is commonly believed, a pilot's vision is not a flawless and clear one; neither is his/her experience. The fact that clouds form a barrier between the flying body and the ground means that the perception in the air can not be considered as an undisturbed experience. Even though the body gets detached from the terrestrial physical and sensual factors, the clouds forming a new surface between the ground and the body regulate one's perspective of the ground. Flammiron expresses his thoughts on being above the clouds: "Man thinks he can sense the taste of higher worlds, he would like to leave his mortal accoutrements completely behind the clouds and in the inextinguishable glow of his longing swing himself up toward heaven."<sup>12</sup> Thus being above the clouds doesn't only mean that one is completely detached from the ground but also means that one is in a completely unfamiliar space. Donald Appleyard mentions in one of his essays on perceiving the city that "if breaks (...) occur randomly throughout a journey, the city will be imaged as a set of disconnected pieces. Continuity can be maintained by consistency of motion, space, surface or other features, by repetition, similarity or overlap. Rhythm, a primitive and powerful sequential organizer, can bind the most diverse of experiences into a coherent order."<sup>13</sup> It can be concluded that through the movement of the body it is possible to break this sequence and gain back the view of the whole.

When the flight technology started to advance rapidly because of their military advantages, the main goal was to reach the highest, fastest and most efficient means of flight. The physical conditions of the air was not allowing a safe trip. Thus the plane technology replaced the balloon and ballooning remained as a leisure activity. However the planes were not also as effective they were planned to be. As an example, Henry Woodhouse writes about one of the disadvantages: "the flight across the Himalaya through the gorges and passes would not be considered more difficult than the flights made daily over the enemy's barrage fire, where in

addition every cloud may hide a squadron of enemy fighting planes<sup>14</sup>." The plane does not allow one to experience and perceive the space; it is a non-space where the interior conditions are optimised for a safe trip, a zone where no abnormality is allowed in sensual experience. It had become a tool, rather than a medium, to go in the sky. American author Herbert S. Zim draws attention on an important point; the weakness of the human body: "with such possibilities ahead, it seems strange that the greatest handicap in the use of the air should be man himself. (...) Engines, wings, superchargers, and instruments have been constantly improved-but man remains unchanged.<sup>15</sup>" In his book "Man In The Air", it can be seen that the experience of being in the sky is a condition related to the pilot. And the focus of the flight is no longer one's experience of flight, but the way one coordinates the plane and reacts to with the external conditions. Zim points out how a pilot flies as a whole, such as how intestines are equally important with the ears, and the importance of the physical conditions of a pilot. A pilot should have a perfect eye, muscle co-ordination, a sensitive ear in order to train the pilots, the physical conditions in the sky are simulated on the ground. Without leaving the ground, one can go into a room where most of the physical conditions of a plane in the sky can be experienced. However, probably one of the most important above all is that pilot is no longer alone in the air. "Hearing become increasingly important and pilots' hearing must be at least as good as anybody else's. Radio is largely responsible for this. The flier is no longer alone when he is up 30,000 feet in the air. He can be in constant communication with other planes and with his home base.<sup>16</sup>" In this way even when the body is physically detached from the ground, there is still a connection with the ground. The first tethered balloon flights are now replaced with invisible communication networks.

Both physical and sensual fascination and tension have been almost completely eliminated from the sky. Two exceptions are extreme sports, which are mostly focused on the adrenalin, and balloons, which are mostly used as a tourist attraction. However, as Glaisher writes, now "we must quit these regions to approach the earth; our revolt against gravity has lasted long enough, we must now obey, its laws again. (...) We enter the clouds and soon see the earth; we must make descent, and in a few minutes the balloon lies helpless and half empty on the ground.<sup>17</sup>"

## THE FALL

It is time to come back from dreamland to reality.

Although humanity has achieved to go beyond the borders of the sky and the clouds, in daily life basis, the sky and the clouds remained as an object of meteorology and romantic dreams. Vojtěch Jirat-Wasiutyński's point on the sensation of being in the sky is one of the most accurate description: a "dialectical opposite of what Victor Brombert has called "la prison romantique": the desired *réve* (flight) juxtaposed against a repressive social reality (prison).<sup>1</sup>" The experience of being in the sky has turned into a medium where in order to experience it, one has to pass through a high security, and then enter the metal bird, a timeless non-space. The sensation has been reduced to only visual perception where one can observe the clouds and the ground from small, pressure and temperature proofed windows. Also in this romantic prison, one can pace back and forth, eat what is served and talk with others inside the metal bird; any kind of physical or sensual attraction between the body and the sky is strictly limited. When it comes to the use of balloons, in which most cases as touristic attractions, even though one can experience the conditions of being elevated from the ground, the route and the whole experience are organised according to the best view that the client can see. One of Singer Bayla's point can be seen as the main reason of this timeless non-space experience:

*Most historians of technology recognize that any technology is influenced by the values and aspirations of the society in which it is embedded; there has been little attempt, however, to delve beyond economic factors in evaluating motivations. Perhaps this is because it is easy to quantify economics, and much harder to demonstrate more purely psychological factors.<sup>2</sup>*

The concerns of worldly problems, detached back the freed body to the ground. And its most

powerful 'ammunition' visuality replaced the sensation of the whole.

The only thing that remained same in the sky is the fear. Like the ancient years, people have always feared from what could 'come' from the sky, hidden behind the clouds that put their lives in danger. It was Zeus's thunders in Ancient Greek, today it is the bombs. The first publisher of Alfred Northcliffe had written in one of his article that with the advancements in aerial navigation, England was no longer an island. He continued: "There will be no more sleeping safely behind the wooden walls of England with the Channel our safety moat. It means the aerial chariots of a foe descending on British soil."<sup>3</sup> And he was not wrong. Especially during World War II, England got most of his damage from aerial attacks. September 11 attacks that took place in various parts of United States, causing almost 3,000 people's death, were aerial attacks. In a possible war situation, the first attacking strategies are taken by aerial forces. And all is remotely controlled from the ground. And *the fall* is realised by the bombs, again remotely controlled from the ground.

The remote controlling system, along with the satellites positioned around earth, leads to misconception. Especially the aerial images where anyone can easily access on internet presents a perfect vision of the ground; no clouds, no geographical readings, as if the world is a plane surface where one can easily access anywhere; the nature of reality is distorted. "The bird's eye view, and its transition to an overall vertical view with no privileged viewpoint, also echoes the growing mastery of human society over the natural world and the rise of powerful elites and absolute rulers in Western Societies."<sup>4</sup> says British phenomenologist Paul Rodaway. And it is not just the privileged viewpoint, but also a pure view, as if there is no obstacle preventing to see the whole; like the inside environment of a plane, a simulation where an image of indifference between the inside and the outside is presented as the reality it-self. The sensation of the space is reduced to only visuality, which is the easiest medium that can be played and manipulated, creating a false image of reality. However experiencing an event or situation can not be reduced to a single condition. It is dependant on person's perception and thus differs from one to another. Appleyard states "Travel through the city creates a sequence of experience. This sequence is a moving encounter with the environment, in

which the traveller acts according to his own purposes, while the environment reciprocally shapes his experience. If we describe a sequence as a succession of events, each event, set against the remembered past, will affect the traveller's attitude, response and perception of the future. Thus each experience is relative.<sup>5</sup> The statement can be easily generated to any kind of spatial experience. The experienced environment is one of the most influential factor which generates, shapes and effects the experience with the mutual relationship of body and the space.

Many had believed the detachment of the body from the ground, the realisation of the dream of flight would open up a new era in human history; an era which is going to finally free the humanity from worldly concerns and bounds. Flammiron states "liberated humanity will have broken free of its last bonds and live at last in the pure clarity of heavenly space<sup>6</sup>"; Victor Hugo believes that this would lead to democracy<sup>7</sup>; Jeanne Haffner states that "the top-down technique of aerial photography was seen as a bottom-up tool of observation from the very beginning<sup>8</sup>" and it wouldn't be a mistake to expand it to the perception in all senses; Nadar mentions "no scientific discovery, no political occurrence, has ever given rise to more quodlibets, both in rhyme and in caricature, than Aerostation.<sup>9</sup>" However, one anecdote from Flammiron hints the dark side of this dream:

*...for the very time that the Count should have experienced giddiness – that is, when he consented to look down upon the earth – the feeling left him. If the sides of the car had not rendered the thing quite impossible, our companion would certainly have allowed himself to be drawn down to the soil of France. I may add that, without having experienced this disease of vision, I also felt a vague desire to throw myself out of the balloon. Though feeling convinced that it would be certain death, I was under the influence of a mild temptation to allow myself to fall, and my death became for the moment a matter of indifference to me.<sup>10</sup>*

Strangely similar with the myth of Sumerian king Etana, even the most enthusiastic ones can become captivated with the sensation of going down, reaching the ground: The Fall.

Hugo's vision was that humanity needed a gravity-defying miracle, a bird instead of a drifting



"Earthrise" by William Andrews

balloon, which he was right. The planes were the metal birds that would lift the humanity and set them free; and perhaps the space crafts are the next step towards Hugo's vision. One of the Apollo 8 crew Major General Bill Anders who took the legendary 'Earthrise' photography during the mission in 1968, famously stated that "we came all this way to explore the moon, and the most important thing is that we discovered Earth." Discovering Earth, in a sense that discovering the home where everyone belongs to:

*Once a photograph of the Earth, taken from outside, is available, we shall, in an emotional sense, acquire an additional dimension... Once let the sheer isolation of the earth became plain to every man, whatever his nationality, or creed, and a new idea as powerful as any in history will be let loose.<sup>11</sup>*

This comment of British astronomer Fred Hoyle that was made in 1948, which can be interpreted as once one is detached from the ground, daily boundaries and terrestrial bounds lose their meaning and the perspective of total view replaces the parochial vision of familiar space. The whole world becomes 'the home'. When Felix Baumgartne was about to do his

legendary jump from 'edge of the world', almost from 39 km, he says "I wish the world could see what I can see", even though the world was watching him from the ground on television screens. He knows that seeing it isn't enough, the total feeling of being on the edge of the world, where no man had stood and looked down to earth in such a vulnerable position. And just before the jump, his last words are "I'm going home now."

Eventually Santos-Dumont returns to his country Brazil in 1931 as a national hero. A plane accident he had in 1910 had already prevented him flying aircrafts which led him to depression. In 1932 a civil war out broke, Santos-Dumont witnessed how his passion of life had turned into a disaster. Nancy Winter writes in Santos-Dumont biography that "He watched as planes flew low over the broad, beautiful beach, then heard the sound of dropping bombs. Overcome by melancholy and disease, he despaired that his inventions had been twisted to such a ghastly end. His reason snapped at last.<sup>12</sup>" He had foreseen how the aerial navigation would allow superiority in a war, especially in maritime advantages of the air-ships: "Indeed, sending down to it long arrows filled with dynamite, and capable of penetrating to depths underneath the waves impossible to gunnery from the decks of a warship.<sup>13</sup>" He had also accepted to help the French Army in their aerial tactics, however the truth he had witnessed in his native lands was not something that he could bare it, and in 23<sup>rd</sup> of July 1932 he commits suicide. He was buried beneath a statue of Icarus.

As Nilson and Hartman conclude: "The dream of flight may have become a reality, but somehow it remained nothing but a dream."<sup>14</sup>

## ENDNOTES

---

### Detachment From Ground

1. Gustafson, Lars, 1968, *Bröderna Wright uppsöker Kitty Hawk, och andra dikter*, Stockholm: Norstedts; English, p. 45; translation has been taken from: Nilson, "Winged Man and Flying Ships: Of Medieval Flying Journeys and Eternal Dreams of Flight"
2. Wilkins, John, 1638, *The Discovery of a World in the Moon*, London
3. Foster, Benjamin, 1995, *From Distant Days: Myths, Tales and Poetry from Ancient Mesopotamia*, Maryland: CDL Press, p. 113
4. Singer, Bayla, 2003, *Like Sex With Gods*, Texas: Texas A&M University Press, p.50
5. Barnes, Julian, 2013, *Levels of Life*, London: Jonathan Cape Ltd, p. 23
6. Nilson, Peter, Steven Hartman, 1996, "Winged Man and Flying Ships: Of Medieval Flying Journeys and Eternal Dreams of Flight" *The Georgia Review* V. 50 No. 2, pp. 267-296
7. Needham, Joseph, 1965, *Science and Civilisation in China by Joseph Needham, Vol. 4 Physics and Physical Technology Part I: Physics*, Cambridge, p. 127
8. *Ibid.*, p. 589
9. The section taken from Polo's letter was in: Muffling, Adrian van, 1927, "Human Flight Throughout The Ages" *Annals of the American Academy of Political and Social Science* 131, pp. 1-6
10. *Ibid.*
11. *Ibid.*

### One Mile

1. Bergson, Henri, 1991, *Matter and Memory*, New York: Zone Books, p. 20, 21
2. Santos-Dumont, Alberto, 1904, *My Airships: The Story of My Life*, London: Grant Richards, p. 9
3. Winter, Nancy, 1997, *Man Flies: The Story of Alberto Santos-Dumont Master of the Balloon, Conqueror of the Air*, London: Bloomsbury Publishing
4. Santos-Dumont, *My Airships: The Story of My Life*, p. 34
5. *Idib.*, p. 35
6. Glaisher, James, Camille Flammiron, W. de Fonvielle and Gaston Tissandier, 1871, *Travels In The Air*, London: Richard Bentley, p. 2
7. *Ibid.*, p. 128

8. Ibid., p. 151
9. Ibid., p. 92, 93
10. Ibid., p. 140
11. Ibid., p. 80
12. Bergson, *Matter and Memory*, p. 18, 19
13. Glaisher et al., *Travels In The Air*, p. 18
14. Ibid., p. 126, 127
15. Haffner, Jeanne, 2013, *The View From Above*, Massachusetts: The MIT Press
16. Sharpe, William, Leonard Wallock, ed., 1987, *Visions of The City*, Baltimore: The John Hopkins University Press, p. 35, 36
17. Nadar, 1866, *The Right To Fly*, Paris: Cassell, Petter, and Galpin, p. 7
18. Ibid., p. 88

#### Above The Clouds

1. Pamuk, Orhan, 2001, *My Name Is Red*, London: Faber and Faber Limited, p. 325
2. Damisch, Hubert, 2002, *A Theory of /Cloud/*, California: Stanford University Press, p. 109
3. Ibid., p. 221
4. Hamblyn, Richard, 2001, *The Invention of Clouds*, London: Picador, p. 79
5. Ibid., p. 36
6. The poem is taken from: Damisch, *A Theory of /Cloud/*, p. 302
7. Glaisher et al., *Travels In The Air*, p. 94
8. Baldwin, Thomas, 1786, *Airopaidia*, London: J. Fletcher
9. Glaisher et al., *Travels In The Air*, p. 302
10. Ibid., p. 49
11. Gibson, James J., 1950, *The Perception of the Visual World*, Massachusetts: The Riverside Press, p. 6
12. Nilson, Peter, Steven Hartman, 1996, "Winged Man and Flying Ships: Of Medieval Flying Journeys and Eternal Dreams of Flight" *The Georgia Review* V. 50 No. 2, pp. 267-296
13. Appleyard, Donald, 1965, "Motion, Sequence and the City", in *The Nature and Art of Motion*, ed. George Kepes, New York: George Braziller, p. 183
14. Woodhouse, Henry, 1919, "High-Altitude Flying in Relation to Exploration", *Geographical Review* V. 7 No. 3, pp. 149-158
15. Zin, Herbert S., 1943, *Man In The Air*, New York: Harcourt, Brace and Company, p. 4
16. Ibid., p. 199, 200
17. Glaisher et al., *Travels In The Air*, p. 95

#### The Fall

1. Jirat-Wasiutyński, Vojtěch, 1992, "The Balloon as Metaphor in the Early Work of Odilon

Redon", *Artibus et Historiae* V. 13 No. 25, pp. 195-206

2. Singer, Bayla, 2003, *Like Sex With Gods*, Texas: Texas A&M University Press, p.183
3. Winter, Nancy, 1997, *Man Flies: The Story of Alberto Santos-Dumont Master of the Balloon, Conqueror of the Air*, London: Bloomsbury Publishing, p. 58
4. Rodaway, Paul, 1994, *Sensuous Geographies*, London: Routledge, p. 141
5. Appleyard, Donald, 1965, "Motion, Sequence and the City", in *The Nature and Art of Motion*, ed. George Kepes, New York: George Braziller, p. 182
6. Nilson, Peter, Steven Hartman, 1996, "Winged Man and Flying Ships: Of Medieval Flying Journeys and Eternal Dreams of Flight" *The Georgia Review* V. 50 No. 2, pp. 267-296
7. Barnes, Julian, 2013, *Levels of Life*, London: Jonathan Cape p. 13
8. Haffner, Jeanne, 2013, *View From Above*, Massachusetts: The MIT Press, p. XIV
9. Nadar, 1866, *The Right To Fly*, Paris: Cassell, Petter, and Galpin, p. 80
10. Glaisher, James, Camille Flammiron, W. de Fonvielle and Gaston Tissandier, 1871, *Travels In The Air*, London: Richard Bentley, p. 130
11. Goldberg, Vicky, 1991, *The Power of Photography: How Photographs Changed Our Lives*, New York: Abbeville Publishing Group, p. 52
12. Winter, *Man Flies: The Story of Alberto Santos-Dumont Master of the Balloon, Conqueror of the Air*, p. 145
13. Santos-Dumont, Alberto, 1904, *My Airships: The Story of my Life*, London: Grant Richards, p. 317
14. Nilson and Hartman, "Winged Man and Flying Ships: Of Medieval Flying Journeys and Eternal Dreams of Flight"

## BIBLIOGRAPHY

---

- Appleyard, Donald, 1965, "Motion, Sequence and the City", in *The Nature and Art of Motion*, ed. George Kepes, New York: George Braziller
- Baldwin, Thomas, 1786, *Airopaidia*, London: J. Fletcher
- Barnes, Julian, 2013, *Levels of Life*, London: Jonathan Cape Ltd
- Bergson, Henri, 1991, *Matter and Memory*, New York: Zone Books
- Cosgrove, Denis, William L. Fox, 2010, *Photography and Flight*, London: Reaktion Books
- Damisch, Hubert, 2002, *A Theory of /Cloud/*, California: Stanford University Press
- Foster, Benjamin, 1995, *From Distant Days: Myths, Tales and Poetry from Ancient Mesopotamia*, Maryland: CDL Press
- Glaisher, James, Camille Flammarion, W. de Fonvielle and Gaston Tissandier, 1871, *Travels In The Air*, London: Richard Bentley
- Gibson, James J., 1950, *The Perception of the Visual World*, Massachusetts: The Riverside Press
- Goldberg, Vicky, 1991, *The Power of Photography: How Photographs Changed Our Lives*, New York: Abbeville Publishing Group
- Gustafson, Lars, 1968, *Bröderna Wright uppsöker Kitty Hawk, och andra dikter*, Stockholm: Norstedts; English
- Haffner, Jeanne, 2013, *The View From Above*, Massachusetts: The MIT Press
- Haining, Peter, ed., 1972, *The Dream Machines*, London: New English Library
- Hamblyn, Richard, 2001, *The Invention of Clouds*, London: Picador
- Jirat-Wasiutyński, Vojtěch, 1992, "The Balloon as Metaphor in the Early Work of Odilon Redon" *Artibus et Historiae* V. 13 No. 25, pp. 195-206
- Karataş, Ahmet, 2009, "Türk İslam Sanatında Minyatür" *Yağmur Dergisi* V. 44
- Muffling, Adrian van, 1927, "Human Flight Throughout The Ages" *Annals of the American Academy of Political and Social Science* 131, pp. 1-6
- Nadar, 1866, *The Right To Fly*, Paris: Cassell, Petter, and Galpin
- Nilson, Peter, Steven Hartman, 1996, "Winged Man and Flying Ships: Of Medieval Flying Journeys and Eternal Dreams of Flight" *The Georgia Review* V. 50 No. 2, pp. 267-296
- Needham, Joseph, 1965, *Science and Civilisation in China by Joseph Needham, Vol. 4 Physics and Physical Technology Part I: Physics*, Cambridge
- Pamuk, Orhan, 2001, *My Name Is Red*, London: Faber and Faber Limited
- Rodaway, Paul, 1994, *Sensuous Geographies*, London: Routledge

- Santos-Dumont, Alberto, 1904, *My Airships: The Story of My Life*, London: Grant Richards
- Sharpe, William, Leonard Wallock, ed., 1987, *Visions of The City*, Baltimore: The John Hopkins University Press
- Singer, Bayla, 2003, *Like Sex With Gods*, Texas: Texas A&M University Press
- Wilkins, John, 1638, *The Discovery of a World in the Moone*, London
- Winter, Nancy, 1997, *Man Flies: The Story of Alberto Santos-Dumont Master of the Balloon, Conqueror of the Air*, London: Bloomsbury Publishing
- Woodhouse, Henry, 1919, "High-Altitude Flying in Relation to Exploration" *Geographical Review* V. 7 No. 3, pp. 149-158
- Zin, Herbert S., 1943, *Man In The Air*, New York: Harcourt, Brace and Company